

Biological Technical Report for the Mountain View Wind Repower Project

Prepared for:

AES North American Development LLC

690 North Studebaker Road
Long Beach, California 90803
Contact: Michael Hughes

Prepared by:

DUDEK

78-075 Main Street, Suite G-203
La Quinta, California 92253
Contact: Britney Strittmater

MARCH 2021

Table of Contents

<u>SECTION</u>	<u>PAGE NO.</u>
1 INTRODUCTION	1
1.1 Project Location	1
1.2 Project Description	1
1.3 Regulatory Setting	7
1.3.1 Federal	7
1.3.2 State	11
1.3.3 Regional	12
2 METHODS	17
2.1 Literature Review	17
2.2 Field Surveys	18
2.2.1 Vegetation Mapping	18
2.2.2 Flora and Fauna	19
2.2.3 Special-Status Plant Survey	19
2.2.4 Desert Tortoise Surveys	20
2.2.5 Burrowing Owl Burrow Checks	20
2.2.6 Fixed-Point Bird Use Surveys	20
2.2.7 Habitat Assessment for Palm Springs Ground Squirrel	21
2.2.8 Jurisdictional Waters Assessment and Jurisdictional Delineation	21
2.2.9 Survey Limitations	22
3 ENVIRONMENTAL SETTING	23
3.1 Land Uses	23
3.2 Climate	23
3.3 Soils	23
3.4 Topography	24
3.5 Hydrologic Setting	24
4 RESULTS	29
4.1 Vegetation Communities and Land Covers	29
4.1.1 Cheesebush – Sweetbush Scrub	29
4.1.2 Creosote Bush – White Bursage Scrub	30
4.1.3 Creosote Bush Scrub	33
4.1.4 Sonoran Creosote Bush Scrub	33
4.1.5 White Bursage Scrub (including disturbed)	33
4.1.6 Disturbed	34
4.1.7 Developed	34
4.2 Flora and Fauna	34

4.3	Special-Status Plant Species	34
4.4	Special-Status Wildlife Species	35
4.4.1	Desert Tortoise.....	41
4.4.2	Red Diamond Rattlesnake	41
4.4.3	California Glossy Snake.....	41
4.4.4	Burrowing Owl	42
4.4.5	LeConte's Thrasher.....	42
4.4.6	Loggerhead Shrike.....	43
4.4.7	Swainson's Hawk.....	43
4.4.8	Bald Eagle.....	43
4.4.9	Golden Eagle.....	44
4.4.9	Palm Springs Ground Squirrel.....	45
4.5	Jurisdictional Aquatic Resources.....	45
4.5.1	Jurisdictional Assessment.....	45
4.5.2	Jurisdictional Delineation	46
4.6	Wildlife Movement.....	46
5	IMPACTS ANALYSIS	59
5.1	Description of Impact Types	59
5.2	Impacts to Vegetation Communities and Land Covers	60
5.3	Thresholds of Significance.....	63
5.4	Threshold Bio-1.....	63
5.4.1	Special-Status Plant Species	63
5.4.2	Special-Status Wildlife Species.....	64
5.5	Threshold Bio-2.....	73
5.6	Threshold Bio-3.....	74
5.7	Threshold Bio-4.....	75
5.8	Threshold Bio-5.....	79
5.9	Threshold Bio-6.....	80
5.9.1	Modeled Habitat	81
5.9.2	Impacts to Modeled Habitat.....	83
5.9.3	CVMSHCP Consistency	84
6	AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES	91
6.1	Project Design Features.....	91
6.2	Regulatory Requirements	93
6.3	Mitigation Measures	97
7	REFERENCES.....	99

APPENDICES

A	Avian Risk Assessment and Survey Report for the Mountain View Power Partners Wind Project
B	Biological Resources Technical Report for Mountain View Power Partners Wind Repower Project
C	Palm Springs Ground Squirrel Habitat Assessment of the Gabrych Set-aside Parcel for the Mountain View Power Partners Wind Repower Project
D	Mountain View Wind Repower Project Bird and Bat Conservation Strategy
E	Final Joint Project Review for CVCC 20-005 Mountain View Power Partners Wind Repower Project
F	Jurisdictional Waters Assessment and Jurisdictional Delineation Report for the Mountain View Power Partners Repower Project
G	Golden Eagle Morality Report
H	Compendium of Plant Species Observed
I	Compendium of Wildlife Species Observed
J	Special-Status Plant Species Not Expected or Low Potential to Occur
K	Special-Status Wildlife Species Not Expected or Low Potential to Occur

FIGURES

Figure 1	Project Location.....	5
Figure 2	Project Site Plan	9
Figure 3	CVMSHCP Plan Area.....	15
Figure 4	Soils within Project Site.....	25
Figure 5	Hydrologic Units	27
Figure 6	Biological Resources within the Project Site.....	31
Figure 7	Jurisdictional Assessment.....	49
Figure 8A	Jurisdictional Delineation.....	51
Figure 8B	Jurisdictional Delineation.....	53
Figure 8C	Jurisdictional Delineation.....	55
Figure 8D	Jurisdictional Delineation.....	57
Figure 9	Impacts to Biological Resources within the Project Site.....	61
Figure 10	CVMSHCP Consistency.....	65
Figure 11	Jurisdictional Impacts	77

TABLES

Table 1. Schedule of Surveys.....	18
Table 2. Vegetation Communities and Land Covers within the Project Site	29
Table 3. Special-Status Wildlife Observed or Have a Potential to Occur on the Project Site.....	36
Table 4. Non-Wetland Waters of the State (RWQCB) and Jurisdictional Streambed (CDFW) within the Jurisdictional Delineation Review Area.....	46
Table 5. Impacts to Vegetation Communities and Land Covers within the Project Site	60
Table 6. Species Modeled Habitat (acres) in Whitewater Floodplain Conservation Area Portion of Project	82
Table 7. Impacts to Modeled Habitat (acres) in Whitewater Floodplain Conservation Area Portion of Project.....	83
Table 8. Palm Springs Ground Squirrel Impacts to Modeled Other Conserved Habitat and Suitable Habitat (acres) in Whitewater Floodplain Conservation Area Portion of Project.....	84

1 Introduction

Mountain View Power Partners LLC (applicant) proposes to repower a portion of its existing Mountain View Power Partners (MVPP) I & II wind energy projects, herein referred to as the “Mountain View Wind Repower Project” or “proposed project.” The proposed project would repower and combine the existing Mountain View I & II wind farms through removal of 93 existing wind turbine generators (WTG), leaving 7 existing WTGs in place, and installing 16 new, higher-capacity WTGs, and the removal of three existing meteorological (met) towers and installation of one new met tower. Project components include the following: WTGs (including WTG pads, safety features, and transformer contained within WTG unit), the underground and overhead electrical collection system, access roads, laydown yard, and parking. The existing Mount Wind substation will be used for the proposed project. The proposed project will replace the existing electrical transformer with a new transformer and store the existing transformer on a concrete foundation in a disturbed area directly adjacent to the substation. Biological surveys were conducted from October 2017 through January 2021 by Western EcoSystems Technology Inc. (WEST), Tetra Tech Inc. (Tetra Tech), and Dudek in support of the MVPP Riverside County Wind Energy Conversion Systems (WECS) permit application.

The purpose of this biological resources technical report (BTR) is to provide the following: (1) a description of the existing conditions of biological resources within the project site in terms of vegetation, jurisdictional waters, flora, wildlife, and wildlife movement; (2) a discussion of the potential impacts to biological resources that would result from implementation of the proposed project and a description of those activities in terms of biological significance in view of federal, state, and local laws and policies; and (3) recommended avoidance and minimization measures for potential impacts to sensitive biological resources, if necessary. Recommendations will follow federal, state, and local rules and regulations, including the California Environmental Quality Act (CEQA) and the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) (CVAG 2016).

1.1 Project Location

The proposed project site is located on approximately 1,255.19 acres of existing energy facilities within unincorporated Riverside County, City of Palm Springs, and Bureau of Land Management (BLM) jurisdictions, situated in the northwestern portion of the Coachella Valley. The Coachella Valley extends approximately 45 miles southeast of the San Bernardino Mountains and constitutes the western-most portion of the Colorado Desert. The Coachella Valley connects with the great Los Angeles region to the west via the San Gorgonio Pass. State Route 111 (SR-111) and the City of Palm Springs are located south of the proposed project site, and Interstate 10 (I-10) is located north of the proposed project site (Figure 1). The proposed project is located within the White Water and Desert Hot Springs U.S. Geological Survey (USGS) Quadrangle, within Sections 13, 16, 17, 18, 19, 20 and 21 of Township 3 South, Ranges 3 and 4 East. The approximate center of the site corresponds to 33°54'33.26" north latitude and 116°36'55.62" west longitude.

1.2 Project Description

As stated above, the proposed MVPP project would repower the existing wind farms with 16 new, Vestas V117-3.6- and V117-4.3-megawatt (MW) WTGs while removing 93 existing Mitsubishi 600-kilowatt (kW) WTGs; 7 existing Mitsubishi 600 kW WTGs would remain as part of the repower project. The seven existing WTGs would be upgraded with new and/or refurbished gearboxes, generators, and other components, to improve electrical

generation efficiency. Six of the existing WTGs that would remain as part of the proposed project (WTG74-09 through WTG74-14) are located on BLM parcel no. 668-310-038 (ROW Grant CACA-42139), and one WTG (WTG74-15) is located on privately owned parcel no. 669-020-008. Via a pending application, the applicant is requesting that BLM extend ROW Grant CACA-42139 to December 31, 2042. BLM, as the lead agency pursuant to the National Environmental Policy Act, is anticipated to apply a Categorical Exclusion for the proposed improvements to existing WTGs within BLM land.. Eleven additional existing Mitsubishi WTGs associated with the existing MVPP I & II wind energy facility, located south of the project site, are authorized by BLM ROW Grant CACA-40557 and not included as part of the proposed project.

Project components include the following: WTGs (including turbine pad, safety features, and transformer contained within WTG unit), the electrical collection system, access roads, one free-standing met tower, and laydown and parking. The 16 new WTGs would have three blades per turbine, a blade length of 57.15 meters (188 feet), and a rotor diameter of 117 meters (384 feet). The total height of the turbine would be 150 meters (492 feet). Each turbine would be installed within an area designated as the turbine pad, and would include Federal Aviation Administration aviation warning lights, parking brake, and a lightning protection system. Each temporary WTG construction work area would require an approximate 2.0- to 2.5-acre area to be cleared and graded, depending on topography. Upon completion of WTG erection, a permanent 0.21-acre gravel apron would remain around each WTG for operations and maintenance activities and fire protection. The WTGs would be connected to the Mount Wind Substation through an above- and below-ground electrical collection system. Underground circuits would be direct-buried at a minimum depth of 36 inches and a maximum depth of 48 inches, in accordance with applicable requirements, including the National Electrical Code. The trench itself would be 2 feet wide, but the larger, temporary disturbance area could be up to 34 feet wide, which would accommodate temporary soil spoils piles generated from trenching, the trenching machine, and other vehicular traffic traveling adjacent to the electrical collection system trenching activities. For the above-ground electrical collection system, a total of 43 existing, 45-foot-tall utility poles, would be replaced. Most new poles would be 55 feet tall but some would be up to 65 feet tall. Four utility poles would be replaced in-place, requiring a temporary 25-square foot work area at each pole. Thirty-nine utility poles would be replaced immediately adjacent to the existing pole, requiring a temporary 100 square foot work area at each pole. To reduce potential collision and electrocution risks to avian species, the applicant would construct the power line in compliance with current Avian Power Line Interaction Committee (APLIC) guidelines (APLIC 2012). These methods ensure a minimum separation between electrical components to prevent simultaneous contact and covering electrical components with protective materials to prevent contact. A 10-foot wide spur road would be built to provide vehicle access to 22 of the utility poles.

Where feasible, the existing network of permanent access roads would be retained and reused for the new WTGs. In addition to the existing roads, approximately 6.25 miles of permanent access and maintenance roads would be constructed to provide access and circulation within the project site. Access roads would consist of compacted native material covered by approximately 4 to 6 inches of aggregate material to provide the soil strength needed for heavier equipment. During construction, a 17-foot-wide compacted subgrade shoulder would be developed on either side of the 16-foot-wide roadways, except for the access roads within the CVMSHCP Whitewater Floodplain Conservation Area (WFCA), which would remain at 16 feet wide to minimize impacts to biological resources and avoid impacts to jurisdictional features. Maximum width for temporary construction roads to support activities would not exceed 50 feet. The new, permanent access road layout would incorporate applicable federal and local standards regarding internal road design and circulation, particularly those provisions related to emergency vehicle access.

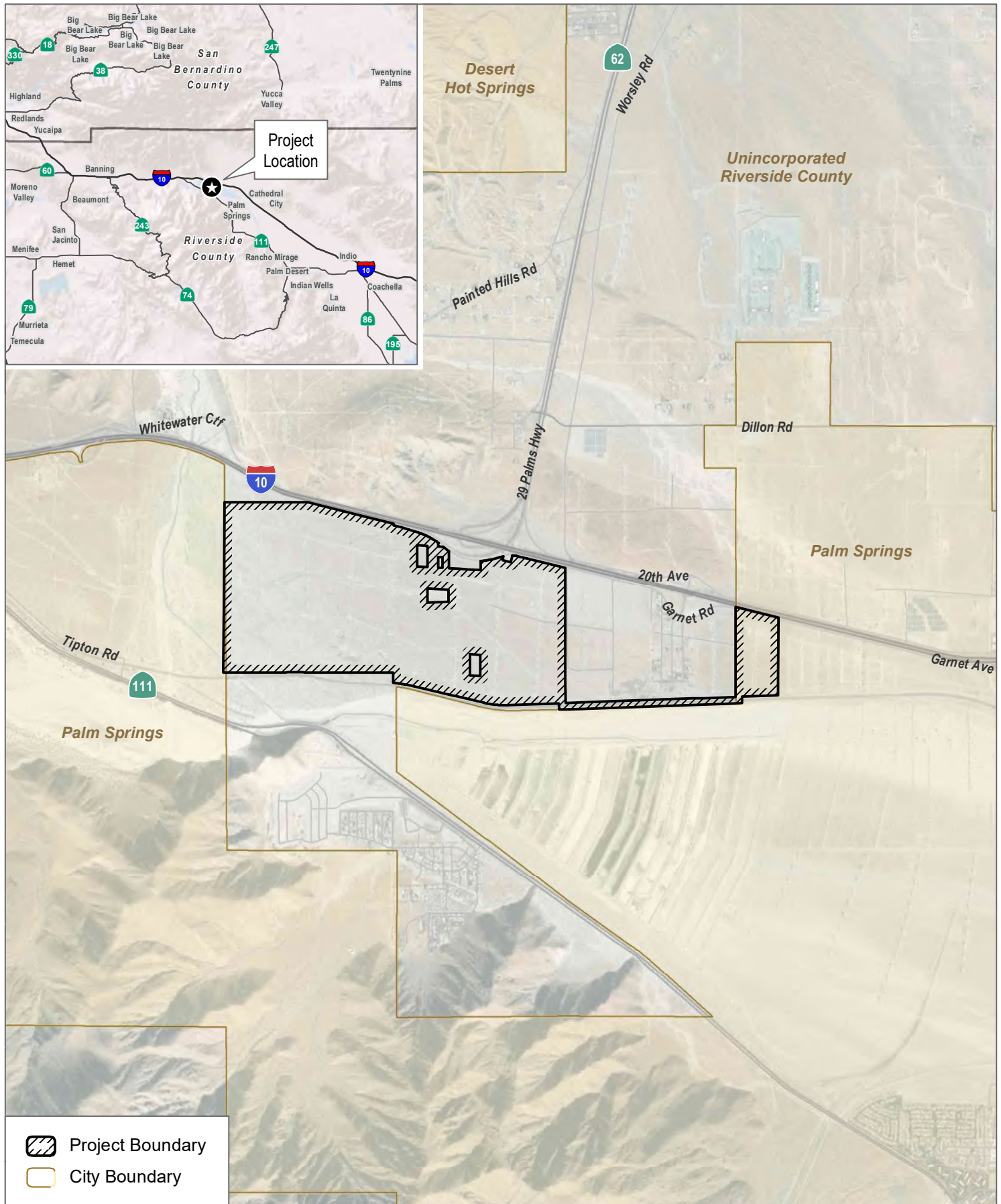
One new free-standing lattice-type met tower would be erected within the southwest portion of the project site within the WFCA. The proposed met tower would be up to 100 meters (approximately 328 feet) tall and would

be equipped with applicable FAA-compliant marking or lighting for aviation safety. Preferred lighting color has not yet been finalized but is anticipated to be in warm tones (e.g., reds or oranges), rather than LED or bright lighting, in order to lower increased predation risk for small mammals. The proposed met tower would be used to monitor and verify wind characteristics at the project site. The met tower would be constructed atop a concrete foundation within a graded work area, including a crane pad for tower assembly and erection. A new 16-foot-wide access road would be constructed to provide access to the proposed met tower. A total of 0.5 acres of new ground disturbance would be required for construction of the proposed met tower and associated components. The three existing lattice met towers, one of which is currently located within the WFCA, would be demolished prior to project construction.

An approximate 17-acre staging area/laydown yard would be developed in the northern portion of the project site, approximately 550 feet south of the western access point. The proposed staging area would be utilized for parking and as a laydown yard to stage WTG components, construction equipment, and construction materials. Steel construction containers would be used to securely store specialized equipment. After construction is completed, the laydown yard would be used as a staging and work area during operation and maintenance of the project.

The project does not include revegetation or restoration of temporary impacts after project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas from root systems left intact. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally. A layout of the proposed project's components is provided on Figure 2, Project Site Plan.

INTENTIONALLY LEFT BLANK



SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016

FIGURE 1

Project Location

INTENTIONALLY LEFT BLANK

1.3 Regulatory Setting

This section outlines the federal and state regulations, as well as the regional planning context pertinent to the biological resources located within the project site.

1.3.1 Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration, and National Marine Fisheries Service. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. Under provisions of FESA Section 9(a)(1)(B), it is unlawful to “take” any listed species. “Take” is defined in FESA Section 3(19) as, “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

Migratory Bird Treaty Act

The Migratory Bird Treaty Act prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. In 2017, the Department of Interior Deputy Solicitor’s Opinion M-37050 stated that the Migratory Bird Treaty Act applies to “affirmative actions” that have “take” as their purpose. Projects may not “take” migratory birds if the action’s intent is to take or kill a migratory bird. Under the Migratory Bird Treaty Act, “take” is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). Additionally, Executive Order 13186, “Responsibilities of Federal Agencies to Protect Migratory Birds,” requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). Nests are considered “active” if they currently support viable eggs, chicks, or young that are dependent on the nest and have not been abandoned by the parents.

Section 404 of the Clean Water Act

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (ACOE) regulates activities that involve a discharge of dredged or fill material, including but not limited to grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into waters of the United States. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, providing some drainage channel maintenance activities, and excavating without stockpiling.

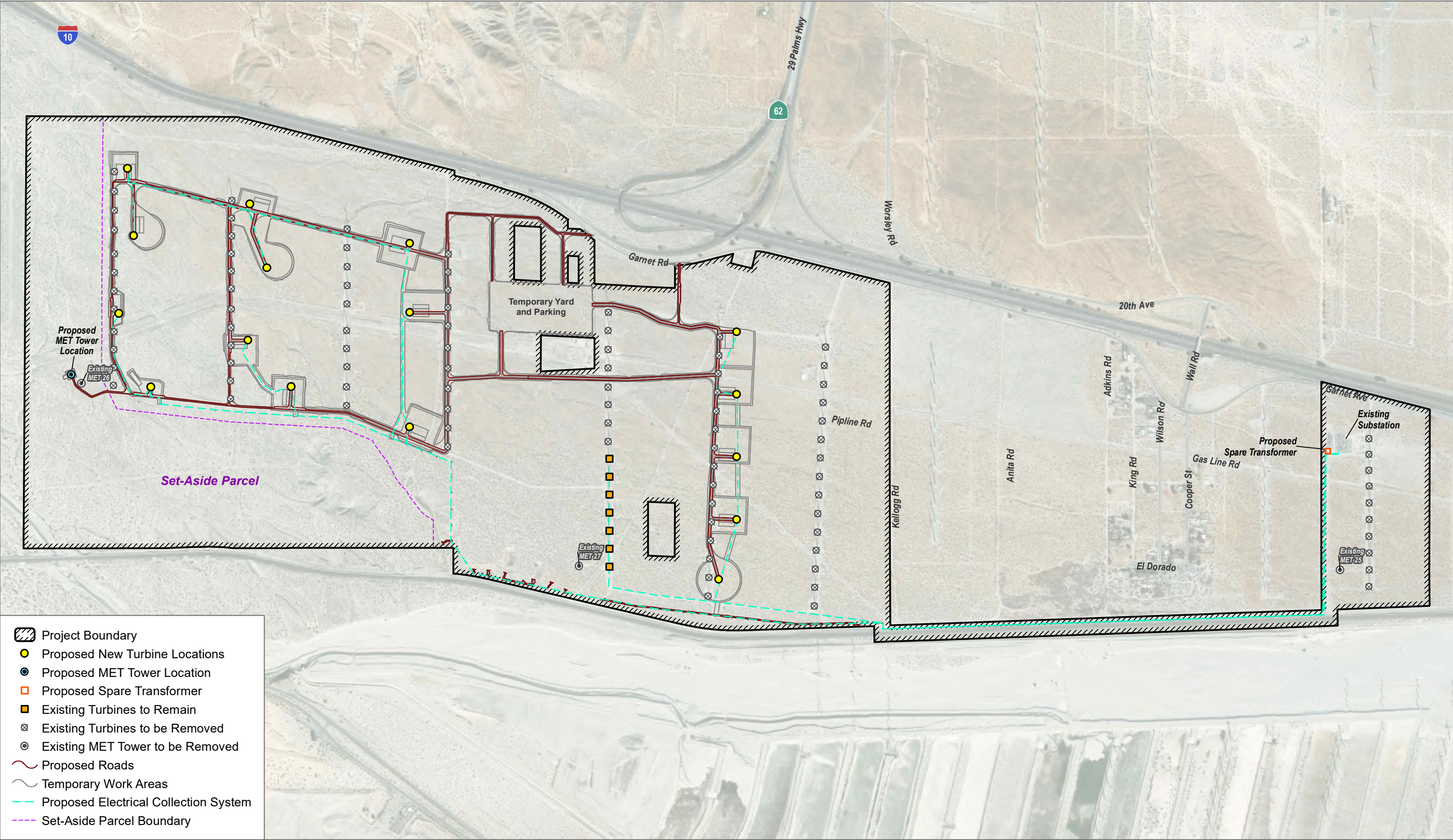
Section 401 of the Clean Water Act

Section 401 of the Clean Water Act requires that any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act. Therefore, in California, before the ACOE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification or waiver from the Regional Water Quality Control Board (RWQCB).

Under Clean Water Act Section 401, RWQCB regulates at the state level all activities that are regulated at the federal level by ACOE.

Bald and Golden Eagle Protection Act

Bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are federally protected under the Bald and Golden Eagle Protection Act (BGEPA), which was passed in 1940 to protect bald eagles and amended in 1962 to include golden eagles (16 USC 668 et seq.). This act prohibits the take, possession, sale, purchase, barter, offer to sell or purchase, export or import, or transport of bald eagles and golden eagles or their parts, eggs, or nests without a permit issued by USFWS. The definition of “take” includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. The definition of “disturb” has been further clarified by regulation as follows: “Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (50 CFR, Part 22.3).



SOURCE: Aerials by Riverside County 2016

FIGURE 2
Project Site Plan

INTENTIONALLY LEFT BLANK

The BGEPA prohibits any form of possession or taking of both eagle species, and the statute imposes criminal and civil sanctions, as well as an enhanced penalty provision for subsequent offenses. Further, the BGEPA provides for the forfeiture of anything used to acquire eagles in violation of the statute. The statute exempts from its prohibitions on possession the use of eagles or eagle parts for exhibition, scientific, or Native American religious uses.

In November 2009, USFWS published the Final Eagle Permit Rule (74 FR 46836–46879) providing a mechanism to permit and allow for incidental (i.e., nonpurposeful) take of bald and golden eagles pursuant to the BGEPA (16 USC 668 et seq.). The previous year, 2008, USFWS adopted 50 Code of Federal Regulations Part 22.11(a), which provides that a permit authorizing take under FESA Section 10 applies with equal force to take of golden eagles authorized under the BGEPA. These regulations were followed by issuance of guidance documents for inventory and monitoring protocols and for avian protection plans (USFWS 2010). In January 2011, USFWS released its Draft Eagle Conservation Plan Guidance aimed at clarifying expectations for acquiring take permits by wind power projects, consistent with the 2009 rule (USFWS 2011).

On December 16, 2016, USFWS adopted additional regulations regarding incidental take of golden eagles and their nests (81 FR 91494–91554). Most of the new regulations address “programmatic eagle nonpurposeful take permits” such as those typically requested by members of the alternative energy industry, including wind farms. For example, the new regulations extend the duration of such permits from 5 to 30 years. In addition, the new regulations modify the definition of the BGEPA “preservation standard” to mean “consistent with the goals of maintaining stable or increasing breeding populations in all eagle management units and the persistence of local populations throughout the service range of each species” (81 FR 91496–91497). This process has also resulted in standardizing mitigation options for permitted take.

1.3.2 State

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA) (California Fish and Game Code, Section 2050 et seq.), which prohibits the “take” of plant and animal species designated by the Fish and Game Commission as endangered or threatened in the State of California. Under CESA Section 86, “take” is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA Section 2053 stipulates that state agencies may not approve projects that will “jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy.”

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

Section 2081(b) and (c) of the Fish and Game Code authorizes take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, CESA Section 2080.1 allows CDFW to adopt a federal incidental take statement or a 10(a) permit as its own, based on its findings that the federal permit adequately

protects the species and is consistent with state law. A Section 2081(b) permit may not authorize the take of “fully protected” species and “specified birds” (California Fish and Game Code, Sections 3505, 3511, 4700, 5050, 5515, and 5517). If a project is planned in an area where a fully protected species or a specified bird occurs, an applicant must design the project to avoid take.

Lake and Streambed Alteration Agreement

Pursuant to Section 1602 of the Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. A Streambed Alteration Agreement is required for impacts to jurisdictional wetlands in accordance with Section 1602 of the California Fish and Game Code.

Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state” (California Water Code, Section 13260(a)), pursuant to provisions of the state Porter-Cologne Water Quality Control Act. “Waters of the state” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code, Section 13050(e)).

Under the Porter-Cologne Water Quality Control Act, RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into waters of the state, that are not regulated by ACOE due to a lack of connectivity with a navigable water body.

Fish and Game Code

Pursuant to Fish and Game Code Section 3503.5, it is unlawful to take, possess, or destroy any birds of prey; or to take, possess, or destroy any nest or eggs of such birds. Birds of prey refer to species in the orders Falconiformes and Strigiformes. Nests of all other birds (except English sparrow [*Passer domesticus*] and European starling [*Sturnus vulgaris*]) are protected under Fish and Game Code Sections 3503 and 3513.

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

Fish and Game Code Section 2835 allows CDFW to authorize incidental take in a natural communities conservation plan (NCCP). Take may be authorized for identified species whose conservation and management is provided for in the NCCP, whether or not the species is listed as threatened or endangered under FESA or CESA, provided that the NCCP complies with the conditions established in Section 2081 of the Fish and Game Code. The NCCP provides the framework for the CVMSHCP.

1.3.3 Regional

Coachella Valley Multiple Species Habitat Conservation Plan

The proposed project is located within the CVMSHCP area (Figure 3), implemented by the Coachella Valley Association of Governments, specifically the Coachella Valley Conservation Commission (CVCC) and the Permittees, one of which is the County of Riverside (County). The CVMSHCP became effective On October 2, 2008, and as amended in 2016, applies to the portions of the project within the jurisdiction of the County of Riverside and the City of Palm Springs. The CVMSHCP ensures conservation of Covered Species through minimization and mitigation measures for impacts to obtain Incidental Take Permits in the Plan area for species listed by the USFWS and/or CDFW. It should be noted that the CVMSHCP does not apply to BLM-

administered lands (i.e., the CVMSHCP does not provide take permit coverage for activities on BLM-administered lands).

A portion of the project, approximately 383.39 acres, overlaps the CVMSHCP Whitewater Floodplain Conservation Area (WFCA) of the CVMSHCP within the County's jurisdiction. Portions of the project also overlap CVMSHCP modeled Core Habitat for Palm Springs pocket mouse (*Perognathus longimembris bangsi*), and overlap CVMSHCP modeled Other Conserved Habitat for triple-ribbed milkvetch (*Astragalus tricarinatus*), desert tortoise (*Gopherus agassizii*), Palm Springs ground squirrel¹ (*Spermophilus [Xerospermophilus] tereticaudus chlorus*), and Le Conte's thrasher (*Toxostoma lecontei*). The project also overlaps CVMSHCP fluvial and aeolian sand transport, and biological corridors (Figure 3). The goal of the WFCA, as described by the CVMSHCP, is to conserve Core Habitat and associated ecological processes for these species, allowing evolutionary processes and natural population fluctuations to occur. Additional goals include minimizing fragmentation, human-caused disturbance, and edge effects to Core Habitat by conserving contiguous Habitat and effective Linkages between patches of Core Habitat. Specific resource conservation goals as they relate to the project site include the following:

Core Habitat: The areas identified in the CVMSHCP for a given species are composed of unfragmented habitat with intact Essential Ecological Processes large enough to sustain a viable population of the species, and also includes areas needed to allow for effective Biological Corridors and/or Linkages.

Other Conserved Habitat: Part of a Conservation Area that does not contain Core Habitat for a given species but represents the range of environmental conditions within which the species is known to occur and therefore has conservation value. These values may include environmental gradients (e.g., slope, elevation, aspect) and high habitat diversity to provide for shifting species distributions.

Essential Ecological Process Areas: Processes necessary to maintain specific habitats, including Core Habitat and Other Conserved Habitat areas, and endemic species occurrences. Essential Ecological Processes as they relate to this project include fluvial sand deposition and aeolian (wind-blown) transport area.

Biological Corridors: Biological corridors are defined as wildlife movement areas between major open space areas.

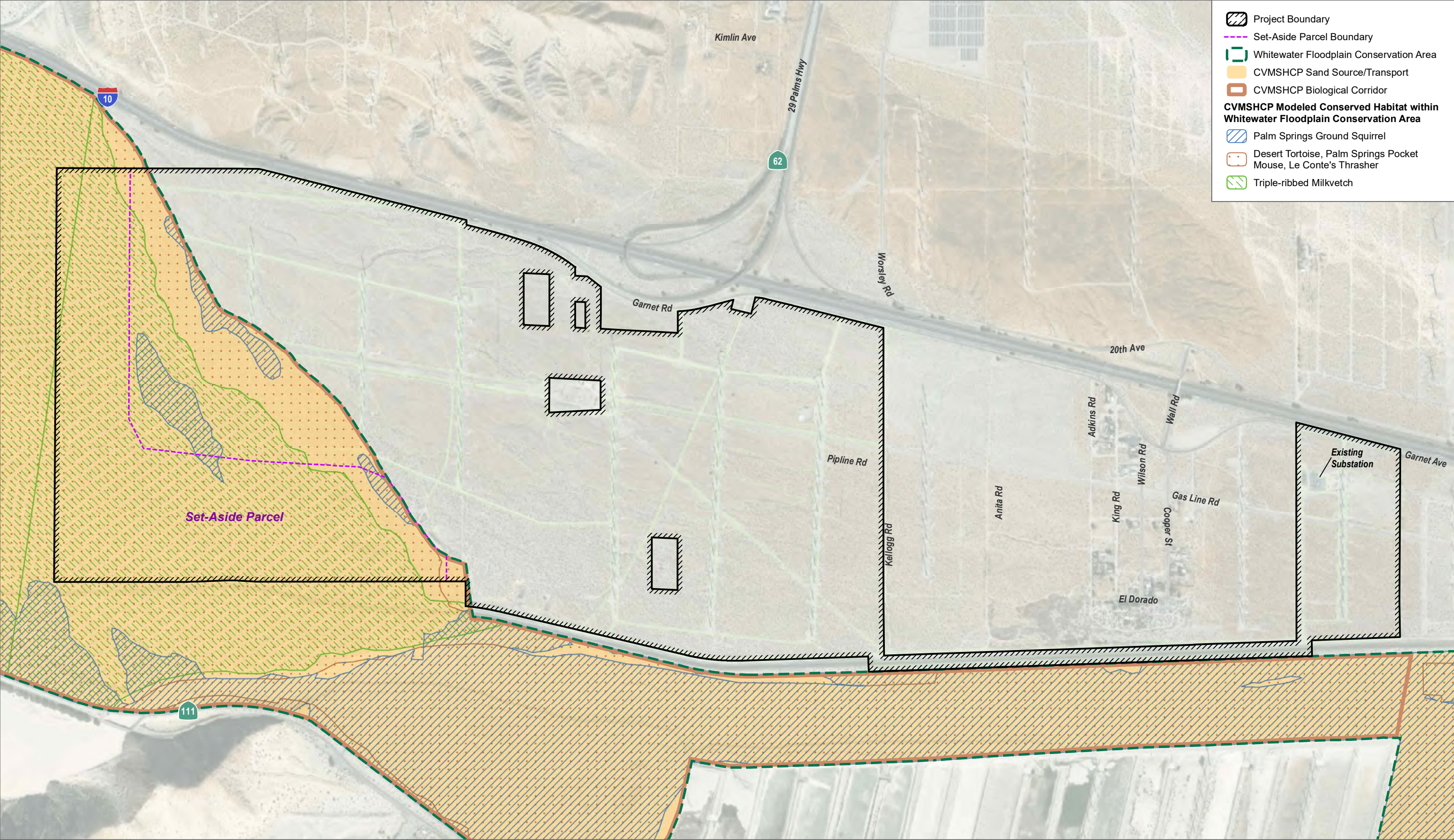
The portions of the project site that are located within the CVMSHCP WFCA (383.39 acres) are subject to additional review and certain limits on the amount and location of development (CVAG 2016). Due to the project being located within the CVMSHCP plan area, a CVMSHCP consistency analysis is provided in this BTR under Section 5.8. The CVMSHCP also includes totals for the previously authorized disturbance areas within the Conservation Areas that are based on 1996 pre-planning agreement information. Therefore, the previously authorized disturbance areas that overlap the proposed project footprint within the WFCA can be subtracted from the proposed project's impact totals.

The project is required to complete a Joint Project Review (JPR) process through the County of Riverside, with concurrence by CVCC, County, CDFW, and USFWS. The JPR process started with a pre-JPR meeting on September 28, 2020 including representatives from CVCC, the County, CDFW, USFWS, and the project applicant. A formal JPR application package was submitted on October 7, 2020, pursuant to CVMSHCP Section 6.6.1.1. CVCC issued its JPR findings for the project on January 22, 2021. The JPR determined the proposed project is consistent with the CVMSHCP based on the conditions and mitigation summarized in this BTR, Sections 5.9 and Sections 6.1 through 6.3. As part of the JPR process, the CVMSHCP establishes a mechanism for mitigating the effects of development within the CVMSHCP Conservation Areas (CVAG 2016). To comply

¹ Also commonly referred to as Coachella Valley round-tailed ground squirrel or Palm Springs round-tailed ground squirrel.

with the CVMSHCP Rough Step acreage requirement, the proposed project will donate 248.12 acres to CVCC (hereafter referred to as the Set-aside Parcel), of which, 247.48 acres would be conserved (omitting area of disturbance accounts for the met tower and associated access road). The Set-aside Parcel will offset 20.22 acres of impacts² (permanent and temporary) within the WFCA. Typically, the project applicant would be required to pay a per acre mitigation fee to CVAG. However, CVCC has recommended waiving the mitigation fee following the donation of the Set-aside Parcel as further discussed in this BTR, Section 5.9.

² The proposed project would result in a total of 27.69 acres of impacts (permanent and temporary) within the Conservation Area; however, this total includes previously authorized disturbance prior to implementation of the CVMSHCP. After deducting previously authorized disturbance acreage (7.47 acres), the total impact acreage is 20.22 acres.



SOURCE: Aerials by Riverside County 2016

INTENTIONALLY LEFT BLANK

2 Methods

Endangered, rare, or threatened species, as defined in CEQA Guidelines Section 15380(b) (14 CCR 15000 et seq.), are referred to as “special-status species” in this report and include (1) endangered or threatened species recognized in the context of CESA and FESA; (2) plant species with a California Rare Plant Rank of 1A, 1B, and 2 (CNPS 2020; CDFW 2020a); (3) California Species of Special Concern (SSC), as designated by CDFW (CDFW 2020b); (4) mammals and birds that are fully protected species, as described in Fish and Game Code, Sections 4700 and 3511 (CDFW 2020b); and (5) species requiring additional surveys under the CVMSHCP. Vegetation communities are considered sensitive natural communities or special-status vegetation communities if they have a conservation status of S1, S2, or S3 (CDFW 2020c) or are considered locally important by a local planning document such as the County of Riverside General Plan or the CVMSHCP.

2.1 Literature Review

A review of the existing biological resources and special-status species within the vicinity of the proposed project was conducted for this report using the CDFW California Natural Diversity Database (CDFW 2020d), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2020), and USFWS data (USFWS 2020a). The California Natural Diversity Database and CNPS were queried based on the White Water and Desert Hot Springs USGS topographic quadrangles within which the proposed project is located, as well as the surrounding ten USGS quadrangles: San Gorgonio Mountain, Catclaw Flat, Morongo Valley, Yucca Valley South, Seven Palms Valley, Cathedral City, Palm Springs, San Jacinto Peak, Lake Fulmor, and Cabazon. Additional literature reviewed included the CVMSHCP (CVAG 2016). The purpose of this review was to determine whether special-status plant and wildlife species are known to occur within the project site or in the vicinity.

Additionally, as a preliminary step in the preparation of this BTR, the following reports were reviewed, the methods and results are incorporated into this BTR’s analysis, and the reports are included as appendices to the BTR:

- Avian Risk Assessment and Survey Report for the Mountain View Power Partners Wind Project, prepared by WEST (Appendix A)
- Biological Resources Technical Report for Mountain View Power Partners Wind Repower Project, prepared by Tetra Tech (Appendix B)
- Palm Springs Ground Squirrel Habitat Assessment of the Set-aside Parcel for the Mountain View Power Partners Wind Repower Project, prepared by Dudek (Appendix C)
- Mountain View Wind Repower Project Bird and Bat Conservation Strategy, prepared by Tetra Tech (Appendix D), which includes the risk assessment and the post-construction monitoring for project-related avian and bat fatalities
- Final Joint Project Review for CVCC 20-005 Mountain View Power Partners Wind Repower Project (Appendix E)
- USFWS Golden Eagle Mortality Report, prepared by USFWS (Appendix F)

For the jurisdictional assessment and delineation of jurisdictional waters, Dudek reviewed aerial photographs (Google Earth 2020; Historic Aerials 2020); the USGS National Hydrography Dataset (USGS 2020); a Natural Resources Conservation Service soil map (USDA 2020a); U.S. Environmental Protection Agency Watershed

Assessment, Tracking, and Environmental Results System (EPA 2020); and the National Wetland Inventory (USFWS 2020b). For details on the jurisdictional delineation see Appendix G.

2.2 Field Surveys

Between October 2017 and January 2021, WEST, Tetra Tech, and Dudek conducted vegetation mapping, focused special-status plant surveys with emphasis on observing other special-status species with potential to occur (e.g., Le Conte's thrasher), protocol-level desert tortoise surveys, burrowing owl (*Athene cunicularia*) burrow checks, avian surveys, a jurisdictional waters assessment and delineation of jurisdictional waters, and a habitat assessment for Palm Springs ground squirrel within the project site.³ Surveys were conducted within the entire project site unless otherwise noted. Table 1 provides a summary of the dates, consultant, and survey focus. Survey methods are summarized in this BTR, Sections 2.2.1 through 2.2.8, and further details are provided in Appendices A through D, and Appendix G.

Table 1. Schedule of Surveys

Survey Dates	Consultant	Focus	Conditions
October 2017 –October 2018	WEST	Fixed-Point Bird Use Surveys (included small and large bird use surveys)	See Appendix A for details.
April– July 2020	Tetra Tech	Outside of WFCA: focused special-status plant surveys conducted concurrently with vegetation mapping, desert tortoise, LeConte's thrasher, and burrowing owl surveys; burrow checks; and a general biological survey for special-status resources.	See Appendix B, Table 3 for details.
May and June 2020	Tetra Tech	Inside WFCA: protocol-level desert tortoise survey; focused special-status plant survey conducted concurrently with vegetation mapping, LeConte's thrasher and burrowing owl surveys; and burrow checks.	See Appendix B, Table 3 for details.
April and August 2020	Dudek	Jurisdictional Waters Assessment and Delineation of Jurisdictional Waters	See Appendix G, Table 1 for details.
August 2020	Dudek (Phil Brylski)	Habitat Assessment for the Palm Springs ground squirrel within the Set-aside Parcel	See Appendix C for details.
January 2021	Dudek	Habitat Assessment; Delineation of Jurisdictional Waters	See Appendix G, Table 1 for details.

2.2.1 Vegetation Mapping

Vegetation communities and land covers were mapped by Tetra Tech in April and May 2020. Vegetation mapping was conducted concurrently with the focused special-status plant survey further discussed in this BTR, Section 2.2.3. It should be noted that the only portion of the project site not mapped during the 2020 Tetra Tech field surveys was the Set-aside Parcel located in the southwestern corner of the project site. Therefore, this parcel was mapped using the CVMSHCP vegetation mapping. Vegetation community classifications used in this report follow A Manual of California Vegetation (2nd edition) (Sawyer et al. 2009), whereas areas located within the Set-aside Parcel follow CVMSHCP. To accommodate for the lack of

³ Survey areas varied; refer to Appendices A through D and Appendix G for the various survey area limits.

conformity observed in some vegetation communities, definitions were based on a best-fit habitat description and land-use application. Representative photographs of vegetation types are included in Appendix B, and a description of each community is included in this BTR, Section 4.1.

2.2.2 Flora and Fauna

All plant species observed during the Tetra Tech and Dudek 2020 and 2021 field surveys were identified and recorded (Appendix H). Latin and common names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2020), and common names follow the List of Vegetation Alliances and Associations (CDFW 2020c) or the U.S. Department of Agriculture Natural Resources Conservation Service Plants Database (USDA 2020b).

All wildlife species detected during the WEST, Tetra Tech, and Dudek field surveys by sight, calls, tracks, scat, or other signs were recorded (Appendix I). Tetra Tech biologists recorded any other species-status species or signs observed during the rare plant survey, including desert tortoise, burrowing owl, and LeConte's thrasher, and documented their occurrences using a GPS unit. Binoculars (7×50 power) were used to aid in the identification of observed wildlife. In addition to species observed, expected wildlife usage of the site was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithological Society (AOS 2020) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association (NABA 2001) for butterflies.

2.2.3 Special-Status Plant Survey

Tetra Tech conducted focused special-status plant surveys in April and May 2020 within the project site as shown on Figure 1 in Appendix B, to determine the presence or absence of special-status plant species that are considered endangered, rare, or threatened under CEQA Guidelines, Section 15380 (14 CCR 15000 et seq.).

Target species for the plant survey were based on the results of the literature review conducted by Tetra Tech (see Appendix B, Table 2 for details). A total of 15 species were identified as having potential to occur within the project site, including three CVMSHCP-covered plant species with potential to occur in the WFCA: triple-ribbed milkvetch, Coachella Valley milkvetch (*Astragalus lentiginosus* var. *coachellae*), and little San Bernardino Mountains linanthus (*Linanthus maculatus* ssp. *maculatus*). Prior to conducting the focused rare plant surveys, a biologist performed blooming status checks at rare plant reference populations. Visiting reference populations ensures that surveys are conducted during the appropriate time frame (i.e., when plants were identifiable).

Survey methods identified in standard rare plant protocol documents such as the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 2000), the BLM Survey Protocols Required for NEPA and ESA Compliance for BLM Special Status Plant Species (BLM 2009), the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018), and the CNPS Botanical Survey Guidelines of the California Native Plant Society (CNPS 2001) were taken into consideration during the surveys. If a special-status plant was detected, the location was mapped in the field using a GPS device with sub-meter accuracy. In areas of high-quality habitat and/or those containing the highest potential for special-status plant species, biologists walked transects spaced no more than 30 feet apart. All plant species observed or detected during surveys were recorded.

As stated in Appendix B, two focused special-status plant surveys were conducted in the WFCAs during the blooming periods of the target plant species: one in early May and the second in late May. Two additional focused special-status surveys were conducted in late April and May 2020 within the project site in areas outside the WFCAs. Focused special-status plant surveys outside the WFCAs focused on the areas containing the highest quality habitat with the highest potential for special-status species occurrence, and excluded areas with existing land disturbances (i.e., access roads, WTGs, and other facilities).

More details on the methods used to conduct focused special-status plant surveys are described in detail in Appendix B.

2.2.4 Desert Tortoise Surveys

In May 2020, Tetra Tech conducted protocol-level desert tortoise surveys in the WFCAs of the project site; see Appendix B, Figure 1 for the survey area location. For consistency with the CVMSHCP requirements for this species, a 200-foot buffer around the WFCAs of the project site was surveyed. A small portion of the 200-foot desert tortoise survey buffer outside the project site's southeastern boundary could not be surveyed due to the presence of an existing fenced facility, see Appendix B, Figure 1 for the location of the inaccessible fenced area. Survey methods conformed to the USFWS's Preparing for any Action That May Occur Within the Range of Mojave Desert Tortoise (USFWS 2019), which requires a 100% coverage, pedestrian transect survey prior to the start of construction, and according to the survey requirements included in the CVMSHCP for desert tortoise. The survey was conducted for desert tortoise individuals and their sign (e.g., burrows, carcasses, scat, pellets, drinking sites, tracks, and mating rings) during the species spring active period (April through May). Locations of tortoises and sign, if detected, were recorded onto data sheets.

In areas within the project site occurring outside the WFCAs, Tetra Tech biologists surveyed for desert tortoise individuals and sign during the focused special-status plant survey, see Figure 1 in Appendix B for the survey area location. Any potential burrows were mapped with the GPS unit.

More details on the methods used to conduct protocol-level desert tortoise surveys are described in detail in Appendix B, including desert tortoise survey data sheets and photographs of the burrows.

2.2.5 Burrowing Owl Burrow Checks

Protocol-level surveys for burrowing owl were not conducted within the project site; however, burrowing owl and their sign (e.g., burrows, whitewash, feathers, pellets) were documented during the May 2020 Tetra Tech desert tortoise and focused special-status plant surveys, see Figure 1 in Appendix B for the location of the survey area. Based on the results of the May 2020 field visits, additional burrow checks were conducted by Tetra Tech in June 2020 to further determine burrow occupancy or to gain additional information on burrowing owl use of the project site. During these burrow check surveys, the Tetra Tech biologist visited each previously identified burrow, and determined and documented data on burrow occupancy, burrowing owl behavior, and nest status (where applicable).

More details on the methods used to conduct burrowing owl burrow checks are described in detail in Appendix B, including photographs of the burrows.

2.2.6 Fixed-Point Bird Use Surveys

WEST conducted fixed-point bird use surveys from October 2017 through October 2018 consistent with Tier 3 of the Land Based Wind Energy Guidelines (USFWS 2012), Stage 2 of the Eagle Conservation Plan Guidance (USFWS 2013), and associated regulations related to eagle permits (Revisions to Regulations for Eagle

Incidental Take and Take of Eagle Nests [81 FR 91494-91554]), while also collecting data to satisfy the intent of the California Wind Energy Guidelines (CEC and CDFG 2007).

As described in Appendix A, fixed-point avian use surveys were conducted throughout the project site to evaluate spatial and temporal patterns in avian use, with added emphasis on use by eagles. Surveys were conducted approximately weekly at 2 points for large birds and at 12 points for small birds. It should be noted that the original project design included two small parcels, located to the east near the project's substation and to the southeast along the berms of the Coachella Valley Water District percolation ponds that have since been excluded. Appendix A includes the avian survey data collected within these removed parcels, which included three small bird points and two large bird points. Two types of bird use surveys—small bird and large bird—were conducted within the project site. Each small bird survey was conducted for a period of 10 minutes within a 100-meter-radius plot, while large bird surveys were 60 minutes in duration and included an 800-meter-radius plot. Additionally, observations of rare and sensitive species were documented as incidental observations if observed outside of standardized survey periods or while transiting across the project site between surveys.

Methods detailing the statistical analysis conducted for species diversity and richness, bird use and frequency of occurrence, flight height and behavior, spatial use, and eagle risk are discussed further in Appendix A.

2.2.7 Habitat Assessment for Palm Springs Ground Squirrel

In August 2020, a field assessment of Palm Springs ground squirrel habitat was conducted within the Set-aside Parcel by small mammal biologist Phil Brylski PhD, who holds a CDFW Scientific Collecting Permit that includes authorization to carry out presence/absence surveys for the Palm Springs ground squirrel (see Figure 1 in Appendix C). The survey was conducted within temperatures ranging from 80 °F to 115 °F and clear skies. The assessment examined soil, vegetation, and topographic and disturbance features to determine the suitability of habitat for the Palm Springs ground squirrel. The field survey involved walking throughout the Set-aside Parcel, noting plant cover and soil types, and slope/disturbance factors that might signal Palm Springs ground squirrel habitat suitability. Potentially suitable habitat was identified based on the presence of relatively level sandy, floodplain, alluvial fan, or aeolian habitats with shrub cover, such as mesquite, creosote bush, and desert scrub plants, particularly with sandy hummocks at the bases of shrubs that provide burrow sites and cover. Areas considered potentially suitable for Palm Springs ground squirrel were mapped by recording tracks on a Garmin GPS Map76CSx.

The methods used to conduct the habitat assessment for Palm Springs ground squirrel are described in more detail in Appendix C.

2.2.8 Jurisdictional Waters Assessment and Jurisdictional Delineation

In April 2020, Dudek conducted a constraints-level assessment of potential jurisdictional waters and wetlands within an approximate 1,092-acre jurisdictional assessment review area (see Figure 1 in Appendix G). All potential waters of the United States under the jurisdiction of ACOE and RWQCB, streambeds under the jurisdiction of CDFW, and waters of the state under the jurisdiction of the RWQCB were documented and mapped in order to inform the project design. The focus of the jurisdictional assessment was to map the geographic extent of potential jurisdictional waters and wetlands in order to inform project design.

In August and September 2020 and January 2021, Dudek conducted a formal jurisdictional delineation within the proposed project footprint and a 50-foot buffer (jurisdictional delineation review area; see Figure 1 in Appendix G).

More details on the methods used to delineate the limits of jurisdictional waters within the project site are described in detail in Appendix G.

2.2.9 Survey Limitations

Survey limitations included restricted access to areas outside the project site. The CVMSHCP required desert tortoise surveys to include a 200-foot buffer around the WFCAs portion of the project site. A portion of the desert tortoise survey area occurring outside the project site, within the 200-foot buffer along the western boundary of the WFCAs, was inaccessible due to fenced-in private property (see Figure 1 in Appendix B). These areas were not surveyed on-foot by Tetra Tech but were scanned using binoculars. It should be noted that all areas within the project site were surveyed.

An additional 38-acre survey area was added into the project site and surveyed by Tetra Tech in July 2020 (see Figure 1 in Appendix B). A small portion of the 200-foot desert tortoise survey buffer outside the southeast boundary could not be surveyed due to the presence of an existing fenced facility (see Figure 1 in Appendix B for the location of the inaccessible fenced area). However, this area is developed and is not expected to contain special-status biological resources. Furthermore, the July 2020 survey in the 38-acre area was not conducted during the protocol survey period for desert tortoise, the appropriate blooming period for special-status plants, or during the nesting season for LeConte's thrasher. Only one potential burrow (i.e., B7) was observed during the July 2020 survey in the added 38-acre area. However, based on the shape, this burrow was deemed inappropriate for use by desert tortoise. Within the 38-acre area, potentially suitable habitat (i.e., disturbed white bursage scrub) was determined to be unsuitable for special-status plant species due to the high level of anthropogenic-related disturbances, presence of non-native species, and due to the lack of special-status plant species occurring within other areas in the project site. Fixed-point avian surveys were conducted throughout an entire calendar year (i.e., October 2017 through October 2018) and failed to detect LeConte's thrasher within the project site. Therefore, a low potential determination was made for desert tortoise, special-status plants, or LeConte's thrasher to occur within this 38-acre area of the project site.

Surveys were all conducted during the daytime, which usually results in few observations of mammals, many of which may be active at night (e.g., bat species). In addition, many species of reptiles and amphibians are nocturnal or cryptic in their habits and are difficult to observe using standard meandering transects. However, the survey efforts provide an accurate representation of the potential for special-status species to occur in the project site. The surveys conducted to date were thorough and comprehensive, and the results contained herein provide a reasonable and accurate assessment of the project site.

3 Environmental Setting

3.1 Land Uses

The proposed project is located within an existing energy facility characterized with associated development (i.e., concrete pads, WTGs, storage yard, and associated dirt roads), a Southern California Gas pipeline easement, an overhead electrical system and associated access roads that bisect the site east to west, with the remaining portions containing native desert vegetation. Historic aerials depict vegetation clearing and grading for the gas pipeline easement, which bisects the review area east to west, sometime before 1972 (Historic Aerials 2020). Historic aerials also depict vegetation clearing for past development associated with the wind turbine energy facility sometime between 1972 and 1996 (Historic Aerials 2020). Google Earth historic imagery depicts that sometime between 1996 and 2002, land was graded to build gravel service roads, an overhead electrical collection system and associated access/spur roads, and 100 WTGs were installed throughout the review area (Google Earth 2020).

The surrounding vicinity to the project site can broadly be described as an area of mixed wind energy resources, industrial and commercial properties, and rural residences. Properties to the north of the project site include an Amtrak train station and Union Pacific railroad tracks. Beyond the railroad tracks is an apparent storage junk yard, wind energy properties and substation, and vacant native desert land. Properties east of the project site include a wind energy property and substation. Properties to the south of the project site include the Union Pacific Railroad corridor, percolation ponds, a switching station, wind energy properties, and vacant native desert land. Lastly, to the west of the project site is the Whitewater River and vacant native desert land.

3.2 Climate

The proposed project site is located within the Coachella Valley, which has an arid climate characterized by hot, dry summers, frequent gusty winds predominately from the west, with mild winters. Average temperatures near Palm Springs range from approximately 42°F to 108°F. Precipitation occurs primarily in the winter, with additional thunderstorms in the summer, and typically averages approximately 5 inches per year (WRCC 2020; RWQCB 2019).

3.3 Soils

According to the U.S. Department of Agriculture Web Soil Survey (USDA 2020c), there are five soil types or features found in the project site: Carrizo stony sand, 2% to 9% slopes; Carsitas cobbly sand, 2% to 9% slopes; Carsitas fine sand, 0% to 5% slopes; Carsitas gravelly sand, 0% to 9% slopes; and gravel pits and dumps (Figure 4). Descriptions of these soil types, based on the Web Soil Survey (USDA 2020c), are detailed below.

Carrizo Series. This soil series consists of very deep, excessively drained soils, with negligible to low runoff. Carrizo soils are on numerous landforms on floodplains, fan piedmonts, and bolson floors at elevations of 0 feet to 2,600 feet above mean sea level (amsl). The soils formed in mixed igneous alluvium. Carrizo soils are distributed throughout the Mojave Desert of southeastern California.

Carsitas Series. This soil series consists of very deep, somewhat excessively drained soils that formed in alluvium from granitoid and/or gneissic rock. Carsitas soils are on alluvial fans, fan aprons, valley fills,

dissected remnants of alluvial fans and in drainageways. Elevations range from 200 feet to 2,625 feet amsl. The soils are a source of sand and gravel for construction material, and where irrigation water is available, the soils are used for growing citrus and grapes. Carsitas soils occur in the Colorado Desert of southeastern California.

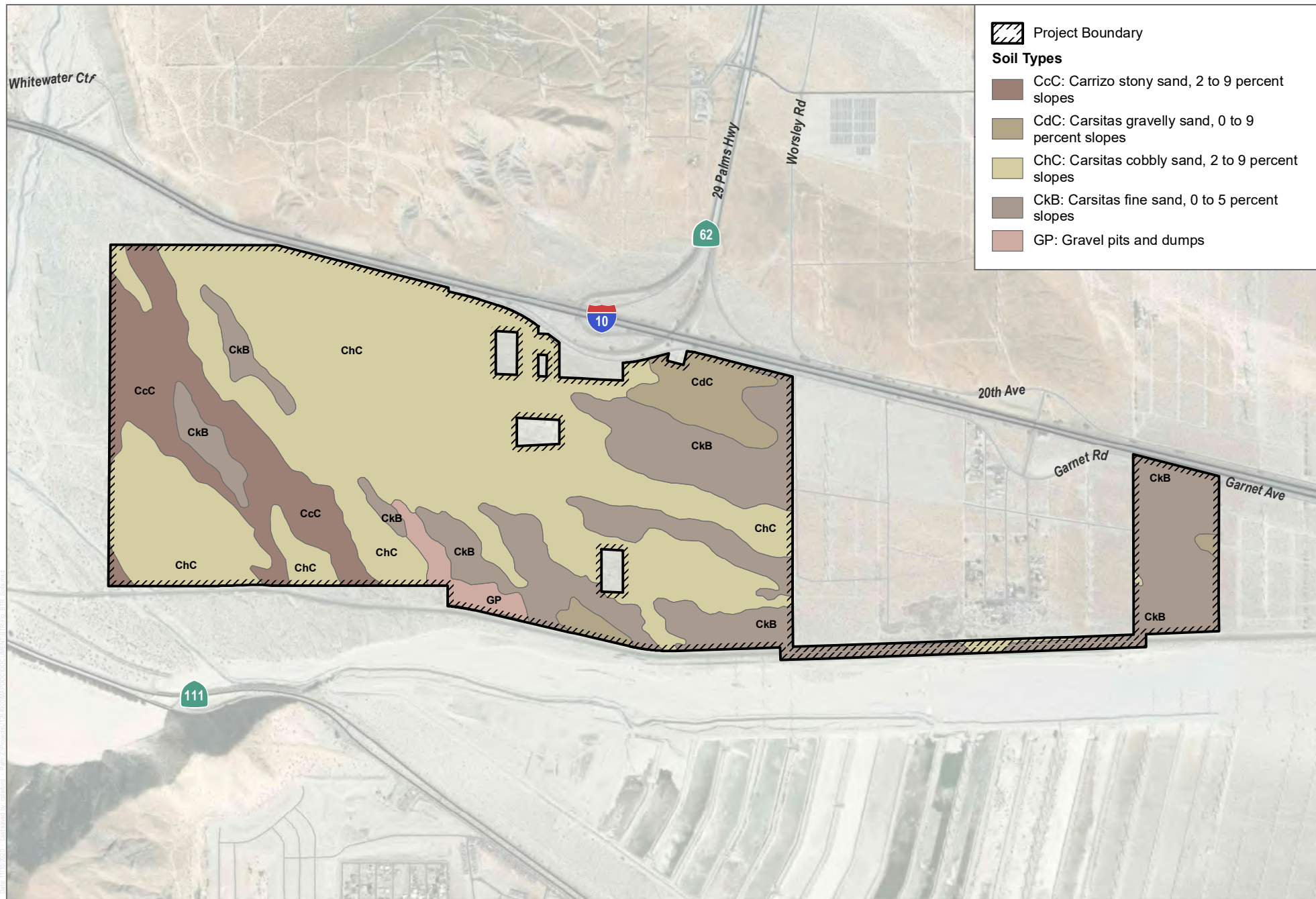
Gravel Pits and Dumps. Gravel pits consist of areas that have been excavated for underlying material such as sand, rock materials, and/or gravel. Dumps are areas of smoothed or uneven accumulations or piles of waste rock and general refuse.

3.4 Topography

The project site occurs within the northwestern corner of the Coachella Valley and is bounded by the San Jacinto mountain range to the south and the San Bernardino Mountains to the north. The review area is generally flat with elevations gradually sloping from 1,260 feet amsl in the northwest to approximately 975 feet amsl in the southeast.

3.5 Hydrologic Setting

The proposed project site is located within the South Fork Whitewater River-Whitewater River, Chino Canyon-Whitewater River, and Garnet Wash Hydrologic Units, of the Whitewater River Watershed and Headwaters Whitewater River Sub-Watershed, in which the Whitewater River is the major surface water body (Figure 5, Hydrologic Units). The USGS topographic quadrangle and National Hydrography Dataset (USGS 2020) show the two nearest major waterbodies as Garnet Wash, approximately 1,500 feet to the north, and the Whitewater River, approximately 900 feet west of the project site. According to the Water Quality Control Plan for the Colorado River Basin (RWQCB 2019), the runoff resulting from rains and snowmelt within the higher elevations are the major sources of groundwater replenishment and result in several perennial streams in the Coachella Valley Planning Area, with the Whitewater River being the major drainage course. The Whitewater River contains perennial flows in the mountains; however, because of diversions and percolation into the basin, this river becomes dry further downstream. The Whitewater River flows through an engineered extension known as the Coachella Valley Storm Water Channel that flows east for approximately 39 miles, ultimately terminating at the Salton Sea. More details on the hydrologic setting are described in detail in Appendix G.

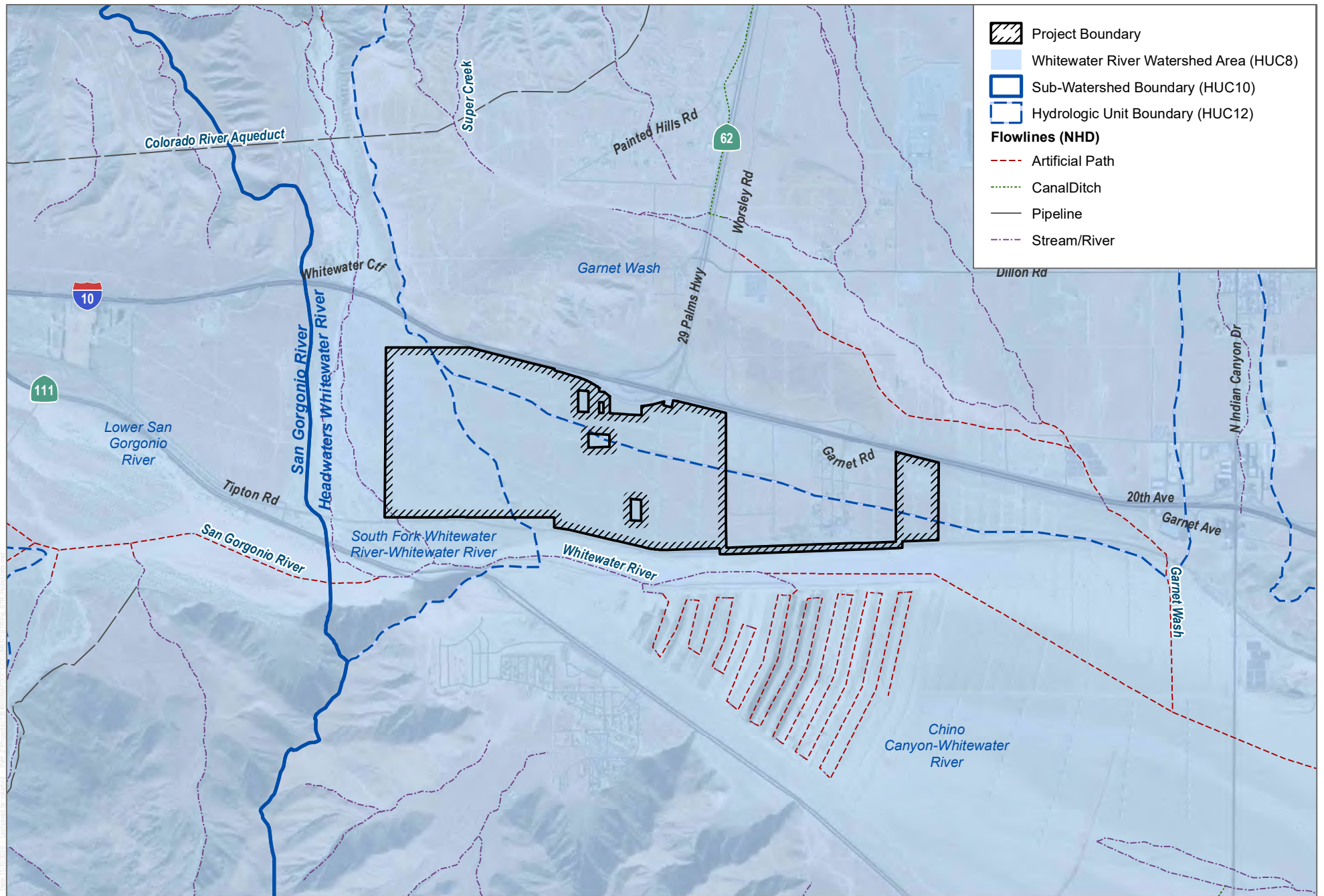


SOURCE: Aerials by Riverside County 2016, NRCS Soils

FIGURE 4

Soils within Project Site

INTENTIONALLY LEFT BLANK



SOURCE: Aerials by Riverside County 2016, USGS

FIGURE 5

Hydrologic Units

INTENTIONALLY LEFT BLANK

4 Results

4.1 Vegetation Communities and Land Covers

The project site is comprised of nine vegetation communities and land cover types. Vegetation communities and land cover type descriptions were taken directly from the 2020 Tetra Tech report (Appendix B), with the exception of Sonoran creosote bush scrub, which is based on the mapping provided in the CVMSHCP. These communities are described below, and their acreages are presented in Table 2. Their spatial distributions are presented in Figure 6, and representative photos are provided in Appendix B.

Table 2. Vegetation Communities and Land Covers within the Project Site

Vegetation Community and Land Covers ¹	Alliance	Association	Acreage
Within the CVMSHCP WFCA			
Cheesebush – Sweetbush Scrub	<i>Ambrosia salsola</i> – <i>Bebbis juncea</i>	(NA)	148.04
Creosote Bush – White Bursage Scrub	<i>Larrea tridentata</i> – <i>Ambrosia dumosa</i>	(NA)	30.55
Creosote Bush Scrub	<i>Larrea tridentata</i>	(NA)	1.53
Sonoran Creosote Bush Scrub ²	(NA)	(NA)	148.22
White Bursage Scrub	<i>Ambrosia dumosa</i>	(NA)	4.24
White Bursage Scrub (disturbed)	<i>Ambrosia dumosa</i>	(NA)	39.53
Disturbed	(NA)	(NA)	11.27
WFCA Subtotal			383.39
Outside of the CVMSHCP WFCA			
Cheesebush – Sweetbush Scrub	<i>Ambrosia salsola</i> – <i>Bebbis juncea</i>	(NA)	10.86
Cheesebush – Sweetbush Scrub (Disturbed)	<i>Ambrosia salsola</i> – <i>Bebbis juncea</i>	(NA)	13.25
Creosote Bush – White Bursage Scrub	<i>Larrea tridentata</i> – <i>Ambrosia dumosa</i>	(NA)	80.51
Creosote Bush Scrub	<i>Larrea tridentata</i>	(NA)	357.88
White Bursage Scrub (disturbed)	<i>Ambrosia dumosa</i>	(NA)	321.89
Disturbed	(NA)	(NA)	74.48
Developed	(NA)	(NA)	12.93
Outside WFCA Subtotal			871.80
Total³			1,255.19

Notes:

(NA) = not applicable (i.e., not mapped at this level of detail or not described by Sawyer et al. 2009).

¹ Based on A Manual of California Vegetation (2nd edition, Sawyer et al. 2009), except where noted.

² Vegetation community mapping based on mapping provided in the CVMSHCP (CVAG 2007).

³ Totals may not sum due to rounding.

4.1.1 Cheesebush – Sweetbush Scrub

The cheesebush – sweetbush scrub community within the project site is co-dominated by cheesebush (*Ambrosia salsola*) and sweetbush (*Bebbia juncea*) in the shrub canopy. Brittlebush (*Encelia farinosa*), California ephedra (*Ephedra californica*), and emergent trees, such as desert willow (*Chilopsis linearis*), were

also scattered in portions of the project site. This community is characterized by an open to intermittent shrub canopy with a sparse or seasonally present herbaceous layer. It also can contain intermittently flooded channels, washes, valleys, flats, or rarely flooded low-gradient deposits. Soils are alluvial, sandy and/or gravelly, or disturbed desert pavement at elevations ranging from 0 meters amsl to 1,600 meters amsl (Sawyer et al. 2009). This community is predominantly located in the western portion of the WFCA and the central portion of the project site, outside the WFCA. The cheesebush – sweetbush scrub community is mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

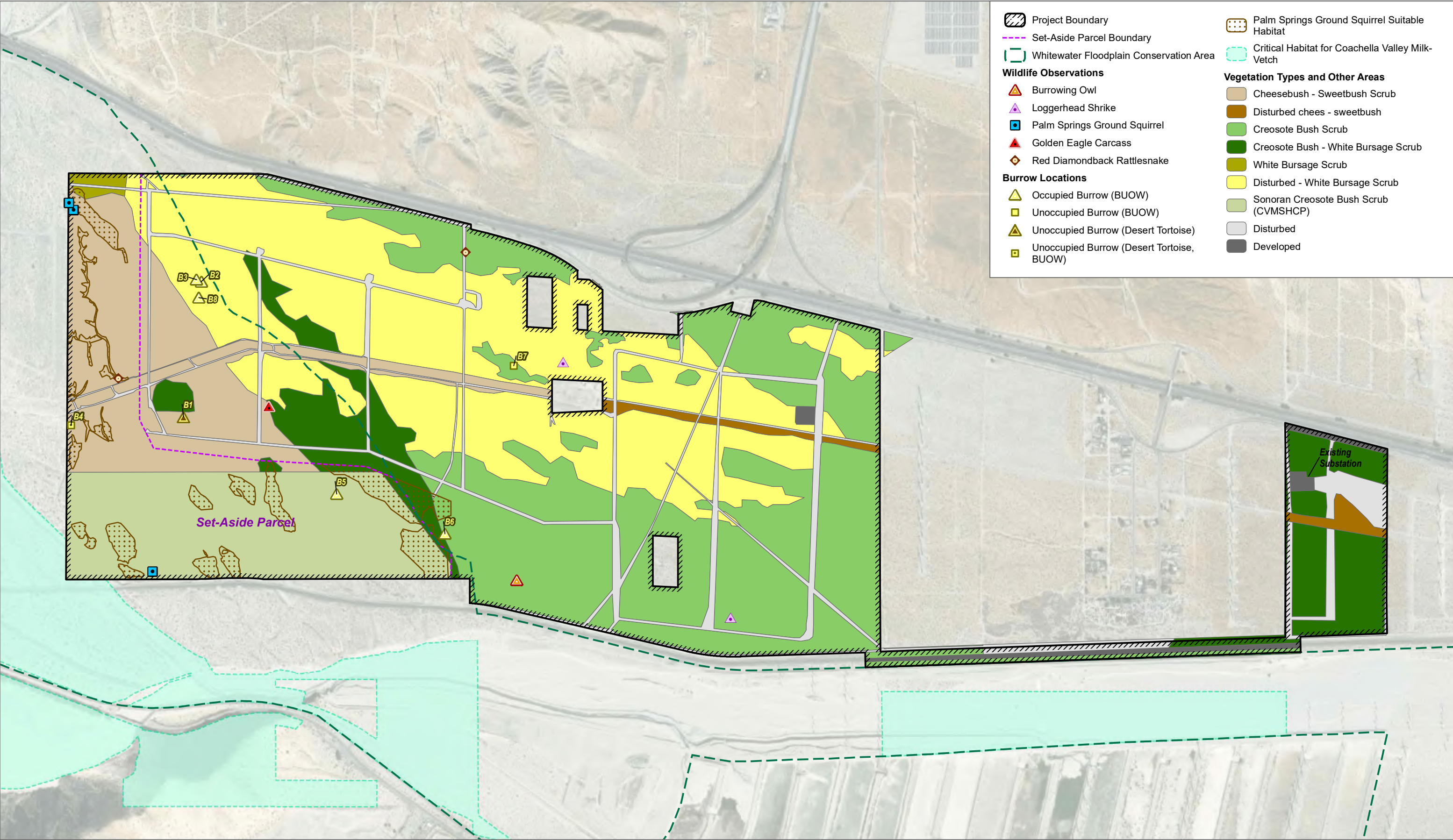
The disturbed cheesebush – sweetbush scrub community had many of the same characteristics as the undisturbed cheesebush – sweetbush scrub community; however, large scale anthropogenic causes (e.g., cattle grazing, grading) have significantly disturbed the vegetation. This community is located outside the WFCA.

Cheesebush – sweetbush scrub, or *Ambrosia Salsola* – *Bebbia juncea* alliance, has a rank of G4S4 by CDFW (CDFW 2020), meaning that it is apparently secure both globally and within the state. Therefore, CDFW does not consider this alliance a sensitive biological resource under CEQA (CDFW 2020). Cheesebush - sweetbush scrub is within the CVMSHCP and is considered a covered vegetation community, but there are no specific conservation objectives for this community required under the CVMSHCP (CVAG 2016).

4.1.2 Creosote Bush – White Bursage Scrub

The creosote bush – white bursage scrub community within the project site is co-dominated by creosote bush (*Larrea tridentate*) and white bursage (*Ambrosia dumosa*), with pincushion flower (*Chaenactis fremontii*) present in the herbaceous layer. This community is characterized by a two-tiered, open to intermittent shrub layer and an absent to intermittent herbaceous layer containing seasonal annuals. Soils are well-drained alluvial and/or sand on washes, rills, and valleys at elevations ranging from 75 meters below amsl to 1,600 meters amsl (Sawyer et al. 2009). This community is located in the western and eastern portions of the project site, both inside and outside the WFCA. The creosote bush – white bursage scrub community is mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

Creosote bush – white bursage scrub, or *Larrea tridentata* – *Ambrosia Dumosa* alliance, has a rank of G5S5 by CDFW (CDFW 2020), meaning that it is apparently secure both globally and within the state. Therefore, CDFW does not consider this alliance a sensitive biological resource under CEQA (CDFW 2020). Creosote bush – white bursage scrub is within the CVMSHCP and is considered a covered vegetation community, but there are no specific conservation objectives for this community required under the CVMSHCP (CVAG 2016).



SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016

INTENTIONALLY LEFT BLANK

4.1.3 Creosote Bush Scrub

The creosote bush scrub community within the project site is dominated by creosote bush in the shrub canopy, with rayless goldenhead (*Acamptopappus sphaerocephalus*) and cheesebush also present, as well as Panamint cryptantha (*Cryptantha angustifolia*) in the herbaceous layer. This community is characterized by an open to intermittent shrub canopy with an open to intermittent herbaceous layer containing seasonal annuals and/or native perennial grasses. Soils are well drained gravel on alluvial fans, minor intermittent washes, and upland slopes from 75 meters below amsl to 1,300 meters amsl (Sawyer et al. 2009). This community is predominantly located along the outer boundary of the project site and includes the Set-aside Parcel located in the southwestern corner of the project site. The creosote bush scrub present onsite is mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

Creosote bush scrub, or *Larrea tridentata* alliance, has a rank of G5S5 by CDFW (CDFW 2020), meaning that it is apparently secure both globally and within the state. Therefore, CDFW does not consider this alliance a sensitive biological resource under CEQA (CDFW 2020). Creosote bush scrub is within the CVMSHCP and is considered a covered vegetation community, but there are no specific conservation objectives for this community required under the CVMSHCP (CVAG 2016).

4.1.4 Sonoran Creosote Bush Scrub

Sonoran creosote bush scrub is the most widespread vegetation type in the Colorado Desert. It is dominated by creosote bush. The physiognomy of the Sonoran creosote bush scrub community is simple because of low species diversity and the broad spacing of the shrubs, 0.5 meters to 3 meters tall, usually with bare ground between. The co-dominant species in the community is white bursage (*Ambrosia dumosa*). Many species of ephemeral herbs may flower in late winter/early spring if winter rains are sufficient.

Sonoran creosote bush scrub occurs within southwestern corner of the project site within the Set-aside Parcel and was not mapped during the 2020 Tetra Tech field surveys. This parcel was mapped using the CVMSHCP vegetation mapping.

Sonoran creosote bush scrub, or *Larrea tridentata* alliance, has a rank of G5S5 by CDFW (CDFW 2020), meaning that it is apparently secure both globally and within the state. Therefore, CDFW does not consider this alliance a sensitive biological resource under CEQA (CDFW 2020). Sonoran creosote bush scrub is within the CVMSHCP and is considered a covered vegetation community, but there are no specific conservation objectives for this community required under the CVMSHCP (CVAG 2016).

4.1.5 White Bursage Scrub (including disturbed)

The white bursage scrub community within the project site is dominated by white bursage, with cheesebush and white rhatany (*Krameria bicolor*) also present, and smallseed sandmat (*Euphorbia polycarpa*) in the herbaceous layer. The white bursage scrub community is characterized by an open to intermittent shrub layer and an open to intermittent herbaceous layer with seasonal annuals. This community is found within older washes and/or river terraces with sandy, clay-rich soils at elevations ranging from 0 meters amsl to 1,700 meters amsl (Sawyer et al. 2009). This community is only located within the northwestern corner of the WFCA and is mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

The disturbed white bursage scrub community had many of the same characteristics as the undisturbed white bursage scrub community; however, large scale anthropogenic causes (e.g., cattle grazing, grading) have

significantly disturbed the vegetation. This community contained very limited, intermittent white bursage shrubs with a seasonally present herbaceous layer including desert dandelion (*Malacothrix glabrata*), Fremont's pincushion (*Chaenactis fremontii*), and many non-native species including stinknet (*Oncosiphon piluliferum*). This community is located in the central portion of the project site, inside and outside the WFCA.

White bursage scrub, or *Ambrosia dumosa* alliance, has a rank of G5S5 by CDFW (CDFW 2020), meaning that it is apparently secure both globally and within the state. Therefore, CDFW does not consider this alliance a sensitive biological resource under CEQA (CDFW 2020). White bursage scrub is within the CVMSHCP and is considered a covered vegetation community, but there are no specific conservation objectives for this community required under the CVMSHCP (CVAG 2016).

4.1.6 Disturbed

The disturbed classification includes areas where the native vegetation community is heavily influenced by human actions, such as grading, trash dumping, and dirt roads, but lack development. Disturbed is not a vegetation classification, but rather a land cover type and is not restricted to a known elevation. Disturbed areas occur most commonly as dirt roads throughout the project site, including inside and outside the WFCA. In areas classified as disturbed, vegetation is absent or consisted primarily of non-native species, such as red brome (*Bromus rubens*), redstem stork's bill (*Erodium cicutarium*), and common Mediterranean grass (*Schismus barbatus*).

Disturbed habitat is not a vegetation community; therefore, it is not considered a sensitive biological resource under CEQA (CDFW 2020).

4.1.7 Developed

Areas designated as developed had infrastructure present and no vegetation. Developed is not a vegetation classification, but rather a land cover type and is not restricted to a known elevation. Developed areas included substations, concrete, and laydown yards. Developed lands within the project site occur outside the WFCA.

Developed land is not a vegetation community; therefore, it is not considered a sensitive biological resource under CEQA (CDFW 2020c).

4.2 Flora and Fauna

A total of 93 species of native or naturalized plants, including 69 native species (89%) and 9 non-native species (12%), were recorded during the 2020 field surveys conducted by Tetra Tech and Dudek. A full list of plant species observed are included in Appendix H.

A total of 64 wildlife species were recorded within the project site during the Tetra Tech, WEST, and Dudek field surveys (see Appendix I). Forty-five bird species were observed. No amphibian or invertebrate species were detected within the project site. Twelve reptile species, including five snake species and seven lizard species, and seven mammal species were detected within the project site. A full list of wildlife species observed are included in Appendix I.

4.3 Special-Status Plant Species

Based on the literature review, a total of 101 special-status plant species have been documented within the project vicinity (i.e., White Water and Desert Hot Springs USGS Quadrangles and the ten surrounding USGS Quadrangles: San Geronio Mountain, Catclaw Flat, Morongo Valley, Yucca Valley South, Seven Palms Valley,

Cathedral City, Palm Springs, San Jacinto Peak, Lake Fulmor, and Cabazon). Special-status plants that have a low potential to occur or that are not expected to occur within the project site are listed in Appendix J and are not discussed further because no significant direct or indirect impacts are expected. Species were determined to have low potential or not expected to occur based on one or more of the following factors: a lack of suitable vegetation community, the site being located outside of the species' known elevation range, lack of suitable soil, and/or negative survey results.

Fifteen special-status plant species were determined to have a potential to occur within the project (see Table 2 in Appendix A). No special-status plants species were observed within the project site during the focused surveys conducted by Tetra Tech in April and May 2020.

There are two CVMSHCP covered plant species, Coachella Valley milk-vetch (a federally endangered and California Rare Plant Rank 1B.2 species) and triple-ribbed milkvetch (a federally endangered and California Rare Plant Rank 1B.2 species), known to occur within the immediate vicinity of the project site (i.e., within the White Water and/or Desert Hot Springs USGS Quadrangles [CDFW 2020d; CNPS 2020]), and the project site contains CVMSHCP modeled Other Conserved Habitat for triple-ribbed milkvetch (Figure 3). As shown on Figure 6, there are approximately 1.55 acres of USFWS-designated Critical Habitat for Coachella Valley milk-vetch within the southwestern corner of the Set-aside Parcel portion of the project site. These species were not observed during surveys but are included in the impact analysis for consistency with the CVMSHCP.

4.4 Special-Status Wildlife Species

Those special-status wildlife species that occur in the region, but that are not expected, or have low potential to occur in the project site due to a lack of suitable habitat and were absent during surveys, are included in Appendix K. These species are not discussed further because no significant direct or indirect impacts are expected.

Seven special-status wildlife species were observed within the project site during the 2017, 2018, and 2020 field surveys: red diamond rattlesnake (*Crotalus ruber*), California glossy snake (*Arizona elegans occidentalis*), burrowing owl, loggerhead shrike (*Lanius ludovicianus*), Swainson's hawk (*Buteo swainsoni*), golden eagle, and Palm Springs ground squirrel. In addition, three special-status wildlife species were determined to have moderate potential occur within the project site due to suitable habitat present and known occurrences within the project site vicinity. Additionally, three bald eagles were observed during the fixed-point avian surveys over an area (i.e. recharge ponds) that was eliminated from the project to reduce eagle risk (refer to Appendix A for details on project site changes). This species is discussed further in Section 4.4.7. Vegetation mapping and field surveys, along with known species occurrences, were used to determine the likelihood of occurrence for special-status species within the project site. A description of special-status wildlife species observed or that have a moderate potential to occur are included in Table 3 and are further described below. Special-status species that were observed within the project site during surveys are shown on Figure 6.

It should be noted that three species—desert tortoise, LeConte's thrasher, and Palm Springs pocket mouse—were determined to have low potential to occur within the project site by Tetra Tech based on surveys; however, these species are included in Table 3 for consistency with the CVMSHCP.

Table 3. Special-Status Wildlife Observed or Have a Potential to Occur on the Project Site

Scientific Name	Common Name	Status (Federal/State)	CVMSHCP	Habitat	Potential to Occur
Reptiles					
<i>Arizona elegans occidentalis</i>	California glossy snake	None/SSC	None	Commonly occurs in desert regions throughout Southern California. Prefers open sandy areas with scattered brush. Also found in rocky areas.	Observed. One carcass was observed during surveys inside the WFOA portion of the project site. This species has been recorded in the vicinity ² (CDFW 2020d).
<i>Crotalus ruber</i>	red diamondback rattlesnake	None/SSC	None	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats.	Observed. This species was observed during surveys within the project site. This species has been recorded in the vicinity ² (CDFW 2020d).
<i>Gopherus agassizii</i>	Mojave desert tortoise ¹	FT/ST	Covered	Arid and semi-arid habitats in Mojave and Sonoran Deserts, including sandy or gravelly locations along riverbanks, washes, sandy dunes, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides.	Low potential to occur. Neither individuals nor recent sign (e.g., burrow sites with scat and/or tracks present) were observed during surveys within the project site. While suitable habitat containing potential desert tortoise burrows, friable soils and forage are present, on-site disturbances due to existing facilities at the project site reduce the quality of habitat present and may preclude this species from occurring. In addition, the project site is located in the western extent of the Riverside County range for this species. Given these factors, there is a low likelihood of desert tortoise occurring within the project site. This species has been recorded in the vicinity ² (CDFW 2020d).

Table 3. Special-Status Wildlife Observed or Have a Potential to Occur on the Project Site

Scientific Name	Common Name	Status (Federal/State)	CVMSHCP	Habitat	Potential to Occur
Birds					
<i>Aquila chrysaetos</i> (nesting and wintering)	Golden eagle	None/FP	None	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats.	Observed. This species was observed during the fixed-point avian surveys and one carcass was found during field surveys in May 2020 within the project site. This species is not expected to nest within the project site. This species has been recorded in the vicinity ² (CDFW 2020d).
<i>Athene cunicularia</i>	burrowing owl	None/SSC	Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	Observed. Twenty individuals and 8 occupied burrows were observed during surveys within the project site. A total of 14 individuals and 7 burrows were WFCA Area portion of the project site, and 6 individuals and 1 burrow occurred in the remaining portion of the project site. This species has been recorded in the vicinity ² (CDFW 2020d).
<i>Buteo swainsoni</i> (nesting)	Swainson's hawk	None/ST	None	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.	Observed. This species was observed once during the fixed-point avian surveys within the project site. This species is not expected to nest within the project site.
<i>Haliaeetus leucocephalus</i>	Bald eagle	FDL/FP, SE	None	Nests in forested areas adjacent to large bodies of water, including seacoasts,	Not expected to nest and occurrences within the project vicinity are expected to be

Table 3. Special-Status Wildlife Observed or Have a Potential to Occur on the Project Site

Scientific Name	Common Name	Status (Federal/State)	CVMSHCP	Habitat	Potential to Occur
(nesting and wintering)				rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains	infrequent and limited to the non-breeding season. Three bald eagles were observed foraging over the recharge ponds, located outside of the project site, during the fixed-point avian surveys.
<i>Lanius ludovicianus</i> (nesting)	loggerhead shrike	None/SSC	None	Nests and forages in open habitats with scattered shrubs, trees, or other perches.	Observed. This species was observed during surveys within the project site. This species has been recorded in the vicinity ² (CDFW 2020d).
<i>Toxostoma lecontei</i>	LeConte's thrasher ¹	None/SSC	Covered	Nests and forages in desert wash, desert scrub, alkali desert scrub, desert succulent, and Joshua tree habitats; nests in spiny shrubs or cactus.	Low potential to occur. Although emphasis was placed on detecting this species during field surveys (including the fixed-point avian surveys) within the project site, this species was not observed. This species occurs within the vicinity. ²
Mammals					
<i>Chaetodipus fallax pallidus</i>	pallid San Diego pocket mouse	None/SSC	None	Desert wash, desert scrub, desert succulent scrub, and pinyon-juniper woodland.	Moderate potential to occur. The project site contains suitable habitat for this species, although some habitat is disturbed due to the presence of the existing energy facility. This species occurs within the vicinity. ²

Table 3. Special-Status Wildlife Observed or Have a Potential to Occur on the Project Site

Scientific Name	Common Name	Status (Federal/State)	CVMSHCP	Habitat	Potential to Occur
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None/SSC	None	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, human-made structures, and tunnels.	Moderate potential to occur. The project site contains suitable habitat for this species, although some habitat is disturbed due to the presence of the existing energy facility. This species occurs within the vicinity ² .
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	None/SSC	None	Pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings.	Moderate potential to occur. The project site contains suitable habitat for this species, although some habitat is disturbed due to the presence of the existing energy facility.
<i>Perognathus longimembris bangsi</i>	Palm Springs pocket mouse	None/SSC	Covered	Creosote scrub, desert scrub, and grasslands; sparse to moderately dense vegetative cover.	Low potential to occur. The project site contains suitable habitat for this species, although some habitat is disturbed due to the presence of the existing energy facility, and species was not observed during surveys. This species occurs within the vicinity. ²
<i>Spermophilus (Xerospermophilus) tereticaudus chlorus</i>	Palm Springs ground squirrel	None/SSC	Covered	Sandy arid regions of Lower Sonoran Life Zone including creosote bush scrub and creosote-palo verde.	Observed. Three individuals were observed during the habitat assessment conducted for this species. The Set-aside Parcel contains 36.65 acres of suitable habitat for this species. This species occurs within the vicinity. ²

Status Legend

Federal

FE: Federally listed as endangered.

FT: Federally listed as threatened.

FDL: Federally delisted.

State

FP: CDFW Fully Protected Species.

SE: State listed as endangered.

ST: State listed as threatened.

SSC: California Species of Special Concern.

CVMSHCP: Coachella Valley County Multiple Species Habitat Conservation Plan

Covered: Species is covered under the CVMSHCP.

Notes:

- ¹ There is low potential for desert tortoise, LeConte's thrasher, and Palm Springs pocket mouse to occur within the project site. However, due to the additional survey and mitigation requirements included in Section 4.4 of the CVMSHCP, these species are included in this report's analysis.
- ² Vicinity refers to the White Water and/or Desert Hot Springs USGS quadrangles (CDFW 2020d).

4.4.1 Desert Tortoise

The desert tortoise is federally and state listed as threatened and is covered under the CVMSHCP with additional survey requirements. The range of the desert tortoise includes portions of the Mojave Desert and the Colorado Desert in Southern California (parts of Inyo, Kern, Los Angeles, San Bernardino, and Riverside Counties). The desert tortoise can be found in a wide variety of habitats, such as alluvial fans, washes, canyons, and saltbush plains (CVCC 2007). The typical habitat for the desert tortoise is creosote bush scrub where precipitation ranges from 2 to 8 inches, with relatively high diversity of perennial plants, and high productivity of ephemeral plants. Throughout most of its range, desert tortoises occur most commonly on gently sloping terrain with sandy gravel soils and where there is sparse cover of low-growing shrubs, which allows for the establishment of herbaceous plants. Soils must be friable enough for digging of burrows, but firm enough so that burrows do not collapse (USFWS 2008a). Although populations of desert tortoise are not generally known to inhabit elevations much above 4,000 feet, it occurs from below sea level to an elevation of 7,300 feet (USFWS 2008a).

Protocol-level desert tortoise surveys conducted within the project site did not detect live desert tortoise or recent desert tortoise sign (i.e., scat, tracks, recent burrows). A total of seven potential desert tortoise burrows (i.e., B1 through B7) were observed during surveys (Figure 6). All seven burrows were characterized as Class 4 burrows (i.e., good condition and possibly belonging to desert tortoise) per the USFWS Desert Tortoise (Mojave Population) Field Manual (USFWS 2009). Four of the seven burrows (i.e., B2, B3, B5, and B6) displayed recent use by burrowing owl. Burrows B1 and B4 within the WFCA portion of the project site did not show signs of desert tortoise occupancy. Burrow B7 was observed during the July 2020 survey in the added 38-acre area. However, based on the shape, this burrow was deemed inappropriate for use by desert tortoise.

4.4.2 Red Diamond Rattlesnake

Red diamond rattlesnake is a California SSC. Red diamondback rattlesnake inhabits chaparral, woodland, and arid desert habitat in rocky areas and dense vegetation along coastal and eastern slopes of San Diego County, and north through western Riverside County to San Bernardino County (Zeiner et al. 1988). This species occurs in elevations from sea level to 5,000 feet and feeds on ground squirrels, rabbits, rodents, lizards, birds, carrion, and other snakes (Klauber 1972; Stebbins 2003).

Five red diamond rattlesnake individuals (one by Tetra Tech and four by Dudek) were observed within the project site during the 2020 field surveys. The red diamond rattlesnake observations made by Dudek are shown on Figure 6; however, the Tetra Tech observation was not mapped during the survey.

4.4.3 California Glossy Snake

California glossy snake is a California SSC. California glossy snakes are common in desert habitats, but also occur in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grassland from elevations between sea level and 6,000 feet amsl (Zeiner et al. 1988). Primarily nocturnal, glossy snakes spend periods of inactivity during the day and during winter in mammal burrows and rock outcrops, and to a lesser extent under surface objects such as flat rocks and vegetation residue. Individuals occasionally burrow in loose soil (Zeiner et al. 1988).

One California glossy snake carcass was observed by Tetra Tech within the WFCA portion of the project site during the 2020 field surveys. This species was not mapped due to its low status.

4.4.4 Burrowing Owl

Burrowing owl is a California SSC and is covered under the CVMSHCP, with additional survey requirements. With a relatively wide-ranging distribution throughout the west, burrowing owls are considered to be habitat generalists (Lantz et al. 2004). In California, burrowing owls are yearlong residents of open, dry grassland and desert habitats, and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats (Zeiner et al. 1990). Preferred habitat is generally typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils (Haug et al. 2011). The presence of burrows is the most essential component of burrowing owl habitat as they are required for nesting, roosting, cover, and caching prey. In California, western burrowing owls most commonly live in burrows created by California ground squirrels. Burrowing owls may occur in human-altered landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable (i.e., open and sparse), useable burrows are available, and foraging habitat occurs in close proximity (Gervais et al. 2008). Furthermore, debris piles, riprap, culverts, and pipes can be used for nesting and roosting.

Burrowing owl individuals and six occupied burrows (i.e., B2, B3, B5, and B8) were detected within the WFCA portion of the project site (Figure 6). Burrows B2 and B3 had two adjacent burrows at each location, are approximately 60 feet apart from one another, and are likely part of the same burrow complex used by one burrowing owl family group. A total of nine owls (including juveniles) were observed at the B2 and B3 burrow complex. Additionally, an incidental observation of a burrowing owl occurred during a Dudek cultural survey conducted for the project in 2020. The individual was flushed from active burrow B8 (i.e., burrowing owl pellets were observed immediately outside the burrow), which is located approximately 200 feet southwest of the B2 and B3 complex. Due to proximity, this individual is assumed to be part of the family group observed at the B2 and B3 burrow complex during focused surveys for this species. Burrow B5, which is located within the Set-aside Parcel and the WFCA portion of the project site, was occupied by five burrowing owls (including juveniles). It is presumed that the same owls were observed during each survey. Burrows B1 and B4 within the WFCA did not show signs of burrowing owl occupancy (Figure 6).

One occupied burrowing owl burrow (i.e., B6) was observed near a previously used access road in the portion of the project site just outside the WFCA (Figure 6). Two adult owls and four juveniles were observed near the burrow during the June 2020 surveys. Additionally, one potential burrow (i.e., B7) was observed during the July 2020 survey in the added 38-acre area (Figure 6). No owls or owl sign were observed at burrow B7.

4.4.5 LeConte's Thrasher

LeConte's thrasher is a California SSC and is covered under the CVMSHCP with additional survey requirements. LeConte's thrasher occurs primarily in open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats. This species also occurs in Joshua tree (*Yucca brevifolia*) habitat with scattered shrubs (Dobkin and Granholm 2005). This species prefers gently rolling to well-drained slopes occupied by saltbush (*Atriplex* sp.) and jointfir (*Ephedra* sp.) with bare ground or sparse grass (Fitton 2008). These conditions are generally found on bajadas or alluvial fans where the slopes are bisected by dry washes (Fitton 2008). The species avoids flat, poorly drained soils of the valley floor even though suitable shrub species composition and structure are present. The required foraging habitat requirements are missing, and hence the species is not present (Fitton 2008). The majority of the Le Conte's thrasher's diet consists of insects found within leaf litter under desert shrubs; therefore, habitat must contain a sufficient ground cover (Sheppard 1996).

Although emphasis was placed on detecting LeConte's thrasher within the project site during the 2020 focused special-status plant and desert tortoise surveys conducted by Tetra Tech, this species was not observed.

Additionally, WEST conducted fixed-point avian surveys throughout an entire calendar year (i.e., October 2017 through October 2018), and these surveys failed to detect LeConte's thrasher within the project site.

4.4.6 Loggerhead Shrike

Loggerhead shrike is a California SSC. Loggerhead shrike inhabits open-canopied riparian woodland habitats (Zeiner et al. 1990). This species ranges throughout California in the lowlands and foothills. The loggerhead shrike is a resident and winter visitor, and prefers open habitats with perches, including scattered shrubs, trees, posts, fences, and utility lines.

Three loggerhead shrike individuals (two fledglings and one adult) were observed at two locations during field surveys conducted by Tetra Tech in 2020 within the project site (Figure 6). Loggerhead shrike was observed 20 times during the fixed-point avian surveys conducted by WEST.

4.4.7 Swainson's Hawk

Swainson's hawk is a threatened species under CESA. Swainson's hawks breed in the grasslands, shrub-steppe, desert, and agricultural areas of the Columbia Basin, Great Basin, Great Plains, American Southwest, and the Central Valley of California (Bechard et al. 2010). Generally, Swainson's hawks nest in scattered trees along stream courses, rivers, or in open woodlands within foraging habitat (Bechard et al. 2010). Swainson's hawks are migratory and arrive on their breeding grounds in April in most parts of their range (Bechard et al. 2010). Remnant (or recolonizing) populations in Southern California are found in the western Mojave Desert in the Antelope Valley and in the eastern Mohave Desert in the Mojave National Preserve. Migrating Swainson's hawks pass through Anza Borrego State Park and Morongo Valley in spring. In fall, hawks also migrate through the eastern Colorado Desert and along the Colorado River.

Swainson's hawk was observed once along the northern boundary of the project site in spring 2018 during the fixed-point avian surveys. No other observations of Swainson's hawk were made during surveys conducted within the project site. See Appendix D2 in Appendix A for a map showing the location of the Swainson's hawk observation within the project site.

4.4.8 Bald Eagle

Bald eagles are state-listed endangered and are not covered under the CVMSHCP. Bald eagles typically nest in large trees in forested areas, often in conifers, but also in hardwoods, such as sycamores and oaks, or on cliff faces (Anthony et al. 1982; USFWS 1986; CDFG 2012). They usually nest within 2 kilometers (approximately 1.24 miles) of water, often much closer, and generally isolated from human activity and disturbance; they also often nest in one of the largest trees in a stand and in a prominent location providing vistas over the surrounding area (Buehler 2000; USFWS 1986). In winter, bald eagles typically inhabit areas less than 500 meters (1,625 feet) elevation but may be found up to 2,500 meters (8,125 feet) in some western states (Buehler 2000). They roost communally in stands of both hardwoods and conifers that provide access to foraging habitat and protection from the weather (Anthony et al. 1982). The quality of foraging habitat associated with large bodies of water depends on such factors as abundance of the fish that bald eagles prey upon; the presence of shallow water such as tidal flats, which may increase the availability of prey; and the level of human disturbance (Buehler 2000; Stalmaster and Kaiser 1998; Watson et al. 1991; Garrett et al. 1993). The presence of suitable perch sites is also an important factor. In addition to being near water with ample prey, perch sites tend to be those that provide good views of the surrounding area and are often the highest site available (USFWS 1986). In San Luis Obispo County and elsewhere in coastal Southern and

Central California, reservoirs provide important foraging habitat during both the breeding season and winter (Edell, pers. comm. 2012; CDFG 2012; Lehman 1994; Roberson 2002; Unitt 2004).

The project-specific avian surveys were specifically aimed to document use of bald eagles following survey recommendations in the Eagle Conservation Plan Guidance and Eagle Rule (USFWS 2013, 2016). Three bald eagles were observed outside of the project site during the large bird use surveys for a total of 18 eagle minutes (see Appendix D3 in Appendix A for a map depicting the locations). All three individuals were observed foraging over the recharge ponds, located southeast of the project site. Given the proximity of the observation to typical bald eagle foraging resources, and the lack of observations within the project site, it is assumed that these observations were directly correlated with the presence of the recharge ponds and the large numbers of prey resources (e.g., ducks and coots) that the recharge ponds attract. With the exclusion of the recharge pond area from the project site, all bald eagle observations recorded during the study were also excluded from the revised dataset, and bald eagle risk minutes were reduced to zero. As stated in Appendix A, assuming that bald eagle use is positively associated with risk, this modification to the final project site should reduce the risk posed by the project to bald eagles.

4.4.9 Golden Eagle

Golden eagles are listed as Fully Protected in California. Golden eagle is not covered under the CVMSHCP, but this species is protected by the BGEPA (16 USC. 668 et seq.). Golden eagles use a variety of terrestrial habitats in the western states, occurring primarily in mountainous canyon land, rimrock terrain of open desert, and grassland areas (Kochert et al. 2002). Within its range in California, typical habitat for the golden eagle includes rolling foothills, mountain areas, sage-juniper flats, and desert areas (Zeiner et al. 1990). In central California, they prefer open grasslands and oak savanna, with lesser numbers in oak woodland and open shrublands (Hunt et al. 1998) but can also be found in desert grasslands and chaparral habitats (Millsap 1981). Preferred territories are those that include a favorable nest site, a dependable food supply, and broad expanses of open country for foraging. Hilly or mountainous country where takeoff and soaring are supported by updrafts is generally preferred to flat habitats (Johnsgard 1990). Deeply cut canyons rising to open mountain slopes and crags are ideal habitat (Kochert et al. 2002). Suitable nest sites typically include cliffs or large trees (Scott 1985). Nesting is primarily restricted to rugged, mountainous country (Garrett and Dunn 1981). Secluded cliffs with overhanging ledges and large trees are also used for cover (Zeiner et al. 1990).

One juvenile golden eagle was incidentally observed (i.e., outside the standardized fixed-point use surveys) for 1 minute, near Large Bird Avian Use point 1, on September 27, 2018. Appendix D3 in Appendix A shows the flight path of the golden eagle observation within the eastern portion of the project site. It should be noted that one golden eagle was observed outside of the project site during the large bird use surveys for a total of 3 minutes (refer to Appendix A for a map depicting the locations). The individual was observed flying over the recharge ponds, located southeast of the project site. With the exclusion of the recharge pond area from the project site, golden eagle observations recorded during the study were reduced from 4 minutes to 1 minute. As stated in Appendix A, assuming that golden eagle use is positively associated with risk, this modification to the final project site (i.e. exclusion of the recharge pond area) should reduce the risk posed by the project to golden eagles. Additionally, Tetra Tech biologists observed a golden eagle carcass on May 6, 2020, within the WFCAs portion of the project site (Figure 6). The golden eagle fatality was likely due to a turbine strike. MVPP immediately reported the fatality to USFWS on May 7, 2020. Appendix F provides a summary from the USFWS of the 2020 golden eagle mortality that occurred within the project site.

4.4.9 Palm Springs Ground Squirrel

The Palm Springs ground squirrel is a California SSC and is covered under the CVMSHCP. This species occurred historically in the Coachella Valley from the San Geronio Pass area at Whitewater Station and Windy Point, east and south through the Coachella Valley to Mecca (Brylski et al., 1997). Round-tailed ground squirrels, including the Palm Springs ground squirrel, occur in scrub and wash habitats, including mesquite- and creosote-dominated sand dunes, creosote bush scrub, creosote-palo verde, and saltbush/alkali scrub (Ryan 1968). Substrates include wind-blown sand, coarse sand, and packed silt with desert pavement (Ryan 1968). The Palm Springs ground squirrel is typically associated with sand fields and dune formations. In areas of overlap with the Antelope ground squirrel (*Ammospermophilus leucurus*), the Palm Springs ground squirrel occurs in the sandier floodplain and *leucurus* occurs in rockier habitats. Burrows are dug at bases of shrubs, often creosote bushes (Brylski et al., 1997).

The approximately 248.12-acre Set-aside Parcel, of which 247.18 acres would be conserved (omitting area of disturbance for the met tower and associated access road), contains native habitats on alluvial and floodplain habitats. The habitat within the Set-aside Parcel that is predominantly (>50%) rocky or contains incised rocky channels is considered unsuitable for Palm Springs ground squirrel. Relatively flat, scrub habitats in the survey area that are on predominantly (>50%) sandy substrates are considered potentially suitable for the Palm Springs ground squirrel. The field survey determined that 36.65 acres of potentially suitable habitat for the Palm Springs ground squirrel occurs within the Set-aside Parcel and within the WFCa (Figure 6). Representative photos taken during the habitat assessment of the suitable and unsuitable habitat areas are included in Appendix C. Additionally, there are 4.16 acres of CVMSHCP modeled Other Conserved Habitat for Palm Springs ground squirrel within the WFCa. Of the 4.16 acres of modeled Other Conserved Habitat, the field assessment concluded that only 3.16 acres is suitable for this species and is included in the 36.65-acre total.

Three incidental observations of Palm Springs ground squirrel individuals were detected in the course of the habitat assessment, two as visual observations in the northwestern corner of the Set-aside Parcel and one detected from an alarm call at close range in the southwestern part of the Set-aside Parcel (Figure 6).

4.5 Jurisdictional Aquatic Resources

4.5.1 Jurisdictional Assessment

The April 2020 jurisdictional assessment identified numerous potential jurisdictional features as waters of the United States and state under the jurisdiction of ACOE and RWQCB, and jurisdictional streambed under the jurisdiction of CDFW. This area received 1.09 inches of rain between April 8 and April 11, 2020, less than 2 weeks prior to the jurisdictional assessment (Weather Underground 2020). This area typically averages approximately 5 inches per year (WRCC 2020; RWQCB 2019); therefore, the area received approximately 22% of the average annual rainfall within just 4 days. Areas with fluvial activity exhibiting hydrology indicators were clearly evident and noted during this assessment. This also confirmed areas that clearly lacked fluvial activity.

Potential jurisdictional features mapped included an active alluvial floodplain within the western portion of the jurisdictional assessment review area and several ephemeral single thread channels. The assessment also identified numerous low topographic points and relict swales across the landscape, primarily within the central and eastern portions of the jurisdictional assessment review area that did not exhibit fluvial indicators. In addition, the assessment identified a relict floodplain within the southwestern portion of the jurisdictional assessment review area, immediately south of the gas pipeline easement. This area likely was historically hydrologically part of the active floodplain; however, due to construction of the pipeline and rock berms located

north and south, flows have been altered in this area and are currently flowing further to the west where there is a break in the berm.

The locations of potential jurisdictional features and non-jurisdictional features mapped during the jurisdictional assessment are provided in Figure 7, Jurisdictional Assessment Results.

4.5.2 Jurisdictional Delineation

The jurisdictional delineation review area contains an active alluvial floodplain and two ephemeral low-flow, single-thread channels that only flow in direct response to precipitation. Based on the Navigable Waters Protection Rule released in April 2020 that went into effect on June 22, 2020, ephemeral waters are no longer protected waters of the United States. Therefore, waters within the jurisdictional delineation review area would not be regulated by the ACOE at the time of this BTR. The review area did not contain any features that met the ACOE three-parameter wetland criteria, and due to the lack of riparian or hydrophytic vegetation, wetland determination data forms were not completed. There are no waters of the United States within the jurisdictional delineation review area.

The results of the jurisdictional delineation concluded there are approximately 7.24 acres (6,274 linear feet) of non-wetland waters of the state under the jurisdiction of RWQCB and streambed under CDFW jurisdiction. Table 4 summarizes the total acreage of these features within the jurisdictional delineation review area. The features are depicted on Figures 7 and 8, Jurisdictional Delineation Results. See Appendix F, Jurisdictional Delineation Report, for further details on the results of jurisdictional waters within the project site, including ordinary high water mark (OHWM) datasheets, Episodic Stream Indicator Data Sheets, and representative photos.

Table 4. Non-Wetland Waters of the State (RWQCB) and Jurisdictional Streambed (CDFW) within the Jurisdictional Delineation Review Area

Feature	Total Acres/ Linear Feet	OHWM Indicators	Dominant Vegetation	Latitude/ Longitude
AFP	7.02/5,391	Change in sediment, change in vegetation species, change in vegetation cover, and sediment sorting/deposition	Cheesebush – Sweetbush Scrub	33.914215 –116.628573
NWW-1	0.15/416	Change in sediment, change in vegetation cover and species, sediment deposition, defined bed and bank	Cheesebush – Sweetbush Scrub	33.908559, –116.627848
NWW-2a	0.01/94	Change in sediment, change in vegetation cover and species, sediment deposition, shelving	Disturbed – White Bursage Scrub	33.915399, –116.622208
NWW-2b	0.06/373	Change in sediment, change in vegetation cover, sediment deposition, and defined bed and bank	Disturbed – White Bursage Scrub	33.911581, –116.605980
Total*	7.24/6,274			

Notes: RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; OHWM = ordinary high water mark; AFP = active floodplain; NWW = non-wetland water.

* Acreage may not total due to rounding.

4.6 Wildlife Movement

Wildlife species generally inhabit suitable habitat patches distributed across a landscape. These habitat blocks, which may make up the species' home range or breeding territory, support most, if not all, of the

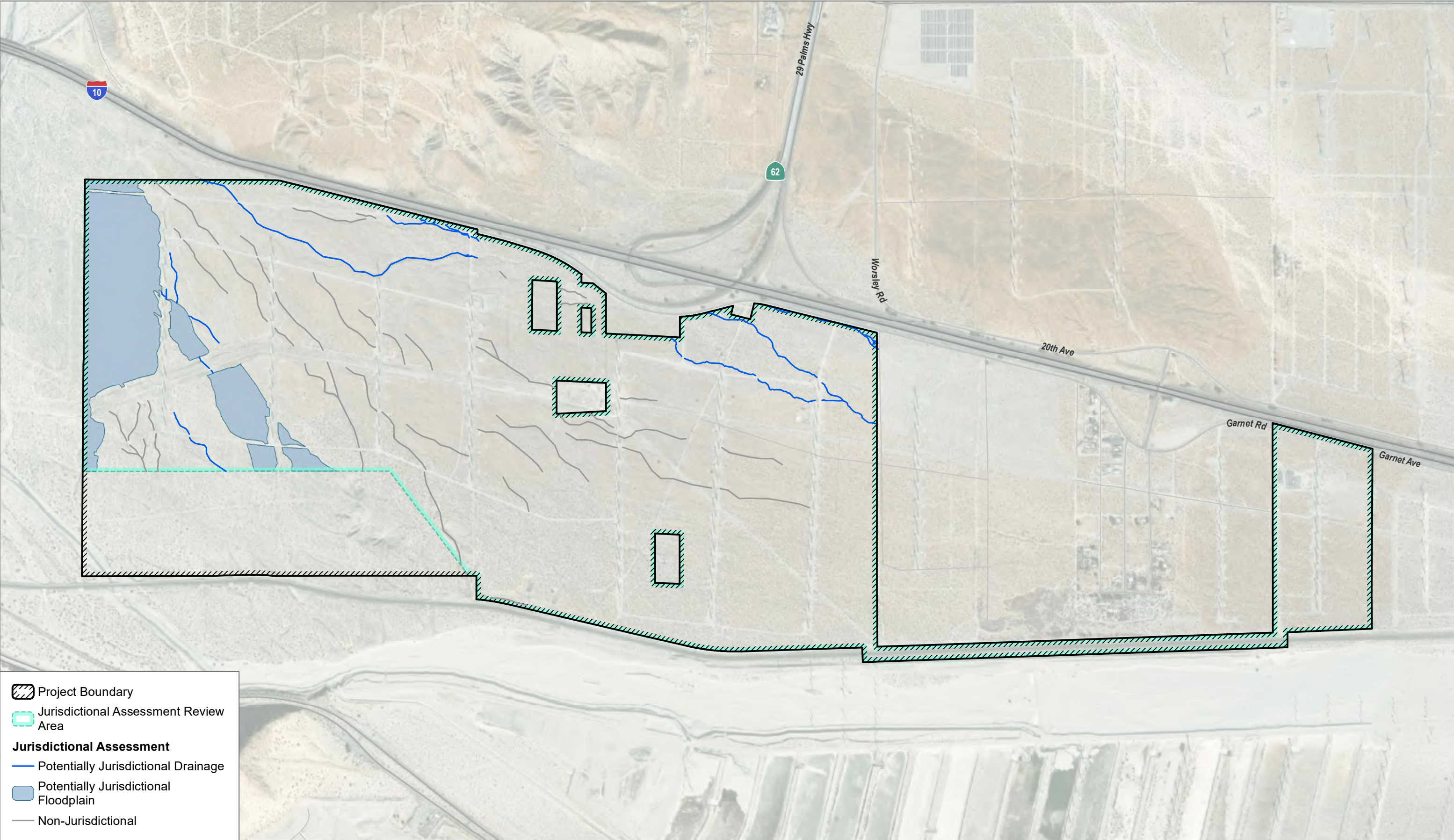
species' life history needs (e.g., food resource, mates, refuge). For those species with wide ranges throughout a landscape, movement corridors are crucial for dispersal, to access food and/or shelter during the winter months, to escape catastrophic events (e.g., flood, fire, etc.), and to ward against genetic in-breeding (Rosenberg et al. 1997). In areas with open landscapes, wildlife has the potential to move across the landscape unimpeded and are not necessarily restricted to movement corridors. Where landscapes have movement constraints such as dense vegetation, steep slopes and canyons, or human-made impediments such as roads and human activity, wildlife may be restricted to wildlife corridors. Wildlife corridors are defined as areas that connect suitable wildlife habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as canyon drainages, ridgelines, or areas with vegetation cover, provide corridors for wildlife travel. Wildlife corridors contribute to population viability by (1) ensuring the continual exchange of genes between populations, which helps maintain genetic diversity; (2) providing access to adjacent habitat areas, representing additional territory for foraging and mating; (3) allowing for a greater carrying capacity; and (4) providing routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes (e.g., fires).

Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. The linkage represents a potential route for gene flow and long-term dispersal. Habitat linkages may serve as both habitat and avenues of gene flow for small animals such as reptiles and amphibians. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as "stepping stones" for dispersal.

General wildlife movement could occur throughout the project site, which is only limited by the presence of the existing energy facility and constrained by I-10 and SR-111, and into other habitat areas within the surrounding vicinity. According to the results of the fixed-point avian survey summarized in Appendix A, approximately 85% of the total large bird observations occurred within the Coachella Valley Water District percolation ponds, located to the southeast of the project site. The percolation ponds may serve as foraging or resting habitat for migratory birds and other species traveling through the area.

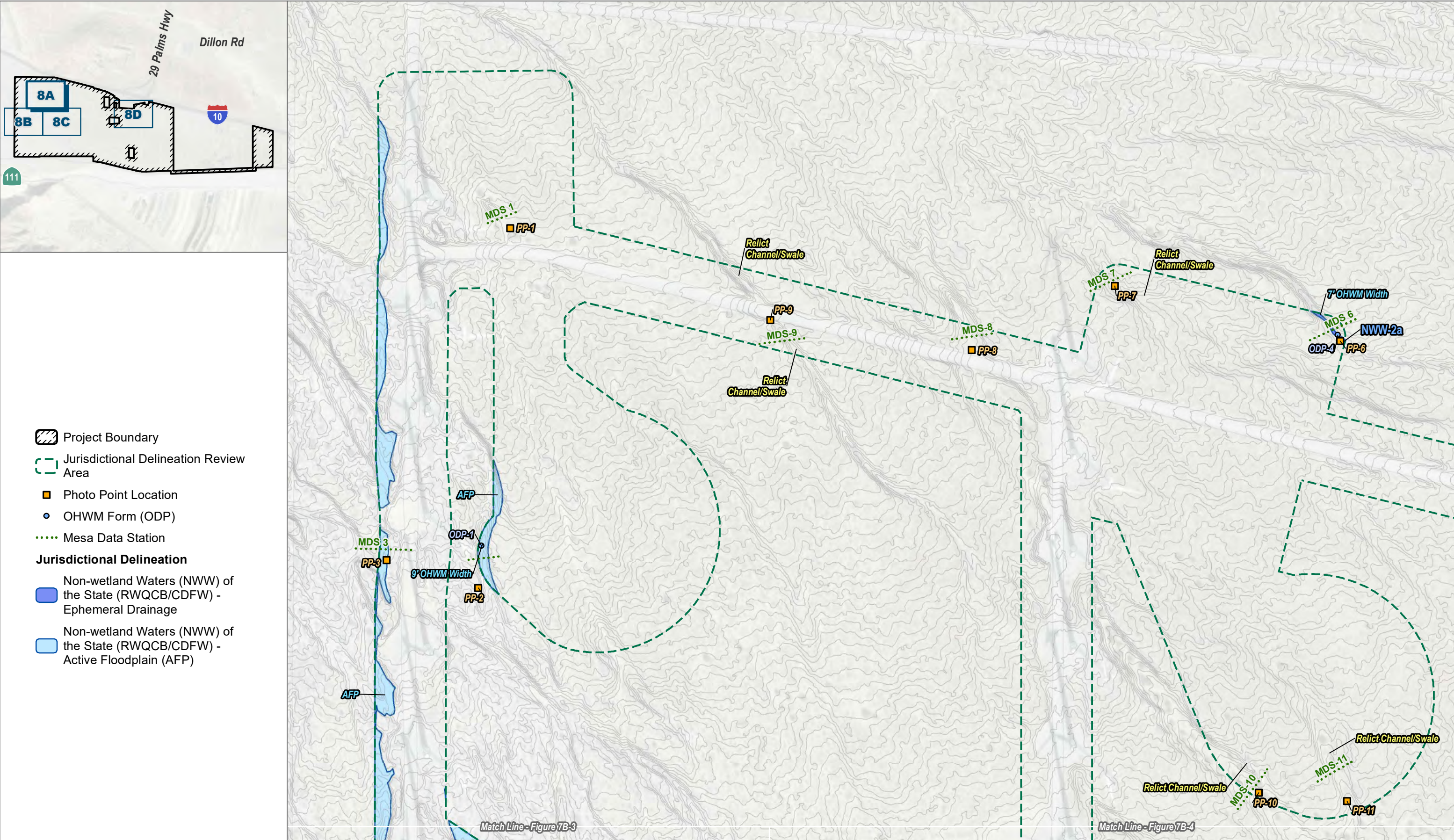
The project site could be considered a part of a larger habitat linkage as defined above, because it supports natural habitat mosaic supporting viable populations of smaller terrestrial species, such as rodents, smaller carnivores, passerine birds, amphibians, reptiles, and invertebrates, and contains 383.39 acres of CVMSHCP modeled biological corridors, which allow for wildlife movement between major open space areas.

INTENTIONALLY LEFT BLANK



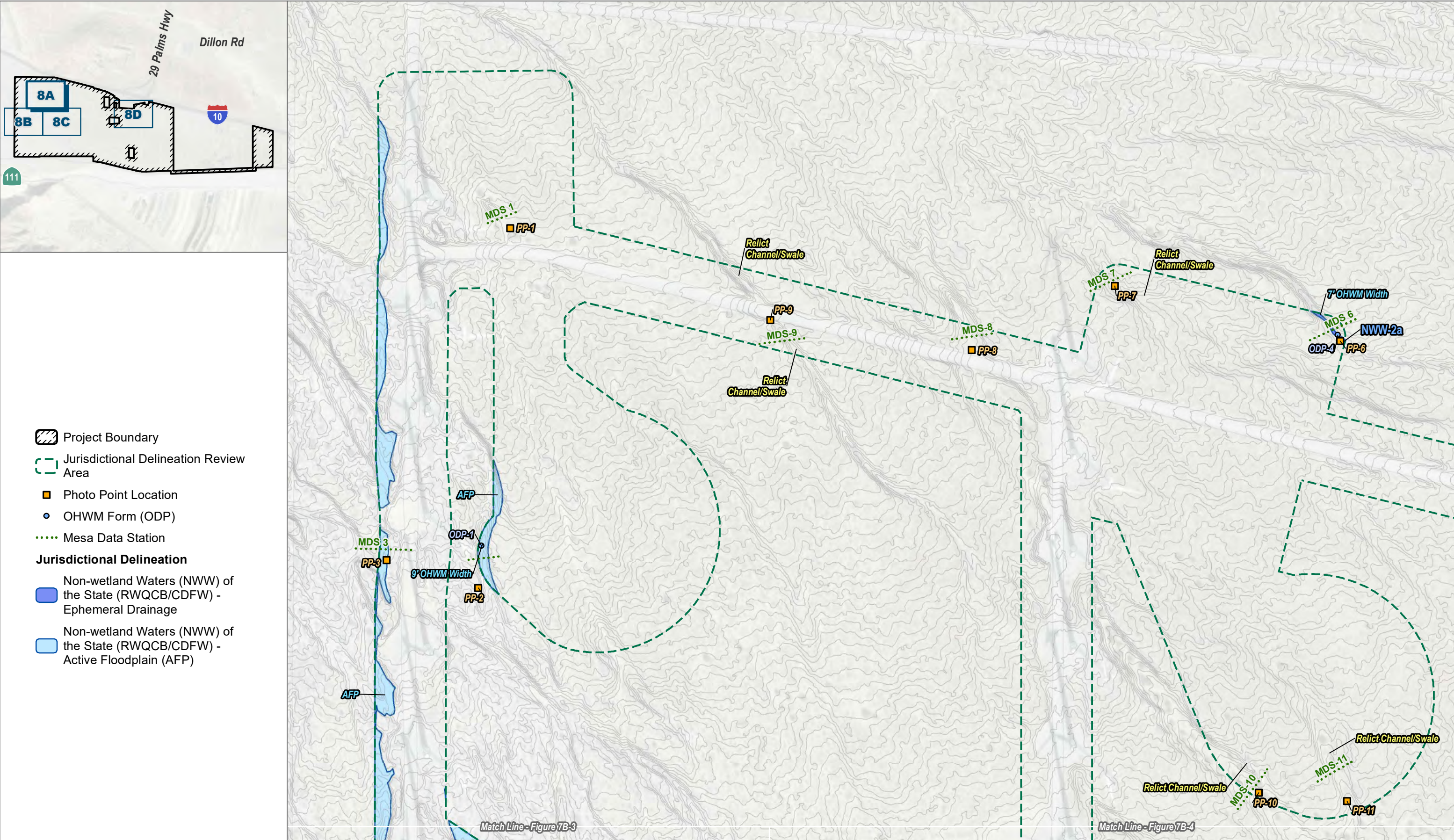
SOURCE: Aerials by Riverside County 2016, USGS

INTENTIONALLY LEFT BLANK



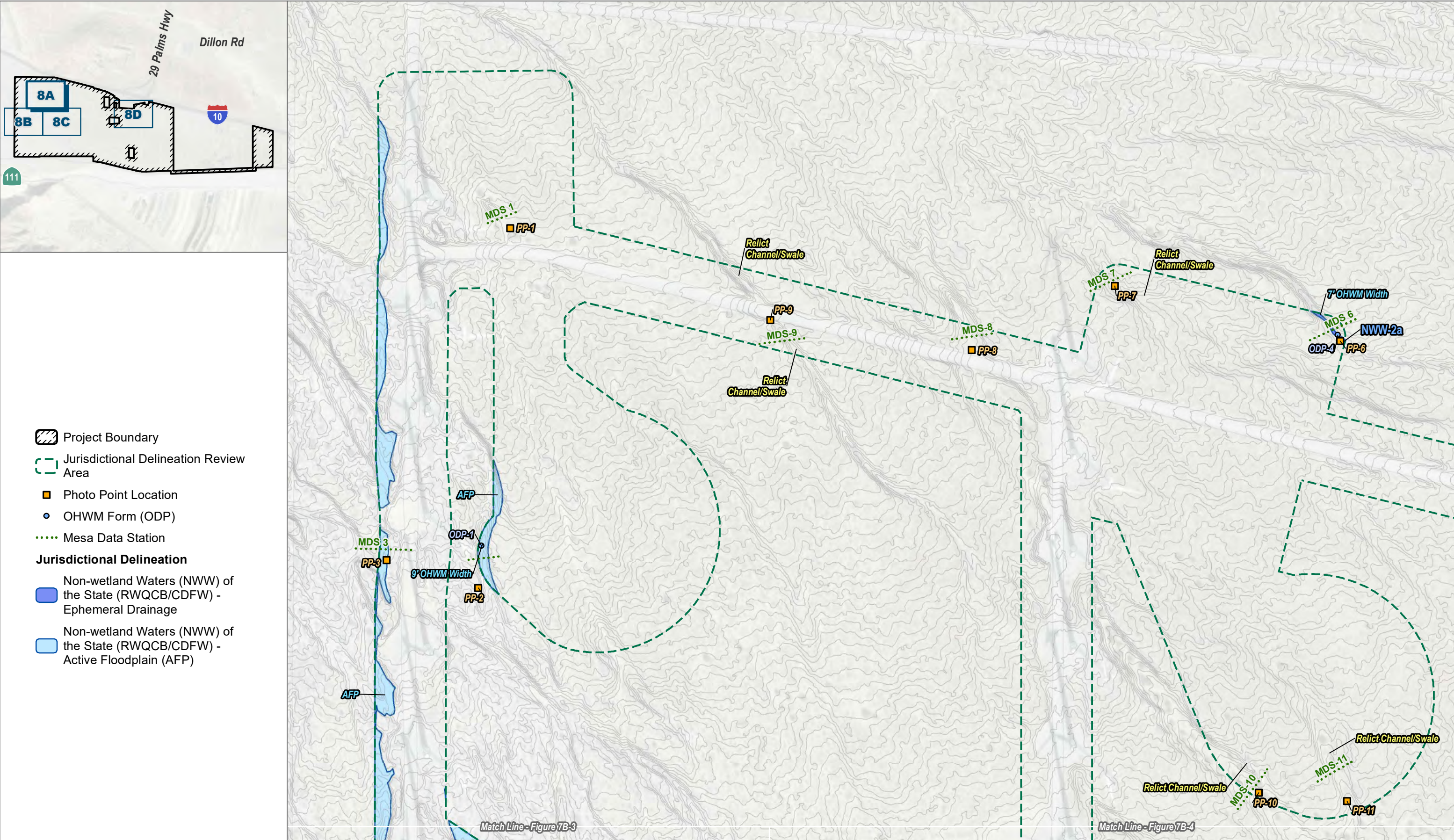
SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016

INTENTIONALLY LEFT BLANK



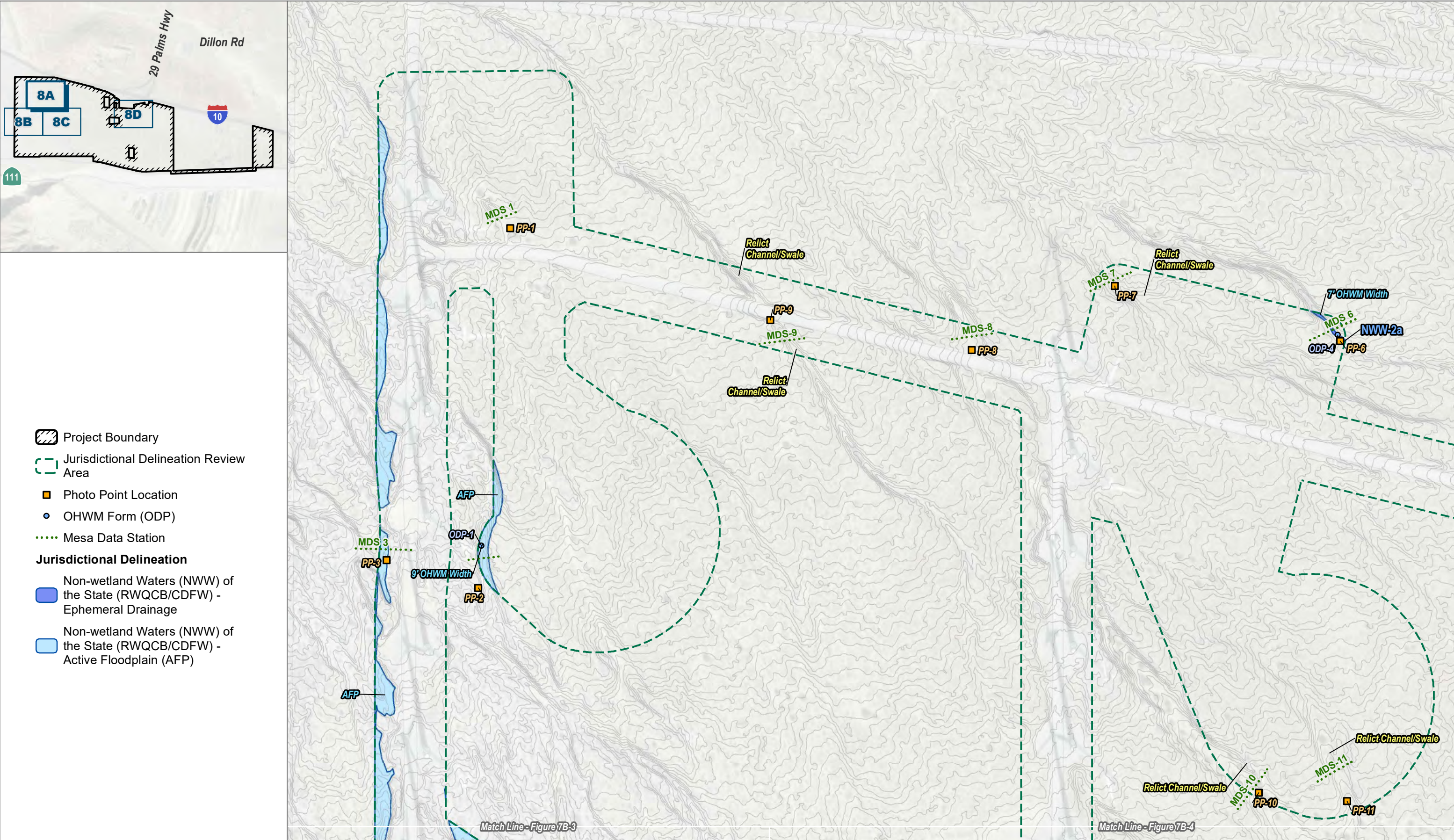
SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016

INTENTIONALLY LEFT BLANK



SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016

INTENTIONALLY LEFT BLANK



SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016

INTENTIONALLY LEFT BLANK

5 Impacts Analysis

5.1 Description of Impact Types

This section addresses potential for permanent, temporary, direct, and indirect impacts, as defined below, to special-status biological resources within the project site. Impacts can be short-term related to construction activities or long-term due to operation of the project. The project's temporary and permanent disturbance areas have been sited to minimize disturbance to special-status biological resources identified within the WFCR to the greatest extent feasible.

Permanent Impacts result in the permanent long-term loss of a biological resource (e.g., loss of suitable habitat for special-status plant and wildlife species). Permanent impacts associated with the proposed project would occur from the new turbine pads, the 17-acre laydown yard, the proposed access roads, and new spur roads and access roads to the overhead collection system within the eastern portion of the project. Operations-related direct impacts are permanent impacts that result in the direct loss of biological resources due to a project (e.g., the potential harm to avian and bat species from WTG operations).

Temporary Impacts refer to areas directly and indirectly impacted by both construction and operations-related project activities. Temporary impacts associated with the proposed project would occur from the temporary work areas around each WTG (e.g., crane pads, equipment laydown, and temporary access roads), overhead electrical collection system (e.g., equipment laydown and temporary access roads), underground electrical collection system, and the decommissioning of 93 existing wind turbine generators and 3 existing met towers. These temporary impact areas would be allowed to regenerate naturally to pre-construction conditions, from the root systems left intact, after the project activity is complete. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally.

Direct Impacts are the alteration, disturbance, or destruction of biological resources that would result from project-related activities. Direct impacts can include temporary impacts, such as the disturbance or removal of vegetation that returns to pre-activity conditions, or permanent impacts, which could result, for example, from placement of the new turbine pads that precludes the regeneration of vegetation.

Indirect Impacts are reasonably foreseeable effects caused by project implementation on biological resources outside of the area of direct impact (usually the limits of work areas). Indirect impacts may include increased human activity, decreased water quality and altered hydrology, soil compaction, elevated noise and dust levels, and the introduction of invasive wildlife or plant species. Temporary indirect impacts may include temporary increases in noise or dust, whereas permanent indirect impacts could result from long-term effects to surrounding habitat such as the introduction of invasive species.

5.2 Impacts to Vegetation Communities and Land Covers

Table 5 summarizes direct impacts to vegetation communities and land covers as a result of the proposed project and are depicted on Figure 9. A total of 139.10 acres⁴ would be permanently and temporarily impacted by the proposed project, including 27.69 acres within the CVMSHCP WFCA and 111.41 acres outside the WFCA. It should be noted that although 27.69 acres would be impacted within the WFCA, only 20.22 acres of permanent/temporary impacts would result from new disturbances (i.e., this revised impact total includes the deduction of previously authorized disturbance acreage that overlaps the project footprint). Therefore, project impacts would total 131.62 acres, including 20.22 acres within the CVMSHCP WFCA and 111.41 acres outside the WFCA. Temporary impact areas would be allowed to regenerate naturally to pre-construction conditions, from the root systems left intact, after the project activity is complete. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally.

Table 5. Impacts to Vegetation Communities and Land Covers within the Project Site

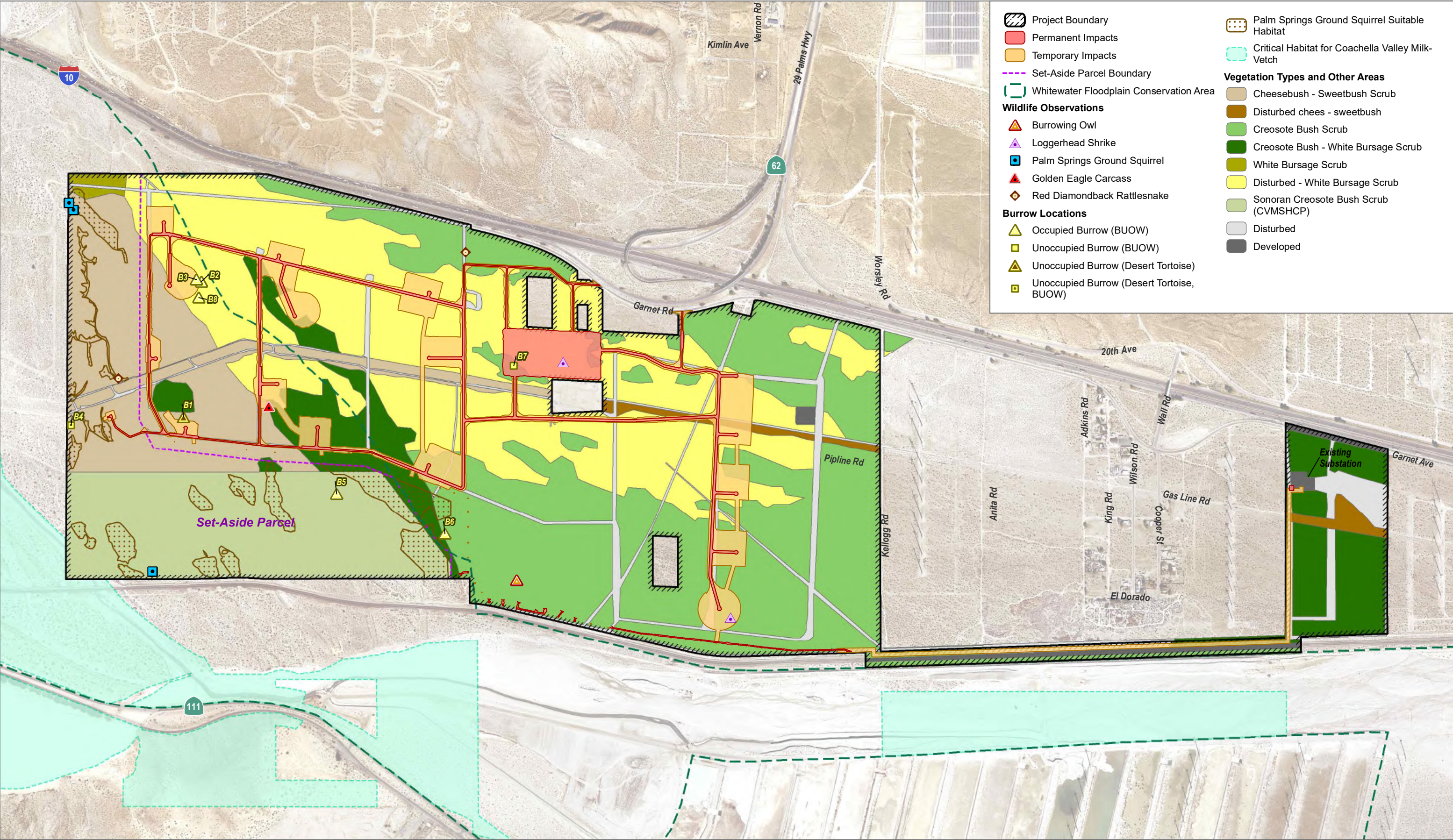
Vegetation Community and Land Covers¹	Permanent Impact Acreage	Temporary Impact Acreage	Total Impact Acreage
<i>Within the WFCA</i>			
Cheesebush – Sweetbush Scrub	0.78 (0.45)	5.66 (4.43)	6.44 (4.88)
Creosote Bush – White Bursage Scrub	0.23 (0.23)	5.67 (5.62)	5.90 (5.84)
Creosote Bush Scrub	0.05 (0.05)	–	0.05 (0.05)
Sonoran Creosote Bush Scrub ²	–	–	–
White Bursage Scrub	–	–	–
White Bursage Scrub (disturbed)	0.68 (0.67)	8.39 (7.99)	9.07 (8.66)
Disturbed	3.31 (0.08)	2.92 (0.70)	6.23 (0.78)
<i>WFCA Subtotal</i>	<i>5.05 (1.48)</i>	<i>22.64 (18.74)</i>	<i>27.69 (20.22)</i>
<i>Outside of the WFCA</i>			
Cheesebush – Sweetbush Scrub	0.11	0.37	0.49
Cheesebush – Sweetbush Scrub (disturbed)	0.31	1.48	1.79
Creosote Bush – White Bursage Scrub	0.10	4.33	4.43
Creosote Bush Scrub	5.46	19.18	24.63
White Bursage Scrub (disturbed)	21.08	40.03	61.11
Disturbed	8.20	10.56	18.76
Developed	0.06	0.14	0.20
<i>Outside WFCA Subtotal</i>	<i>40.37</i>	<i>98.72</i>	<i>111.41</i>
Total			139.09 (131.62)

Notes: Totals may not sum due to rounding. Acreages in parenthesis are the totals after the deduction of previously authorized disturbances is applied, which only accounts for total impacts of new disturbances as a result of project implementation.

¹ Based on A Manual of California Vegetation (2nd edition, Sawyer et al. 2009), except where noted.

² Vegetation community mapping based on mapping provided in the CVMSHCP (CVAG 2007).

⁴ Of the 139.09 acres, 138.92 acres of on-site permanent and temporary impacts and 0.18 acres offsite permanent and temporary impacts would be impacted by the proposed project.



SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016

FIGURE 9
Impacts to Biological Resources within the Project Site
Biological Technical Report for the Mountain View Power Partners Wind Repower Project

INTENTIONALLY LEFT BLANK

5.3 Thresholds of Significance

The following are the significance thresholds for biological resources provided in the CEQA Appendix G Environmental Checklist, which states that project activities could potentially have a significant affect if they:

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

5.4 Threshold Bio-1

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

5.4.1 Special-Status Plant Species

As described in Section 4.3 of this BTR, special-status plant species were determined absent from the project site based on focused surveys. Additionally, there are no special-status plant species with a moderate or high potential to occur within the proposed project impact area. The proposed project would not result in direct impacts (permanent or temporary) to special-status plant species. As such, impacts to special-status plant species would be less than significant. Additionally, no impacts would occur to USFWS-designated Critical Habitat for Coachella Valley milk-vetch with project implementation (Figure 9).

There are two CVMSHCP covered plant species—Coachella Valley milk-vetch and triple-ribbed milkvetch—known to occur within the immediate vicinity of the project site (i.e., within the Whitewater and/or Desert Hot Springs USGS Quadrangles [CDFW 2020d; CNPS 2020]). Therefore, the proposed project could result in indirect impacts to special-status plant species potentially present in off-site areas. Potential short-term or temporary indirect impacts to special-status plants resulting from construction activities include the generation of fugitive dust, the release of chemical pollutants, and the adverse effect of invasive plant species. Consistency with the CVMSHCP, including Section 4.4 Required Avoidance, Minimization, and Mitigation, Measures, and Section 4.5 Land Use Adjacency Guidelines, also outlined in this BTR, Section 5.9, as well as project design feature (PDF) PDF-BIO-1 (Best Management Practices) and regulatory requirement (RR) RR-BIO-1 (County of Riverside Required Plans), would reduce indirect impacts to special-status plant species to less than significant.

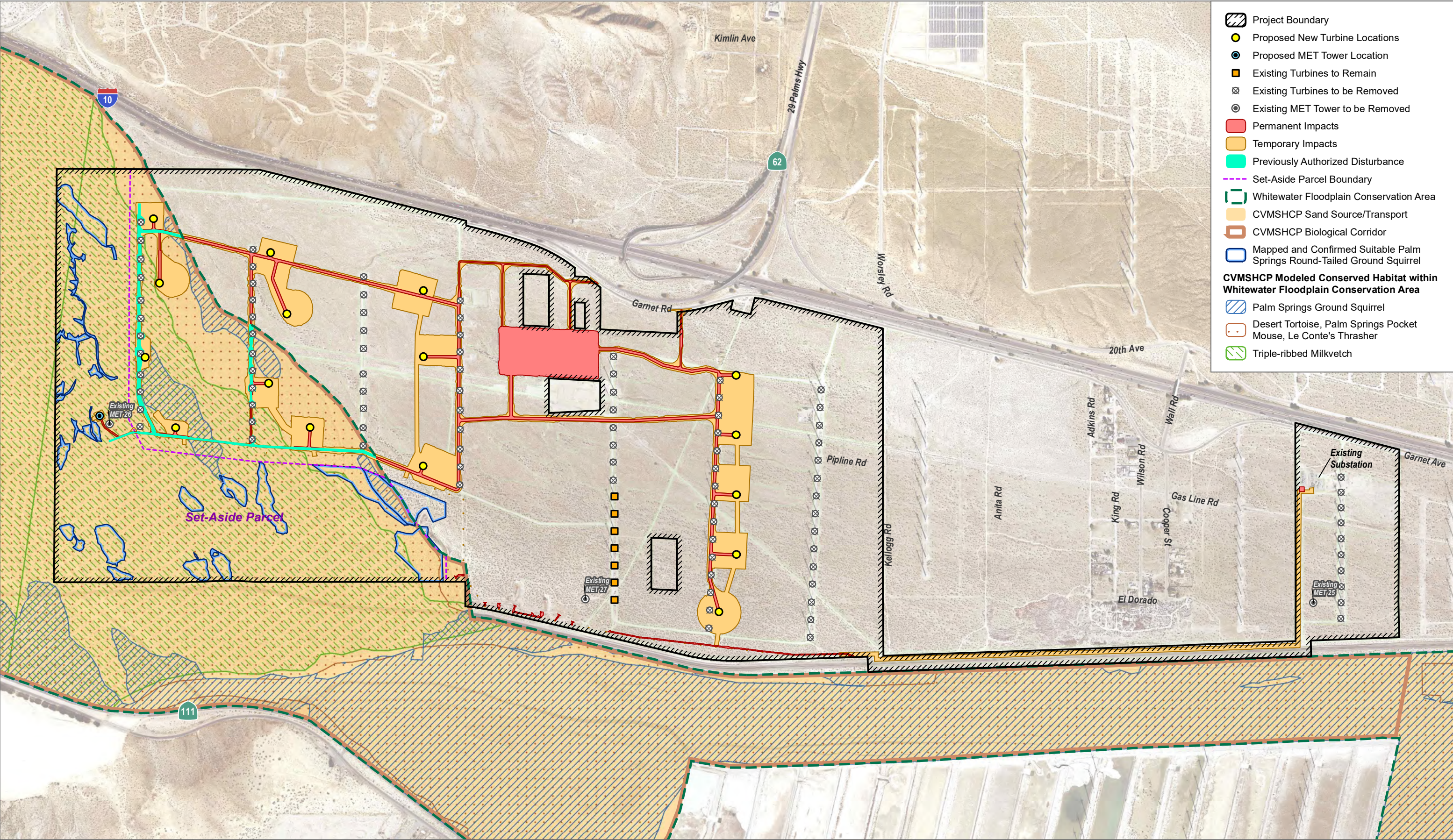
As summarized in Section 5.9 of this BTR, the project site contains 291.73 acres of CVMSHCP modeled Other Conserved Habitat for triple-ribbed milkvetch, of which a total of 4.48 acres (0.38 acres of permanent and 4.09 acres of temporary) would be directly impacted with project implementation (Figure 10). Direct impacts to CVMSHCP modeled Other Conserved Habitat would be reduced to less than significant through mitigation measure MM-BIO-1, which would conserve 229.38 acres of modeled Other Conserved Habitat for this species within the Set-aside Parcel. As required by CVMSHCP Section 4.4, Required Avoidance, Minimization, and Mitigation, and in accordance with RR-BIO-2, pre-construction surveys for triple-ribbed milkvetch would be conducted within the WFCAs portion of the project site, which would reduce impacts to this species to less than significant.

5.4.2 Special-Status Wildlife Species

As described in this BTR, Section 4.4, Table 3, seven special-status wildlife species were detected within the project site, including state-threatened Swainson's hawk and state fully protected golden eagle, and five additional non-listed special-status wildlife, including red diamond rattlesnake, California glossy snake, burrowing owl, loggerhead shrike, and Palm Springs ground squirrel. Additionally, one state-listed species, bald eagle, was observed outside of the project site during the fixed-point avian surveys. However, with the exclusion of the recharge pond area from the project site, all bald eagle observations recorded during the study were also excluded from the revised dataset, and bald eagle risk minutes were reduced to zero. Three non-listed special-status wildlife species have moderate potential to occur within the project site: pallid San Diego pocket mouse, Townsend's big-eared bat, and pocketed free-tailed bat. Finally, three species with low potential are included for consistency with the CVMSHCP (i.e., the project site contains CVMSHCP modeled Other Conserved Habitat for desert tortoise and LeConte's thrasher, and CVMSHCP modeled Core Habitat for Palm Springs pocket mouse, which were not detected within the project site but are included in the impact analysis below to comply with the requirements in CVMSHCP Section 4.4, Required Avoidance, Minimization, and Mitigation).

Of these 14 species, 5 are covered under the CVMSHCP (i.e., desert tortoise, burrowing owl, LeConte's thrasher, Palm Springs pocket mouse, and Palm Springs ground squirrel). Consistency with the CVMSHCP, including donation of the Set-aside Parcel to the CVMSHCP (MM-BIO-1) and the inclusion of additional mitigation for conditionally Covered Species, would reduce significant impact to these five species, which are further discussed below and in Section 5.9 of this BTR.

Species not covered by the CVMSHCP include two reptiles (California glossy snake and red diamond rattlesnake), four bird species (bald eagle, golden eagle, Swainson's hawk, and loggerhead shrike), and three mammal species (pallid San Diego pocket mouse, Townsend's big-eared bat, and pocketed free-tailed bat). Potential impacts to species conditionally covered and those not covered under the CVMSHCP are discussed below.



SOURCE: Aerials by Riverside County 2016

FIGURE 10

CVMSHCP Consistency

INTENTIONALLY LEFT BLANK

5.4.2.1 Reptiles

Two non-listed, special-status reptile species were observed within the project site (California glossy snake and red diamond rattlesnake), and one federally and state-listed threatened species (desert tortoise) has a low potential to occur. Of these, two species are not covered under the CVMSHCP: California glossy snake and red diamond rattlesnake. Desert tortoise is covered by the CVMSHCP.

California Glossy Snake and Red Diamond Rattlesnake

Two reptile species were observed within the project site that are not covered under the CVMSHCP: California glossy snake, and red diamond rattlesnake. Direct impacts could occur through crushing of individuals during grading, entombment of burrowing species, and removal of habitat. Most reptile species exhibit a “flight” response to disturbance, resulting in temporary displacement, or if disturbance is constant, permanent displacement. The proposed project would only impact 139.09 acres (11%) of the entire 1,255.19-acre project site; therefore, suitable habitat for reptile species will be available outside the impacted areas, and individuals of these species would be expected to move away from construction activities. It should be noted that the impact totals do not include deductions for the pre-authorized disturbance since these species are not Covered Species under the CVMSHCP. Entombment or direct impacts to individuals during construction would be reduced to less than significant through implementation of PDF-BIO-1, which includes flushing of species from the disturbance area by a qualified biologist and speed limits of 25 mph to avoid collisions with wildlife species along roads. The project site would continue to support suitable habitat for these species; therefore, direct impacts to the habitat for these species would be less than significant.

Potential indirect impacts to special-status reptiles would be limited to short-term impacts from construction activities and could result from fugitive dust that can degrade habitat and result in health implications for wildlife species; noise and vibration that can stress wildlife species or cause them to leave an area of otherwise suitable habitat; increased human presence, which can also disrupt daily activities of wildlife and cause them to leave an area; night-time lighting, which can disrupt the activity patterns of nocturnal species; vehicle collisions; and release of chemical pollutants, such as from oil leaks from construction vehicles and machinery. Consistency with the CVMSHCP, including implementation of the Land Use Adjacency Guidelines, further outlined in Section 5.9 of this BTR, as well as PDF-BIO-1 and RR-BIO-1 would reduce indirect impacts to special-status wildlife species to less than significant.

Desert Tortoise

Protocol-level desert tortoise surveys conducted within the project site did not detect live desert tortoise or recent desert tortoise sign (i.e., scat, tracks, recent burrows). However, potential Class 4 burrows do occur within the project site. Therefore, there is potential, albeit low, for desert tortoise to occur on site. Compliance with the CVMSHCP, including implementing Section 4.4, Required Avoidance, Minimization, and Mitigation, Measures, and Section 4.5, Land Use Adjacency Guidelines, as well as implementing PDF-BIO-1 and RR-BIO-1, would ensure that indirect impacts to desert tortoise remain less than significant throughout the project area.

Direct impacts to desert tortoise within the WFCAs would be reduced to less than significant through RR-BIO-3a, which would require pre-construction surveys for this species within the impact areas of the WFCAs. Additionally, the project site contains 383.39 acres of CVMSHCP modeled habitat Other Conserved Habitat for desert tortoise, of which a total of 20.22 acres (1.48 acres of permanent and 18.74 acres of temporary) would be directly impacted by project implementation. Direct impacts to CVMSHCP modeled suitable Other Conserved Habitat would be reduced to less than significant through MM-BIO-1, which would conserve 247.48 acres of modeled Other Conserved Habitat for this species within the Set-aside Parcel. Consistency with the

CVMSHCP, including implementing Section 4.4, Required Avoidance, Minimization, and Mitigation Measures, and Section 4.5, Land Use Adjacency Guidelines, as well as implementing PDF-BIO-1 and RR-BIO-1, would ensure that indirect impacts to desert tortoise within the WFCAs remain less than significant throughout the project area. Furthermore, as discussed below, implementation of PDF-BIO-2 would minimize indirect impacts to desert tortoise by discouraging raven nesting.

Direct impacts to desert tortoise outside of the WFCAs would be reduced to less than significant through RR-BIO-3b, which would require either a 45-day notification to USFWS prior to issuance of the grading permit or a pre-construction clearance survey within the impact areas of the project site located outside of the WFCAs. Consistency with the CVMSHCP, including implementing Section 4.5 Land Use Adjacency Guidelines, as well as implementing PDF-BIO-1 and RR-BIO-1, would ensure that indirect impacts to desert tortoise outside of the WFCAs remain less than significant throughout the project area. Furthermore, as discussed below, implementation of PDF-BIO-2 would minimize indirect impacts to desert tortoise by discouraging raven nesting.

On September 28, 2020, the applicant attended a virtual meeting with staff from the County, CVCC, CDFW, and USFWS. The purpose of this meeting was to introduce the proposed project, discuss the project relative to the CVMSHCP and WFCAs, modeled species habitat, the value of the Set-aside Parcel donation, and any other concerns prior to submitting a JPR application. One potential concern related to the type of structure (lattice or monopole) proposed for the new met tower located just inside of the WFCAs. This question was relevant to the met tower's potential to facilitate increased perching and nesting opportunities for ravens (*Corvus corax*) that could then potentially prey on existing and/or future desert tortoise in the WFCAs. The applicant has made every effort to pursue incorporating a monopole-type met tower into the project design instead of using a lattice tower structure. However, due to high winds in the area and the reduced stability of a monopole, the data generated from a monopole-type met tower would not be as accurate compared to the data generated from a more stable lattice-type met tower structure. The existing lattice met tower is located within the WFCAs approximately 165 feet from the proposed new met tower location. The existing lattice met tower will be removed shortly after the new met tower is installed. As such, there would be no change in perching and nesting opportunities for ravens between existing conditions and proposed project conditions.

According to the Environmental Assessment to Implement a Desert Tortoise Recover Plan Task: Reduce Common Raven Predation on the Desert Tortoise (USFWS 2008b), proposed modifications to all utility poles and towers to preclude raven perching or nesting were researched and analyzed, but dismissed by the USFWS from further consideration. Specifically, it was found that ravens are efficient hunters and scavengers and do not rely on perch sites for hunting like some raptors. Furthermore, perch availability does not likely limit raven population size; therefore, the USFWS dismissed this alternative (i.e., proposed modifications to utility poles and towers) to reduce raven predation on hatchling and juvenile desert tortoise survivorship (USFWS 2008). Instead, USFWS recommends reducing or eliminating the likelihood of these structures being used as nest sites by ravens, which typically require high locations (e.g., tree, utility pole, freeway sign, or cliff), along with adequate food and water within their nesting territory (USFWS 2008). Therefore, specific to potential impacts to desert tortoise from raven predation, the applicant is proposing the removal of raven nesting opportunities on the lattice met tower. Impacts from potential raven predation to desert tortoise would be reduced to less than significant through PDF-BIO-2, which would remove nests, prior to and after nesting bird season, to discourage raven use of the met tower. In addition, the project team will implement standard BMPs through PDF-BIO-1 during construction and operation activities. These BMPs will include keeping the area free of trash to prevent attraction of prey and predators, including removing any road-killed animals and carcasses.

5.4.2.2 Birds

If construction activities occur during nesting bird season (typically, but limited to, the period of January 15 through August 31), direct impacts to nesting birds could occur with project implementation. The nesting period noted here does not fully capture all potentially nesting raptors, but other than burrowing owl, other nesting raptors would not be expected to nest on the proposed project site, or would be discouraged from doing so by removal of nest material (i.e. PDF-BIO-2). Direct impacts to nesting birds would be reduced to less than significant through RR-BIO-4, which would require a pre-construction nesting bird survey. Indirect impacts to nesting birds, including from fugitive dust that can degrade habitat and result in health implications for wildlife species; noise and vibration that can stress wildlife species or cause them to leave an area of otherwise suitable habitat; increased human presence, which can also disrupt daily activities of wildlife and cause them to leave an area; night-time lighting, which can disrupt the activity patterns of nocturnal species; and release of chemical pollutants, such as from oil leaks from construction vehicles and machinery, would be reduced to less than significant through consistency with the CVMSHCP, including Section 4.4, Required Avoidance, Minimization, and Mitigation, Measures, and Section 4.5, Land Use Adjacency Guidelines, which are further outlined in Section 5.9 of this BTR, as well as PDF-BIO-1 and RR-BIO-1.

Burrowing Owl

Burrowing owls were observed during the 2020 field surveys. One occupied burrow (i.e., burrow B3 located within the WFCA) and one unoccupied burrow (i.e., burrow B7 located outside the WFCA) are located in temporary impact areas within the project site (Figure 9). Potential construction-related direct impacts to burrowing owl could result from destruction of burrowing owl dens; destruction of nests, eggs, and young; and entombment of adults. Therefore, measures consistent with CVMSHCP Section 4.4 for avoiding impacts to burrowing owl in the WFCA would be implemented as directed by RR-BIO-5 (burrowing owl pre-construction surveys and if needed preparation and implementation of a protection and relocation plan). Indirect impacts could also occur to nearby nesting burrowing owls, which would be reduced to less than significant through consistency with the CVMSHCP, Section 4.4, Required Avoidance, Minimization, and Mitigation, Measures, and Section 4.5, Land Use Adjacency Guidelines, which are further outlined in Section 5.9 of this BTR, as well as PDF-BIO-1 and RR-BIO-1.

LeConte's Thrasher

LeConte's thrasher was not detected within the project site; however, the project site contains CVMSHCP modeled Other Conserved Habitat for LeConte's thrasher. As summarized in Section 5.9 of this BTR, the project site contains 383.39 acres of CVMSHCP modeled habitat for LeConte's thrasher, of which 20.22 acres (1.48 acres of permanent and 18.74 acres of temporary) would be directly impacted by project implementation (Figure 10). Direct impacts to CVMSHCP modeled Other Conserved Habitat would be reduced to less than significant through mitigation measure MM-BIO-1, which would conserve 247.48 acres of modeled Other Conserved Habitat for this species within the Set-aside Parcel. Furthermore, consistency with CVMSHCP Section 4.4, which requires a pre-construction survey for LeConte's thrasher in the WFCA, would be implemented as directed by RR-BIO-6 (Pre-construction Survey for LeConte's thrasher).

Golden Eagle

One juvenile golden eagle was incidentally observed within the project site during surveys (Appendix A), and one golden eagle carcass was found within the project site (Appendix G). This species is not expected to nest, but has a high potential to fly over the project site (Appendix D). It should be noted that one golden eagle was observed outside of the project site during the large bird use surveys for a total of 3 minutes (see Appendix D3 in Appendix A for a map depicting the locations). The individual was observed flying over the recharge

ponds, located southeast of the project site. With the exclusion of the recharge pond area from the project site, golden eagle observations recorded during the study were reduced from 4 minutes to 1 minute. As stated in Appendix A, assuming that golden eagle use is positively associated with risk, this modification to the final project site (i.e. exclusion of the recharge pond area) should reduce the risk posed by the project to golden eagles.

The USFWS recommends using pre-construction eagle use data to predict post-construction fatalities. However, the project being evaluated herein is an operational project consisting of older WTGs that have been in operation since September 2001, far preceding the 2009 Eagle Rule. As such, there is no true, pre-construction eagle use data available to inform the collision risk model. Instead, site-specific eagle use data (i.e., risk minutes) were collected from October 2017 through October 2018 to provide information on seasonal avian use patterns in and around the project. Because the data were collected consistent with the Eagle Conservation Plan Guidance (other than being during existing operations), the site-specific eagle use data were used to update the exposure priors in the Collision Risk Model and presented along with the 'priors only' model above to provide a range of outcomes given the two sets of data inputs available for use in the Collision Risk Model. The juvenile golden eagle was observed within the project site for 1 minute out of 102 hours of survey effort, resulting in a total of 0.0098 risk minutes per survey hour.

To date, two eagle fatalities have been documented at the project since it began operations in 2001 (approximately 19 years of operation). While formal fatality monitoring studies have not been conducted at the project, eagle carcasses tend to persist longer and are relatively easy to find compared to other smaller bird and bat species (Hallingstad et al. 2018). Furthermore, many, if not most golden eagle fatalities are documented incidentally and reported by project personnel (Pagel et al. 2013), which is the case with the two golden eagle fatalities reported at the project over its approximately 19 years of operation. While there is some probability that additional eagle fatalities may have occurred over the life of the existing project, it seems unlikely that the number would be in excess of two per year, given that only two have been found in the past 19 years. In fact, assuming that site personnel have an overall probability of detecting eagle fatalities of 0.12 or higher (readily achievable given turbine specs, sparse vegetation allowing for good visibility, and monthly visits by site personnel to each turbine pad and access road), the Evidence of Absence (EoA) statistical estimator (USGS 2014) would suggest mortality rates of less than one per year are reasonable (refer Appendix A of this BTR).

The existing project was developed prior to the 2009 Eagle Rule and was therefore part of the baseline take evaluated under the 2009 Eagle Rule. As such, the amount of take associated with the existing project would not have to be mitigated per the Eagle Rule. For the priors only model, the difference between the existing project and the repowered project is 0.045 eagles per year, or 1.34 over 30 years. For the model with updated priors, based on site-specific eagle use data, the difference between the existing project (i.e., baseline) and the repowered project is only 0.001 per year, or 0.039 eagles over 30 years. As stated in Appendix D, the project represents only a slight (3.7%) increase in total rotor-swept area relative to the existing wind farm. The difference in predicted take of golden eagles as a result of project implementation is small, ranging from 0.001 eagles per year when using site-specific data, up to 0.045 eagles per year when using the priors-only model (see Appendix D for details on models used to predict take). This equates to a predicted increase of fewer than two eagles over a 30-year period for the proposed project relative to the existing wind farm, regardless of which inputs are used in the Collision Risk Model (see Appendix A for details). Based on the project design and the golden eagle collision risk assessment included in Appendices A and D, the project is not anticipated to have a significant effect on this species due to removal of existing WTGs and their replacement with fewer new WTGs. In addition, to reduce potential collision and electrocution risks to golden eagle, the applicant would construct the overhead electrical power line upgrades and retrofitting in compliance with current APLIC

guidelines (APLIC 2012). These methods ensure a minimum separation between electrical components to prevent simultaneous contact and covering electrical components with protective materials to prevent contact. Implementation of APLIC guidelines would reduce impacts to golden eagle from electrocution and collision. Therefore, impacts to golden eagle are expected to be less than significant.

The project has been designed to minimize impacts to biological resources, including golden eagle, to the greatest extent feasible. As part of the project's due diligence, the Mountain View Wind Repower Project Bird and Bat Conservation Strategy (Appendix D) has been prepared to assess potential impacts to birds and bats from the construction and operation of the repowered project, and to act as a framework for identifying and implementing actions to avoid such impacts. The Mountain View Wind Repower Project Bird and Bat Conservation Strategy (Appendix D) includes the Post-Construction Avian and Bat Fatality Monitoring Plan developed for the project (Appendix D), which outlines the fatality monitoring plan for the project. Project design feature PDF-BIO-3 requires fatality monitoring to estimate bird and bat mortality during operation of the proposed project.

Swainson's Hawk

One Swainson's hawk was observed within the project site (Appendix A). This species is not expected to nest on or in the project vicinity; however, there is moderate potential for this species to fly over the project site (Appendix D). Based on the project design (i.e., the project represents only a slight (3.7%) increase in total rotor-swept area relative to the existing wind farm) and absence of high-quality, contiguous habitat within the region leading to infrequent use of the project site by Swainson's hawk. Furthermore, based on year-long avian surveys and a subsequent avian risk assessment conducted specifically for the project, the project's diurnal raptor use level was determined comparable to that reported for other facilities in southern California. Other southern California projects (e.g., within the Tehachapi Pass Wind Resource Area) generally have reported raptor fatality estimates of less than 0.2 diurnal raptor/MW/year. Therefore, the project is not anticipated to have a significant effect on this species. Due to removal of existing WTGs and their replacement with fewer new WTGs, impacts to Swainson's hawk are expected to be less than significant. In addition, to reduce potential collision and electrocution risks to Swainson's hawk, the applicant would construct the overhead electrical power line upgrades and retrofitting in compliance with current APLIC guidelines (APLIC 2012). These methods ensure a minimum separation between electrical components to prevent simultaneous contact and covering electrical components with protective materials to prevent contact. Implementation of APLIC guidelines would reduce impacts to Swainson's hawk from electrocution and collision. However, as part of the project's due diligence, project design feature PR-BIO-3, which requires fatality monitoring to estimate bird and bat mortality during operation of the proposed project, would be implemented in accordance with the Post-Construction Avian and Bat Fatality Plan developed for the project (Appendix D).

Bald Eagle

Three bald eagles were observed foraging over the recharge ponds, located outside of the project to the southeast, during surveys (Appendix A). This species is not expected to nest on or in the project vicinity; however, this species could occur infrequently during the non-breeding season within the project vicinity (Appendix D). With the exclusion of the recharge ponds as part of the project site, all bald eagle observations recorded during the avian studies were also excluded from the revised dataset, and bald eagle risk minutes were reduced to zero. Assuming that bald eagle use is positively associated with risk, this modification to the project area should reduce the risk posed by the project to bald eagles (see Table 4b in Appendix A for details on bald eagle risk). Additionally, the project represents only a slight (3.7%) increase in total rotor-swept area relative to the existing wind farm. In addition, to reduce potential collision and electrocution risks to bald eagle, the applicant would construct the overhead electrical power line upgrades and retrofitting in compliance with

current APLIC guidelines (APLIC 2012). These guidelines ensure a minimum separation between electrical components to prevent simultaneous contact and/or covering electrical components with protective materials to prevent simultaneous contact between electrical phases and/or electrical phases and grounds. Therefore, impacts to bald eagle are expected to be less than significant.

The project has been designed to minimize impacts to bald eagle to the greatest extent feasible, including elimination of the recharge ponds to reduce eagle risk. As part of the project's due diligence, the Mountain View Wind Repower Project Bird and Bat Conservation Strategy (Appendix D) has been prepared to assess potential impacts to birds and bats from the construction and operation of the repowered project, and to act as a framework for identifying and implementing actions to avoid such impacts. The Mountain View Wind Repower Project Bird and Bat Conservation Strategy (Appendix D) includes the Post-Construction Avian and Bat Fatality Monitoring Plan developed for the project, which outlines the fatality monitoring plan for the project. Project design feature PDF-BIO-3 requires fatality monitoring to estimate bird and bat mortality during operation of the proposed project.

Loggerhead Shrike

Since loggerhead shrike is mobile and expected to move away from construction activities, direct impacts to adult individuals is not anticipated. Potential construction-related direct impacts to loggerhead shrike could result from destruction of nests, eggs, and young. Implementation of RR-BIO-4, which would require a pre-construction nesting bird survey, would reduce impacts occurring within the project site to less than significant. Indirect impacts could also occur to nearby nesting loggerhead shrike, which would be reduced to less than significant through consistency with the CVMSHCP, including Section 4.5, Land Use Adjacency Guidelines, which are further outlined in Section 5.9 of this BTR, as well as PDF-BIO-1 and RR-BIO-1.

5.4.2.3 Mammals

There are three mammal species—pallid San Diego pocket mouse, Townsend's big-eared bat, and pocketed free-tailed bat—with potential to occur within the project site that are not covered under the CVMSHCP. In addition, there are two CVMSHCP Covered Species—Palm Springs pocket mouse and Palm Springs ground squirrel—that were either observed or have potential to occur within the project site.

Small Mammals

Direct impacts could occur through crushing of individuals during grading, entombment of burrowing species, removal of habitat, and turbine strike of bat species during project operation. Most mammal species exhibit a "flight" response to disturbance, resulting in temporary displacement, or if disturbance is constant, permanent displacement. The proposed project would only impact a small portion (139.09 acres or 11%) of the entire 1,255.19-acre project site; therefore, suitable habitat for mammal species will be available outside the impacted areas, and individuals of these species would be expected to move away from construction activities. It should be noted that the impact totals do not include deductions for the pre-authorized disturbance since these species are not Covered Species under the CVMSHCP. Entombment or direct impacts to individuals during construction would be reduced to less than significant through implementation of PDF-BIO-1, which includes flushing of species from the disturbance area by a qualified biologist and speed limits of 25 mph to avoid collisions with wildlife species along roads. The project site would continue to support suitable habitat for these species; therefore, direct impacts to the habitat for these species would be less than significant.

Potential indirect impacts to special-status mammal species, excluding bat species, would be limited to short-term impacts from construction activities and could result from fugitive dust that can degrade habitat and result in health implications; noise and vibration that can stress these species or cause them to leave an area of otherwise suitable habitat; increased human presence, which can also disrupt daily activities and cause

them to leave an area; night-time lighting, which can disrupt the activity patterns of nocturnal species; vehicle collisions; and release of chemical pollutants, such as from oil leaks from construction vehicles and machinery. Consistency with the CVMSHCP, including Section 4.5, Land Use Adjacency Guidelines, which is further outlined in Section 5.9 of this BTR, as well as PDF-BIO-1 and RR-BIO-1, would reduce indirect impacts to these special-status mammal species to less than significant.

As summarized in Section 5.9 of this BTR, the project site contains 380.22 acres of CVMSHCP modeled Core Habitat for Palm Springs pocket mouse, of which 20.17 acres (1.43 acres of permanent and 18.73 acres of temporary) would be directly impacted with project implementation (Figure 10). Direct impacts to CVMSHCP modeled Core Habitat would be reduced to less than significant through implementation of mitigation measure MM-BIO-1, which would conserve 245.76 acres of CVMSHCP modeled Core Habitat for Palm Springs pocket mouse within the Set-aside Parcel. Consistency with the CVMSHCP, including Section 4.5, Land Use Adjacency Guidelines, which is further outlined in Section 5.9 of this BTR, as well as PDF-BIO-1 and RR-BIO-1, would reduce indirect impacts to Palm Springs pocket mouse to less than significant.

The project site also contains 30.24 acres of CVMSHCP Other Conserved Habitat for Palm Springs ground squirrel, of which 2.01 acres would be directly impacted (0.10 acres of permanent and 1.91 acres of temporary) with project implementation (Figure 10). Direct impacts to CVMSHCP Other Conserved Habitat for Palm Springs ground squirrel would be reduced to less than significant through implementation of mitigation measure MM-BIO-1, which would conserve 4.16 acres of CVMSHCP Other Conserved Habitat for Palm Springs ground squirrel within the Set-aside Parcel. Of the 4.16 acres of modeled Other Conserved Habitat, the field assessment concluded that only 3.16 acres is suitable for this species. It should be noted that the habitat assessment identified an additional 33.49 acres of suitable habitat for Palm Springs ground squirrel, not included in the original CVMSHCP modeled Other Conserved Habitat, within the Set-aside Parcel (Appendix C). Therefore, there is a total of 36.65 acres of suitable habitat for Palm Springs ground squirrel within the Set-aside Parcel and within the WFCA, which includes the 3.16 acres of suitable CVMSHCP modeled Other Conserved Habitat, which will be donated to CVMSHCP to offset project impacts to this species, see Section 5.9.2.1 of this BTR for details.

Bats

Potential direct impacts could occur to special-status species, including bats, during project operation. Based on the relatively low levels of bat mortality observed at nearby projects and for the Pacific Southwest Region in general (see Appendix D for details), significant project-related impacts to bat populations are not anticipated. However, as part of the project's due diligence, project design feature PDF-BIO-3, which requires fatality monitoring to estimate bird and bat mortality during operation of the proposed project, will be implemented in accordance with the Post-Construction Avian and Bat Fatality Monitoring Plan developed for the project (Appendix D).

5.4.2.4 Invertebrates

No special-status invertebrates were observed during surveys or have moderate to high potential to occur within the project site. Therefore, impacts to special-status invertebrates would be less than significant.

5.5 Threshold Bio-2

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

Within the project site, there are no vegetation communities that are considered special status by CDFW or USFWS. Additionally, there are no riparian habitats within the project site. Therefore, impacts to riparian habitat or other sensitive natural communities considered special status by CDFW or USFWS are not anticipated.

The project site contains vegetation communities identified as natural communities covered under the CVMSHCP, including creosote bush scrub, creosote bush – white bursage scrub, and Sonoran creosote bush scrub. Impacts located outside the WFCA to these CVMSHCP-designated natural communities would be less than significant since these natural communities are not subject to any specific conservation objectives required under the CVMSHCP.

Direct impacts occurring within the CVMSHCP WFCA portion of the project site would be reduced to less than significant through mitigation measure MM-BIO-1, which would require the donation of the 248.12-acre Set-aside Parcel, of which 247.48 acres would be conserved (omitting area of disturbance for the met tower and associated access road), to CVMSHCP. Additionally, indirect impacts to potentially adjacent special-status vegetation communities could result from the generation of fugitive dust, the release of chemical pollutants, and the adverse effect of invasive plant species. Consistency with the CVMSHCP, including Land Use Adjacency Guidelines outlined in Section 5.9.3 of this BTR, as well as PDF-BIO-1 and RR-BIO-1, would reduce indirect impacts to vegetation communities to less than significant.

5.6 Threshold Bio-3

Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

There are no wetlands within the proposed project; therefore, there would be no impacts to wetlands.

The results of the jurisdictional delineation conducted in 2020 concluded there are approximately 7.24 acres (6,274 linear feet) of non-wetland waters of the state under the jurisdiction of the RWQCB and streambed under CDFW jurisdiction within the jurisdictional assessment review area. The proposed project has been designed to avoid impacts to jurisdictional non-wetland waters; therefore, there would be no direct impacts to jurisdictional non-wetland waters (see BTR Figure 11, and Appendix G, Figures 8a through 8d). However, due to the close proximity of proposed work areas near jurisdictional non-wetland waters, potential indirect impacts would be considered significant absent mitigation. With implementation of RR-BIO-7, which would avoid impacts to waters during construction-related ground disturbance, indirect impacts would be reduced to less than significant.

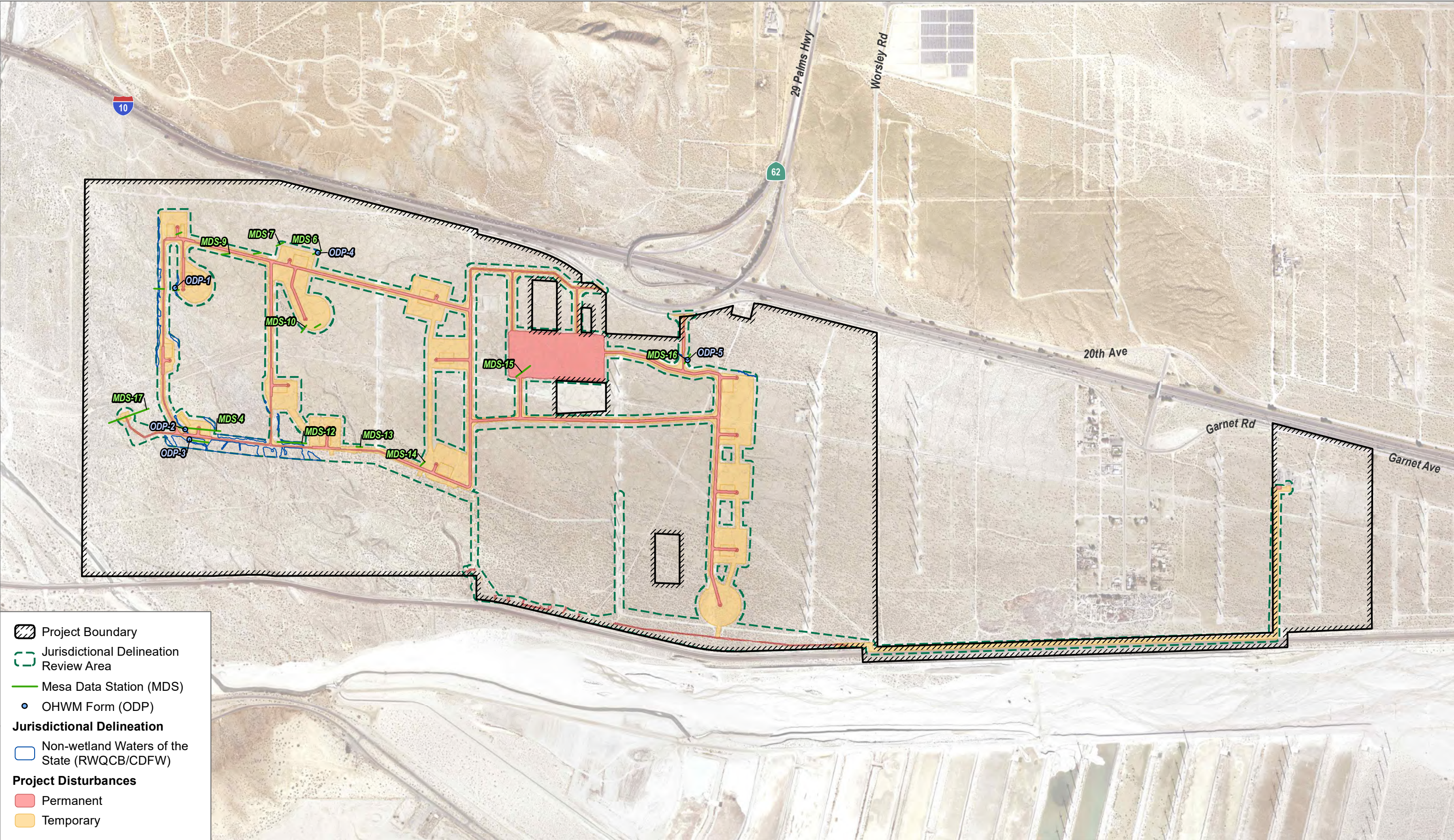
Should impacts, modifications, or improvements to jurisdictional waters be required as part of project construction, consultation will be undertaken with the applicable resource agencies to determine if permits and/or mitigation would be required as described in RR-BIO-7. A Waste Discharge Requirement from the RWQCB would be required if waters of the state are impacted, as there is no federal action (such as a 404 permit) for the project at the time of this report. A notification of a Streambed Alteration Agreement to CDFW also would be required prior to modification of jurisdictional streambeds. Applications for any of these permits would require demonstration of avoidance and minimization of aquatic resources to the maximum extent practicable, and compensatory mitigation would be required for permanent loss of waters or functions and values of waters.

5.7 Threshold Bio-4

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

As described in Section 4.6 of this BTR, the project site occurs within an existing energy facility and is bounded by I-10 and SR-111. The project site overlaps 383.39 acres of CVMSHCP biological corridors, supports a natural habitat mosaic and supports wildlife movement for rodents, smaller carnivores, passerine birds, amphibians, reptiles, and invertebrates between adjacent conservation areas, as well as movement within the WFCA. Construction within the project site could have both a direct and indirect impact on wildlife movement. Wildlife may be deterred from the construction area due to increased human presence, loud noises, and physical disruptions of habitat. However, construction will be temporary at any location, and wildlife would be able to use the project site freely after work crews have left. Additionally, project implementation would result in the removal of 93 existing WTGs, greatly reducing the total number of WTGs within the project site. This would provide more habitat for wildlife movement resulting in a long-term net benefit to wildlife species using this area. However, as discussed above, the project overlaps 383.39 acres of CVMSHCP biological corridors, of which the proposed project would result in 20.22 acres of impacts (1.48 acres of permanent and 18.74 acres of temporary) to CVMSHCP biological corridors. Therefore, impacts to wildlife movement occurring within the WFCA would be considered significant absent mitigation. Donation of the Set-aside Parcel to the CVMSHCP (MM-BIO-1) would provide 247.48 acres of designated biological corridors along the Whitewater River between the Snow Creek/Windy Point Conservation Area and the Core Habitat portion of the WFCA for use by wildlife species. Therefore, impacts to wildlife movement would be reduced to less than significant.

INTENTIONALLY LEFT BLANK



SOURCE: Dudek 2020

INTENTIONALLY LEFT BLANK

5.8 Threshold Bio-5

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

A portion of the project site is subject to the CVMSHCP, and with the Set-aside Parcel donation (MM-BIO-1), the project design features, and regulatory requirements, the project is consistent with the CVMSHCP.

The proposed project is located primarily on land zoned as W-E (Wind Energy Resource Zone) and Rural Residential (R-R) by the County General Plan (County of Riverside 2015) and currently serves as a Riverside County WECS site. The proposed land use is consistent with the existing land use and would be permitted within the existing zoning designations. The existing Riverside County General Plan land use designations on the project site include Rural Desert (RD) and Conservation Habitat (OS-CH). Disturbance within the OS-CH designation would be limited to new fiber-optic cable replacement beneath existing access road to the seven WTGs that would remain as part of the project. No ground disturbance is proposed within undisturbed land designated OS-CH.

The proposed project would be consistent with the following County of Riverside General Plan Land Use Element (LU; County of Riverside 2020) and Multipurpose Open Space Element (OS; County of Riverside 2015) policies related to wind energy and biological resources:

LU 16.3 Require WTGs to address through project design Riverside County Regional Parks and sensitive environmental areas. Setbacks will be determined on a project-by-project basis.

*Consistency Analysis: **Consistent.*** The proposed project would conform to all County safety and scenic setbacks. The project applicant has secured several Wind Access Setback waivers and will have the remaining waivers in place before the Planning Commission Hearing in conformance with the County's wind access setback requirements. As such, the proposed project would comply with all setbacks required pursuant to Section 17.224.040(A) of the County's Zoning Code.

LU 16.8 Wildlife and natural vegetation impacts of proposed commercial wind turbine development shall be considered, including endangered species avoidance and mitigation, bird migration flyways, and may include appropriate consultation with state and federal agencies.

*Consistency Analysis: **Consistent.*** The proposed project was reviewed by Environmental Programs and CVCC to address biological impacts, which were determined to be less than significant with mitigation incorporated, as discussed in BTR, Section 5.

OS 10.1. Provide for orderly and efficient wind energy development in a manner that maximizes beneficial uses of wind resources and minimizes detrimental effects to the residents and the environment of the county.

*Consistency Analysis: **Consistent.*** The proposed project would improve the overall efficiency of energy production on the project site by deploying new, modern, and high-efficiency WTGs. Because state-of-the-art turbine technology would be used, the proposed project would be capable of generating similar electricity output, more reliably and with fewer WTGs, reducing the visual clutter that currently affects the site.

The project has been designed to limit the impacts to those necessary to construct the facility thereby reducing adverse environmental effects to the maximum extent feasible. Decommissioning activities would be consistent with the Riverside County requirements set forth at the time of decommissioning. Therefore, the project is consistent with the goals and policies of the County General Plan (County of Riverside 2015) and

the project's WECS permit. There are no other local ordinances applicable to the project; therefore, the proposed project would not be in conflict with any local policies or ordinances.

5.9 Threshold Bio-6

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

As discussed in this BTR, Section 1.3.3, the proposed project is located within the boundary of the CVMSHCP and occurs within and outside of a CVMSHCP WFCAs. Approximately 383.39 acres of the project site overlaps the CVMSHCP WFCAs, with the remaining portions of the project occurring outside of the CVMSHCP WFCAs (Figure 10). The proposed project would impact 111.41 acres (35.32 acres of permanent and 76.09 acres of temporary) outside of the CVMSHCP WFCAs. Typically, the applicant would be required to pay a per acre mitigation fee to CVAG; however, as further discussed below, the Set-aside Parcel donation would offset impacts in lieu of the payment of all CVMSHCP mitigation fees. With the donation of the Set-aside Parcel and adherence to CVMSHCP Section 4.4 Required Avoidance and Minimization Measures, and Section 4.5 Land Use Adjacency Guidelines, the project would be consistent with the CVMSHCP. The proposed project would permanently and temporarily impact a total of 20.22 acres (1.48 acres of permanent and 18.74 acres of temporary) within the CVMSHCP WFCAs. The project intends for the 248.12-acre Set-aside Parcel donation, of which 247.48 acres would be conserved (omitting area of disturbance for the met tower and associated access road), to offset both temporary and permanent impacts to modeled habitat (Core Habitat and Other Conserved Habitat) within the WFCAs.

The purpose of this section is to provide an analysis of project impacts within the WFCAs, and consistency with the CVMSHCP in support of the formal JPR process, which was completed by CVCC, with concurrence by the County of Riverside, CDFW, and USFWS. The CVMSHCP Joint Project Review – Consistency Analysis was submitted on October 7, 2020, pursuant to CVMSHCP Section 6.6.1.1. CVCC issued its JPR findings for the project on January 22, 2021 which is provided in Appendix E of the BTR. The JPR findings determined that the proposed project, with the donation of the Set-aside Parcel, and with implementation of CVMSHCP Section 4.4, Required Avoidance, Minimization, and Mitigation Measures, and adherence to CVMSHCP Section 4.5, Land Use Adjacency Guidelines, would be consistent with the CVMSHCP. As discussed in the JPR findings (Appendix E of the BTR), typically the applicant would be required to pay a per acre mitigation fee to CVAG; however, according to the CVCC JPR findings (Appendix E of the BTR), CVCC recommends waiving the entire Local Development Fee for the project following the donation of the Set-aside Parcel.

Additionally, the final JPR findings provided by CVCC include comments and feedback from USFWS and CDFW and those are summarized as follows:

- USFWS has requested to review the information provided at meetings between CVCC and the project applicant and encourages the project applicant to continue ongoing coordination to avoid and minimize impacts from the slightly larger rotor-swept area to avian and bat species.
- CDFW requested the following to supplement their review: (1) that a plan be developed for the project to align with the rough step for Coachella Valley round-tailed squirrel, to which CVCC responded that a solution was being worked out with the project applicant that would require revisions to the donation

language that would achieve rough step compliance⁵; (2) information regarding the waiver from Riverside County to allow the entire 247.38-acre Set-aside Parcel donation⁶ to be used as mitigation, to which CVCC responded that they will be working with Riverside County to memorialize the Set-aside Parcel donation to offset impacts in lieu of the payment of all CVMSHCP mitigation fees; and (3) permanent acreage for the access road to the met tower located within the WFCA and subtraction of the acreage from the proposed Set-aside Parcel donation, to which CVCC responded that the total disturbance acreage for the met tower was subtracted from the total donation, but was included in the total acres of proposed disturbance. CVCC also noted this difference has a negligible effect on the rough step calculation. It should also be noted that a portion of the met tower access road is considered a previously authorized disturbance (i.e., existing road) and approximately 700 linear feet would be considered new impacts within the WFCA.

5.9.1 Modeled Habitat

The goal of the WFCA, as described by the CVMSHCP, is to conserve Core Habitat and associated ecological processes for the following species: Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, Coachella Valley fringe-toed lizard (*Uma inornata*), Coachella Valley round-tailed ground squirrel (Palm Springs ground squirrel), and Palm Springs pocket mouse, allowing evolutionary processes and natural population fluctuations to occur. Additional goals include minimizing fragmentation, human-caused disturbance, and edge effects to Core Habitat by conserving contiguous habitat and effective Linkages between patches of Core Habitat. The project boundary overlaps WFCA Core Habitat for Palm Springs pocket mouse and overlaps Other Conserved Habitat for triple-ribbed milkvetch, desert tortoise, Palm Springs ground squirrel, and Le Conte's thrasher (Figure 10). The entirety of the WFCA that overlaps the project site is modeled as fluvial aeolian sand transport, and the majority of the WFCA that overlaps the project site is modeled as a biological corridor. The project includes the Set-aside Parcel, which MVPP is donating for CVMSHCP conservation.

Table 6 summarizes the acreage of existing vegetation communities present within CVMSHCP modeled habitat within the WFCA, which includes the Set-aside Parcel.

⁵ According to the CVCC JPR findings (Appendix E), the draft JPR submitted to state and federal wildlife agencies for comment erroneously aggregated Core Habitat and Other Conserved Habitat for the Coachella Valley round-tailed ground squirrel. This resulted in a negative balance when calculating rough step for Core Habitat for ground squirrel. However, Other Conserved Habitat is not a Conservation Objective for the permittee in the WFCA and has been discounted from the final rough step calculation presented within the Final JPR Findings.

⁶ Note that the 247.38-acre Set-aside Parcel acreage has since been revised based on the engineering/surveyor data for the parcel. As such, the total Set-aside Parcel would now total 248.12, of which 247.48 acres would be conserved (omitting area of disturbance for the met tower and associated access road).

Vegetation Community ¹	Triple-ribbed Milkvetch (Other Conserved Habitat)	Desert Tortoise (Other Conserved Habitat)	Palm Springs Ground Squirrel (Other Conserved Habitat)	Palm Springs Pocket Mouse (Core Habitat)	Le Conte's Thrasher (Other Conserved Habitat)	Fluvial and Aeolian Sand Transport	Biological Corridors
Cheesebush - Sweetbush Scrub	136.62	148.04	11.50	148.04	148.04	148.04	148.04
Creosote Bush - White Bursage Scrub	6.88	30.55	5.90	29.37	30.55	30.55	30.55
Creosote Bush Scrub	0.05	1.53	–	–	1.53	1.53	1.53
White Bursage Scrub	4.20	4.24	–	4.24	4.24	4.24	4.24
Disturbed - White Bursage Scrub	1.98	39.53	8.98	39.53	39.53	39.53	39.53
Sonoran Creosote Bush Scrub ²	135.49	148.22	2.28	147.78	148.22	148.22	148.22
Disturbed	6.51	11.27	1.57	11.26	11.27	11.27	11.27
Total	291.73	383.39	30.24	380.22	383.39	383.39	383.39

Notes: Totals should not be summed together.

¹ Vegetation community mapping completed by Tetra Tech (2020) unless otherwise denoted.

² Vegetation community mapping based on mapping provided in the CVMSHCP (CVAG 2007).

5.9.2 Impacts to Modeled Habitat

The proposed project would result in approximately 20.22 acres of disturbance (1.48 acres of permanent and 18.74 acres of temporary) within the WFCA, which excludes the authorized disturbance acreage. Note that temporary impacts are discussed in the context of being permanent. Impacts within the WFCA would result from the removal of one existing WTG; construction of six new WTGs, including their associated turbine pads; a portion of the underground and overhead electrical collection systems and associated access and spur roads; access road widening; and removal of one existing lattice met tower with the replacement with a new self-supporting lattice met tower approximately 165 feet to the northwest. The overhead electrical system improvements would include the replacement of four existing utility poles within the WFCA. MVPP has minimized project construction disturbance to the greatest extent feasible within the WFCA and has designed pole replacement to be in-place to limit disturbance.

Permanent and temporary impacts are being offset with donation of the Set-aside Parcel within the WFCA. After the Set-aside Parcel is donated, there will be a surplus of modeled species habitats, fluvial and aeolian sand transport, and biological corridors acreage created. The site plan has gone through numerous iterations to avoid and minimize impacts to sensitive resources within the WFCA, including modeled species habitat, fluvial and aeolian sand transport, and biological corridors.

Table 7 provides lists project impacts to CVMSHCP modeled habitat within the WFCA.

Table 7. Impacts to Modeled Habitat (acres) in Whitewater Floodplain Conservation Area Portion of Project

Species Modeled Habitat	Type of Modeled Habitat	Permanent Impacts ¹	Temporary Impacts ²	Total Impacts ³	Conserved in Set-aside Parcel	Conservation to Impact Ratio
Triple-Ribbed Milkvetch	Other Conserved Habitat	0.38	4.09	4.48	229.38	51.2:1
Desert Tortoise	Other Conserved Habitat	1.48	18.74	20.22	247.48	12.2:1
Palm Springs Ground Squirrel	Other Conserved Habitat	0.10	1.91	2.01	4.16	2.1:1
Palm Springs Pocket Mouse	Core Habitat	1.43	18.73	20.17	245.76	12.2:1
Le Conte's Thrasher	Other Conserved Habitat	1.48	18.74	20.22	247.48	12.2:1
Fluvial and Aeolian Sand Transport	NA	1.48	18.74	20.22	247.48	12.2:1
Biological Corridors	NA	1.48	18.74	20.22	247.48	12.2:1

Notes:

- ¹ Permanent impacts include turbine pads and permanent new access roads.
- ² Temporary impacts include temporary construction areas and temporary parking.
- ³ For purposes of determining rough step and conservation requirements, both temporary and permanent were included in the total acres of proposed disturbance. This total acreage includes acreage deductions of previously authorized disturbances and only accounts for total impacts of new disturbances as a result of project implementation.

Based on the acreages outlined in Table 6, with the exception of the Palm Springs ground squirrel, all project impacts to modeled species habitat are offset by at least a 12.2:1 ratio of conservation to proposed impacts as a result of donating the Set-aside Parcel to CVMSHCP. Impacts to modeled species habitat for the Palm Springs ground squirrel and the offset afforded by donating the Set-aside Parcel are further discussed below.

5.9.2.1 Palm Springs Ground Squirrel

There are 30.24 acres of CVMSHCP modeled Other Conserved Habitat for Palm Springs ground squirrel within the portion of the project site that overlaps the WFCa. Of the 30.24 acres, the proposed project would result in a total impact of 2.01 acres of modeled Other Conserved Habitat for Palm Springs ground squirrel, specifically 0.10 acres of permanent impacts and 1.91 acres of temporary impacts. MVPP has minimized project construction disturbance to the greatest extent feasible, and the resulting temporary and permanent disturbance acreages for modeled Palm Springs ground squirrel habitat represent the minimum disturbance acreages that preserve viable project economics. The Set-aside Parcel, which includes 4.16 acres of CVMSHCP modeled habitat for Palm Springs ground squirrel would result in a conservation to impact ratio of 2.1:1 for Palm Springs ground squirrel based solely on CVMSHCP modeled Other Conserved Habitat.

Of the 4.16 acres of Palm Springs ground squirrel modeled habitat that would be conserved within the Set-aside Parcel, the field assessment concluded that only 3.16 acres is suitable for this species. On the other hand, the habitat assessment identified an additional 33.49 acres of suitable habitat for Palm Springs ground squirrel, not included in the original CVMSHCP modeled habitat, within the Set-aside Parcel. Therefore, there is a total of 36.65 acres of suitable habitat for Palm Springs ground squirrel within the Set-aside Parcel and within the WFCa, which will be donated to CVMSHCP to offset project impacts. Based on the additional suitable habitat identified during the field assessment, the project would result in a conservation to impact ratio of 18.2:1 for Palm Springs ground squirrel. As discussed in Section 4.49 of this BTR, three individuals of Palm Springs ground squirrel were observed within the Set-aside Parcel, thereby affirming that occupied suitable habitat occurs outside of the designated CVMSHCP modeled habitat for this species. The CVMSHCP modeled habitat and the results of the August 2020 habitat assessment for Palm Springs ground squirrel is detailed in Table 8.

Table 8. Palm Springs Ground Squirrel Impacts to Modeled Other Conserved Habitat and Suitable Habitat (acres) in Whitewater Floodplain Conservation Area Portion of Project

	Permanent Impacts	Temporary Impacts	Total Impacts ¹	Conserved in Set-aside Parcel	Conservation to Impact Ratio
CVMSHCP Palm Springs Ground Squirrel Modeled Other Conserved Habitat	0.10	1.91	2.01	4.16	2.1:1
Palm Springs Ground Squirrel Field Assessment – Suitable Habitat ²	0.10	1.91	2.01	36.65 ³	18.2:1

Notes:

- ¹ For purposes of determining rough step and conservation requirements, both temporary and permanent were included in the total acres of proposed disturbance. This total acreage includes acreage deductions of previously authorized disturbances and only accounts for total impacts of new disturbances as a result of project implementation.
- ² This field assessment was conducted on existing modeled habitat and on the proposed Set-aside Parcel in August 2020, which included areas not designated by the CVMSHCP as Palm Springs ground squirrel modeled habitat.
- ³ This includes the original 3.16 acres of suitable habitat within the CVMSHCP Palm Springs ground squirrel modeled Other Conserved Habitat.

5.9.3 CVMSHCP Consistency

Covered Activities within CVMSHCP Conservation Areas must be consistent with the conservation objectives of the conservation area within which they are located, as outlined in CVMSHCP, Sections 4.3 through 4.5.

This section outlines the project's consistency with CVMSHCP, Sections 4.3 through 4.5, applicable to conservation objectives of the WFCa.

5.9.3.1 Consistency with CVMSHCP Section 4.3, Conservation Objectives

The following section outlines the Conservation Objections for the WFCa and describes the project's consistency with each objective.

1. In total, 4,140 acres of the WFCa shall be conserved.

Consistency: The project would result in 20.22 acres of impacts, specifically 1.48 acres of permanent impacts and 18.74 acres of temporary impacts, within the WFCa and would contribute 247.48 acres⁷ to conservation within the WFCa (refer to MM-BIO-1 for details); therefore, the project is consistent with this CVMSHCP Conservation Objective.

2. Conserve Core Habitat and associated ecological processes (as set forth below) for Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, Coachella Valley fringe-toed lizard, Palm Springs ground squirrel, and Palm Springs pocket mouse, allowing evolutionary processes and natural population fluctuations to occur. Minimize fragmentation, human-caused disturbance, and edge effects to Core Habitat by conserving contiguous Habitat and effective Linkages between patches of Core Habitat.

- a. Conserve at least 2,671 acres of Core Habitat for the Coachella Valley milkvetch in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 58 acres in the unincorporated Riverside County portion of the area.

Consistency: The proposed project does not overlap Core Habitat for Coachella Valley milkvetch; therefore, this Conservation Objective is not applicable to the project.

- b. Conserve at least 2,659 acres of Core Habitat for the Coachella Valley giant sand-treader cricket in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 57 acres in the unincorporated Riverside County portion of the area.

Consistency: The proposed project does not overlap Core Habitat for Coachella Valley giant sand-treader cricket; therefore, this Conservation Objective is not applicable to the project.

- c. Conserve at least 2,659 acres of Core Habitat for the Coachella Valley fringe-toed lizard in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 57 acres in the unincorporated Riverside County portion of the area.

Consistency: The proposed project does not overlap Core Habitat for Coachella Valley fringe-toed lizard; therefore, this Conservation Objective is not applicable to the project.

- d. Conserve at least 2,955 acres of Core Habitat for the Palm Springs ground squirrel in the Palm Springs portion of the area, at least 59 acres in the Cathedral City portion of the area, and at least 100 acres in the unincorporated Riverside County portion of the area.

Consistency: The proposed project overlaps Palm Springs ground squirrel (Other Conserved Habitat). As detailed in Table 8 above, the project would conserve substantially more habitat for the target species than it would permanently impact (MM-BIO-1). Additionally, project impacts are limited to small, disjointed areas resulting from turbine pad construction and would not result in

⁷ The Gabrych Set-aside Parcel total 248.12 acres, of which 247.48 acres would be conserved (omitting area of disturbance for the met tower and associated access road).

habitat fragmentation or disruption to linkages between patches of Core Habitat. The project would implement measures to be consistent with the CVMSHCP Section 4.5, Land Use Adjacency Guidelines (see RR-BIO-1, RR-BIO-7, PDF-BIO-1, and PDF-BIO-2), and would therefore minimize human-caused disturbance and potential edge effects. For these reasons, the project is consistent with this CVMSHCP Conservation Objective.

- e. Conserve at least 3,122 acres of Core Habitat for the Palm Springs pocket mouse in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 477 acres in the unincorporated Riverside County portion of the area.

Consistency: The proposed project overlaps Palm Springs pocket mouse (Core Habitat). As detailed in Table 8 above, the project would conserve substantially more habitat for the target species than it would permanently impact (MM-BIO-1). Additionally, project impacts are limited to small, disjointed areas resulting from turbine pad construction and would not result in habitat fragmentation or disruption to linkages between patches of Core Habitat. The project would implement measures to be consistent with the CVMSHCP Section 4.5, Land Use Adjacency Guidelines (see RR-BIO-1, RR-BIO-7, PDF-BIO-1, and PDF-BIO-2 for details), and would therefore minimize human-caused disturbance and potential edge effects. For these reasons, the project is consistent with this CVMSHCP Conservation Objective.

- f. Conserve at least 3,484 acres of the fluvial and aeolian sand transport area in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 481 acres in the unincorporated Riverside County portion of the area. Maintain the current capacity for fluvial sand transport in the Whitewater River floodplain.

Consistency: As detailed in Table 8 above, the project would conserve substantially more sand transport area than it would permanently impact (MM-BIO-1); therefore, the project is consistent with this CVMSHCP Conservation Objective.

3. Conserve occupied burrowing owl burrows as described in Section 4.4.4 for burrowing owl avoidance, minimization, and mitigation measures.

Consistency: The 2020 field surveys documented six potential burrows (i.e., B1 through B5 and B8; Figure 2). One of these is within a proposed temporary disturbance area. The project will avoid occupied burrows in accordance with the CVMSHCP as summarized in BTR Section 6.2, regulatory requirement RR-BIO-5.

4. Conserve at least 3,433 acres of Other Conserved Habitat for Le Conte's thrasher in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 480 acres in the unincorporated Riverside County portion of the area.

Consistency: As detailed in Table 8 above, the project would conserve substantially more habitat for Le Conte's thrasher than it would permanently impact (MM-BIO-1); therefore, the project is consistent with this CVMSHCP Conservation Objective.

5. Conserve at least 392 acres of the active desert sand fields in the Palm Springs portion of the area; at least 43 acres of the active desert sand fields in the Cathedral City portion of the area; at least 1,185 acres of the ephemeral desert sand fields in the Palm Springs portion of the area and at least 52 acres in the unincorporated Riverside County portion of the area for the conservation of these natural communities; and at least 394 acres of the stabilized and partially stabilized desert sand fields in the Palm Springs portion of the area and at least 4 acres of the stabilized and partially stabilized

desert sand fields in the unincorporated Riverside County portion of the area. As these conserved natural communities are all part of the Core Habitat areas identified in Conservation Objective 2 for this area, attainment of that objective will also achieve this objective.

Consistency: The proposed project does not overlap active desert sand fields, ephemeral desert sand fields, or stabilized and partially stabilized desert sand fields; therefore, this Conservation Objective is not applicable to the project.

6. Maintain functional Biological Corridors and Linkages by conserving at least 475 acres of identified Biological Corridor in the unincorporated portion of the WFCA, at least 809 acres of identified Biological Corridor in the City of Palm Springs' portion, and at least 18 acres of identified Biological Corridor in the City of Cathedral City portion, such that the functionality of each individual Biological Corridor listed below is not compromised:

- a. Conserve the Whitewater River Biological Corridor south of I-10 in the unincorporated area to maintain potential Habitat connectivity for desert tortoise, Palm Springs ground squirrel, and Palm Springs pocket mouse, and to maintain ecosystem function for Covered Species. Aside from the freeway bridge and any Existing Use areas, which are unavoidably narrow segments, the Biological Corridor shall expand to 1 mile wide to minimize edge effects.

Consistency: As detailed in Table 8 above, the project would conserve substantially more habitat within the Whitewater River Biological Corridor than it would permanently impact it (MM-BIO-1). Additionally, project impacts are limited to small, disjointed areas resulting from turbine pad construction and would not result in habitat fragmentation or disruption to linkages. The project would implement measures to be consistent with the CVMSHCP, Section 4.5, Land Use Adjacency Guidelines (see RR-BIO-1, RR-BIO-7, PDF-BIO-1, and PDF-BIO-2 for details), and would therefore minimize human-caused disturbance and potential edge effects. For these reasons, the project is consistent with this CVMSHCP Conservation Objective

- b. Conserve the Mission Creek Biological Corridor south of the freeway in the Palm Springs portion of the WFCA to maintain potential Habitat connectivity for Palm Springs ground squirrel and Palm Springs pocket mouse, and to maintain ecosystem function for Covered Species. Aside from the freeway culvert and any Existing Use areas, which are unavoidably narrow segments, the Biological Corridor shall expand to 1 mile wide to minimize edge effects.

Consistency: The proposed project does not overlap the area described within this Conservation Objective; therefore, this Conservation Objective is not applicable to the project.

- c. Conserve the Willow wash area south of the I-10 in Palm Springs and in Cathedral City to maintain potential Habitat connectivity for Palm Springs ground squirrel and Palm Springs pocket mouse, and to maintain ecosystem function for Covered Species. Aside from the freeway culverts and any Existing Use areas, which are unavoidably narrow segments, the Biological Corridor shall expand to 1 mile wide to minimize edge effects.

Consistency: The proposed project does not overlap the area described within this Conservation Objective; therefore, this Conservation Objective is not applicable to the project.

- d. Maintain the ability of wildlife to cross Indian Avenue and Gene Autry Trail by providing undercrossings for Coachella Valley fringe-toed lizard, flat-tailed horned lizard, Palm Springs ground squirrel, and Palm Springs pocket mouse if these roads are widened to six lanes or more.

Consistency: The proposed project does not overlap the area described within this Conservation Objective; therefore, this Conservation Objective is not applicable to the project.

5.9.3.2 Consistency with CVMSHCP Section 4.4, Required Avoidance, Minimization, and Mitigation Measures

Measures from CVMSHCP, Section 4.4, that are not applicable to the project are because they are either specific to other Conservation Areas or there is no modeled habitat for the species within the project boundary for these species: little San Bernardino mountains linanthus, Peninsular bighorn sheep (*Ovis canadensis nelsoni* DPS), Palm Springs pocket mouse,⁸ Crissal thrasher (*Toxostoma crissale*), and covered riparian birds.

The following sections outline the Avoidance and Minimization Measures within the WFCAs that are applicable and describe the project's consistency with each measure. Note that Biological Corridors are discussed in this BTR under Section 5.9.3.1 (No. 6, a through d) above.

Burrowing Owl

CVMSHCP Section 4.4 contains measures for avoiding impacts to burrowing owl in the Conservation Areas. These measures are provided in Section 6.2 of this BTR; including RR-BIO-5, and the project would implement these measures for burrowing owl as described to avoid occupied burrows.

Desert Tortoise

Focused protocol-level presence/absence surveys for desert tortoise conducted in 2020 for the project were negative. In addition, the site is located at the extreme western extent of the known range for desert tortoise, and the habitat present is degraded due to existing development and associated disturbances. However, seven burrows (all Class 4) found within the site during the survey have the potential to be used by desert tortoise. Therefore, RR-BIO-3a (see BTR Section 6.2) will be implemented as required by the CVMSHCP.

LeConte's Thrasher

Surveys conducted for the project in the spring of 2020 did not detect LeConte's thrasher within the project site. However, in accordance with the CVMSHCP, Section 4.4, RR-BIO-6 (see BTR, Section 6.2) will be implemented.

Triple-Ribbed Milkvetch

Focused surveys conducted in spring 2020 for this species (Appendix B) were negative, and there are no known occurrences of this species within the project site. Therefore, the project is consistent with this CVMSHCP requirement regarding known occurrences of the species as maintained on a map by CVCC and will not be disturbed. In accordance with CVMSHCP Section 4.4, RR-BIO-2 will be implemented (see BTR Section 6.2).

Fluvial Sand Transport

CVMSHCP Section 4.4 states that Covered Activities, including operations and maintenance of facilities and construction of permitted new projects in fluvial sand transport areas will be conducted in a manner to maintain the fluvial sand transport capacity of the system.

The proposed project does not include any modifications to the drainage or fluvial transport in the project area. New structures, including turbine pads and access roads, and temporary construction areas, including staging

⁸ While there is modeled Core Habitat within the project boundary, the conservation measure for this species in Section 4.4 of the CVMSHCP specifically applies to the Upper Mission Creek/Big Morongo Canyon and Willow Hole Conservation Areas.

areas and laydown areas, have been sited outside of active waterways. As a result, the project would maintain existing fluvial sand transport capacity and flow.

5.9.3.3 Consistency with CVMSHCP Section 4.5, Land Use Adjacency Guidelines

Per CVMSHCP, Section 4.5, the purpose of Land Use Adjacency Guidelines is to avoid or minimize indirect effects from development adjacent to or within CVMSHCP Conservation Areas. The following section outlines the Land Use Adjacency Guidelines and describes the project's consistency with each, if applicable.

Drainage

Proposed Development adjacent to or within a Conservation Area shall incorporate plans to ensure that the quantity and quality of runoff discharged to the adjacent Conservation Area is not altered in an adverse way when compared with existing conditions. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm biological resources or ecosystem processes within the adjacent Conservation Area.

Consistency: The project will prepare a stormwater pollution prevention plan (SWPPP), and a spill prevention control and countermeasure plan as required by County of Riverside regulations to prevent the release of toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm biological resources or ecosystem processes within the adjacent WCA (see BTR Section 6.2, RR-BIO-1). Therefore, the project is consistent with this CVMSHCP Land Use Adjacency Guideline.

Toxics

Land uses proposed adjacent to or within a Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife and plant species, habitat, or water quality shall incorporate measures to ensure that application of such chemicals does not result in any discharge to the adjacent Conservation Area.

Consistency: As discussed above, the project will prepare a SWPPP (RR-BIO-1); therefore, the project is consistent with this CVMSHCP Land Use Adjacency Guideline.

Lighting

For proposed development adjacent to or within a Conservation Area, lighting shall be shielded and directed toward the developed area. Landscape shielding or other appropriate methods shall be incorporated in project designs to minimize the effects of lighting adjacent to or within the adjacent Conservation Area in accordance with the guidelines to be included in the Implementation Manual.

Consistency: Construction activities would be conducted during the daytime; no nighttime lighting would be required for project construction. Aviation warning lights are required as part of turbine operation. Consistent with Federal Aviation Administration rules established in Advisory Circular 70/7460-1L: exterior lighting installed on WTGs would be restricted and would only include Federal Aviation Administration aviation warning lights. The project will be reducing the number of aviation warning lights as compared to greater number of existing WTGs that will be removed. Therefore, the project is consistent with this CVMSHCP Land Use Adjacency Guideline.

Noise

Proposed development adjacent to or within a Conservation Area that generates noise in excess of 75 A-weighted decibels (dBA) energy equivalent level (L_{eq}) hourly shall incorporate setbacks, berms, or walls, as appropriate, to minimize the effects of noise on the adjacent Conservation Area in accordance with the guidelines to be included in the Implementation Manual.

Consistency: As noted, the proposed project includes the construction of 16 new, Vestas V117-3.6- and V117-4.3-MW WTGs while removing 93 existing Mitsubishi 600 kW WTGs; 7 existing Mitsubishi 600 kW WTGs would remain as part of the repower project. The project will reduce the number of WTGs as compared to existing conditions, thereby reducing noise generated from turbine operations. Therefore, the project is consistent with this CVMSHCP Land Use Adjacency Guideline.

Invasives

Invasive, non-native plant species shall not be incorporated in the landscape for land uses adjacent to or within a Conservation Area. Landscape treatments within or adjacent to a Conservation Area shall incorporate native plant materials to the maximum extent feasible; recommended native species are listed in CVMSHCP Table 4-112. The plants listed in CVMSHCP Table 4-113 shall not be used within or adjacent to a Conservation Area. This list may be amended from time to time through a Minor Amendment with Wildlife Agency Concurrence.

Consistency: The proposed project does not include any landscaping or proposed revegetation/restoration within the project area. Therefore, this CVMSHCP Land Use Adjacency Guideline is not applicable to the project.

Barriers

Land uses adjacent to or within a Conservation Area shall incorporate barriers in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping in a Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls and/or signage.

Consistency: The existing project includes existing gates and signage, which will be maintained for the proposed project to minimize unauthorized public access. Any additional fencing requirements particularly applicable to the Set-aside Parcel will be addressed through additional coordination with the CVCC. Therefore, the project is consistent with this CVMSHCP Land Use Adjacency Guideline.

Grading/Land Development

Manufactured slopes associated with site development shall not extend into adjacent land in a Conservation Area.

Consistency: The proposed project does not include any manufactured slopes extending into the adjacent WFCA; therefore, this CVMSHCP Land Use Adjacency Guideline is not applicable to the project.

6 Avoidance, Minimization, and Mitigation Measures

The proposed project would implement measures to avoid and minimize impacts to biological resources including those adopted by MVPP as part of the project (project design features) and those required by laws, regulations, and policies (regulatory requirements). Applicable project design features (PDF) and regulatory requirements (RR) are described below.

6.1 Project Design Features

PDF-BIO-1 Best Management Practices

As directed by the Mountain View Wind Repower Project Bird and Bat Conservation Strategy (Appendix D), the project will implement the applicable Best Management Practices, including the following:

- Vehicle speed limits of 25 miles per hour will be enforced along all access roads during and after construction to avoid wildlife collisions. Construction vehicles will be restricted to pre-designated access routes.
- Appropriate erosion control methods will be used during construction to eliminate or minimize runoff and avoid impacts to hydrology.
- Rocks unearthed during excavation will be used during construction or removed from the site rather than left in piles near the WTGs. Such rock piles attract and create habitat for small mammals that are prey for many raptor species. Additionally, parts and equipment that may be used as cover for prey will not be stored at the base of WTGs while a WTG is operational and spinning.
- Gravel will be placed at least 5 feet around each WTG foundation to discourage small mammals and reptiles from burrowing under or near WTG bases.
- An environmental consulting firm will be retained as an on-call service provider throughout construction of the project to ensure compliance with environmental construction measures (e.g., spill prevention, control, and countermeasures plan).
- Prior to any grading or other ground-disturbing activities, a Qualified Biologist⁹ will complete pre-construction surveys within ground-disturbance areas for all special-status wildlife and plant species with potential to occur in the project.
- Sensitive resources (e.g., nests) identified during pre-construction surveys will be flagged; all site personnel will be notified of their presence; and the necessary avoidance buffers will be established.
- If an injured or dead federally or state-protected species is encountered during construction, all work within the immediate vicinity will stop, and the Qualified Biologist and appropriate agencies will be notified before construction is allowed to proceed (refer to Appendix D).

⁹ Also referred to as Acceptable Biologist in the CVMSHCP.

- Employees and contractors will be instructed to look under vehicles and equipment for the presence of wildlife, including desert tortoise, before movement of vehicle or equipment.
- All employees and contractors working on the project during construction and operation will be required to participate in the Wildlife Incident Reporting Program (WIRP). The WIRP will include training for identifying and responding to encounters with sensitive biological resources, including but not limited to desert tortoise and golden eagles (reporting form included in Appendix D).
- Wildfire potential will be minimized by implementing safety measures in accordance with the applicable requirements of the California Fire Code (California Code of Regulations, Title 24, Chapter 4, Emergency Planning and Preparedness).
- Outdoor lighting during construction will be minimized. The project will reduce outdoor lighting impacts by ensuring that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project, vicinity, and nighttime sky is minimized. Outdoor lighting during operations will be limited to that necessary for project safety and security. All internal turbine nacelle and tower lighting will be extinguished when unoccupied. The proposed lattice tower would be equipped with applicable Federal Aviation Administration-compliant marking or lighting for aviation safety. Preferred lighting color has not yet been finalized, but in order to lower increased predation risk on small mammals, the lighting color is anticipated to be warm tones (e.g., reds or oranges) versus LED or bright lighting. Lighting would be emitted as a flashing display versus being a solid display.
- During construction and operations, the entire project site will be kept free of trash to prevent attraction of prey and predators, including removing any road-killed animals and carcasses. Nuisance animals will be brought to the attention of the California Department of Fish and Wildlife for control or relocation.
- Noise impact minimization measures will be implemented at the project during operation: alarms, equipment, and operations and maintenance activities will be implemented without interfering with worker safety and effectiveness.

PDF-BIO-2 Raven Nest Management

At a minimum, and specific to the meteorological tower, the applicant will remove nesting material suitable for raven use. Nests previously constructed in the prior nesting season, if any, will be removed after nesting season is over to discourage their use in subsequent nesting seasons. In addition, during the typical nest season (February 15 to August 15), material associated with nest building where nests are not yet complete will be removed from the meteorological tower. During the nesting season, raven nest material will not be removed if any eggs have been laid. If eggs are observed, no further disturbance to the active nest will occur until the juveniles have successfully fledged or the nest has otherwise been determined to be inactive. While this practice of removing nest material will not fully address all opportunities for raven use of the meteorological tower, it will discourage perching to some extent.

PDF-BIO-3 Post-Construction Fatality Monitoring

Post-construction fatality monitoring will be conducted for two consecutive years to estimate bird and bat mortality at the project. Surveys will commence after the repowering work is complete (anticipated early 2022), and the first year of monitoring will assess impacts to all birds and bats, while the second year of monitoring will focus on impacts to eagles specifically, unless results of the first year of the study indicate a need for additional monitoring for other species. Estimated annual fatality rates will be calculated to determine whether the estimated rates are lower, similar to, or higher than reported at nearby projects, and whether it differs from the level anticipated based on the avian risk assessment. Post-construction fatality monitoring will consist of baseline and long-term monitoring for birds and bats in accordance with the methods outlined in Appendix D.

6.2 Regulatory Requirements

RR-BIO-1 County of Riverside Required Plans

The project applicant will prepare the following plans, to be implemented during construction, as required by the County of Riverside regulations to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes: a stormwater pollution prevention plan and a spill prevention control and countermeasure plan.

RR-BIO-2 Triple-Ribbed Milkvetch Pre-construction Survey within Whitewater Floodplain Conservation Area

If project activities are conducted during the growing and flowering period for this species from February 1 to May 15, focused surveys for the species will be conducted by a Qualified Biologist prior to initiation of activities. Any occurrences of the species will be flagged, and project activities shall avoid impacts to the plants to the maximum extent feasible.

RR-BIO-3a Desert Tortoise Pre-construction Survey within Whitewater Floodplain Conservation Area

A pre-construction presence/absence survey within the impact portion of the Whitewater Floodplain Conservation Area and within a 200-foot radius around these impact areas, will be conducted no more than 90 days prior to construction to ensure that no desert tortoises are present, consistent with the Coachella Valley Multiple Species Habitat Conservation Plan Section 4.4. The survey results are valid for 90 days or indefinitely if tortoise-proof fencing is installed around the Whitewater Floodplain Conservation Area impacts. The presence/absence survey shall be conducted by a Qualified Biologist and shall include a search for fresh sign of desert tortoise, including live tortoises, tortoise remains, burrows, tracks, scat, or eggshells. The presence/absence survey must be conducted between February 15 and October 31. Presence/absence surveys require 100% coverage of the impact area. If no sign is found, a clearance survey is not required.

If fresh sign is located, the impact area within the Whitewater Floodplain Conservation Area must be fenced with tortoise-proof fencing and a clearance survey conducted during the clearance window. Consistent with Coachella Valley Multiple Species Habitat Conservation Plan Section 4.4, desert tortoise clearance surveys shall be conducted during the clearance window from February 15 to June 15 and September 1 to October 31 or in accordance with

the most recent Wildlife Agency protocols. Clearance surveys must cover 100% of the impact area. A clearance survey must be conducted during different tortoise activity periods (morning and afternoon). All tortoises encountered will be moved from the impact area to a specified location. Prior to issuance of the Permits, the Coachella Valley Conservation Commission will either use the Permit Statement Pertaining to High Temperatures for Handling Desert Tortoises and Guidelines for Handling Desert Tortoises During Construction Projects, revised July 1999, or develop a similar protocol for relocation and monitoring of desert tortoise, to be reviewed and approved by the Wildlife Agencies. Thereafter, the protocol will be revised as needed based on the results of monitoring and other information that becomes available.

Personnel conducting operation and maintenance activities will be instructed to be alert for the presence of desert tortoise. If a tortoise is spotted, activities adjacent to the tortoise's location will be halted, and the tortoise will be allowed to move away from the activity area. If the tortoise is not moving, it will be relocated by a Qualified Biologist to nearby suitable habitat and placed in the shade of a shrub.

Disposition of Sick, Injured, or Dead Specimens. Upon locating dead, injured, or sick desert tortoises under any utility or road project, initial notification by the contact representative or Qualified Biologist must be made to the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Wildlife (CDFW) within 3 working days of its finding. Written notification must be made within 5 calendar days with the following information: date; time; location of the carcass; photograph of the carcass; and any other pertinent information. Care must be taken in handling sick or injured animals to ensure effective treatment and care. Injured animals shall be taken care of by the Qualified Biologist or an appropriately trained veterinarian. Should any treated tortoises survive, USFWS or CDFW should be contacted regarding the health conditions and next steps specific to the surviving tortoises.

RR-BIO-3b Desert Tortoise Notification or Clearance Survey within the portion of the Project site outside the Whitewater Floodplain Conservation Area

Per the U.S. Fish and Wildlife Service Coachella Valley Multiple Species Habitat Conservation Plan Amended Permit (2015), for projects outside of the proposed Conservation Areas within the 50,272 acres of naturally occurring desert tortoise habitat within the Coachella Valley Multiple Species Habitat Conservation Plan area anticipated to be impacted, the Permittee shall either: 1) notify the Service 45 days prior to the issuance of a grading permit to allow for the potential salvage of adult tortoises within this notification time period; or 2) condition such projects to conduct desert tortoise clearance surveys per the Service's protocol.

If the applicant decides to implement option 2, as described above, a Qualified Biologist shall conduct a desert tortoise clearance survey within all impact areas located outside of the Whitewater Floodplain Conservation Area consistent with the amended take permit for the Coachella Valley Multiple Species Habitat Conservation Plan (USFWS 2015). Desert tortoise clearance surveys shall be conducted immediately prior to surface disturbance when desert tortoises are most active (April through May or September through October) and in accordance with the most recent Wildlife Agency protocols (USFWS protocol dated December 2009). Clearance surveys must cover 100% of the impact area, with a focus on locating all desert tortoises above and below ground. A clearance survey must be conducted during different tortoise activity periods (morning and afternoon). Surveys involve walking transects 10-meters

wide. At least one 10-meter-wide belt transect must be completed for every 100 meters of the width of the action area or portion thereof. All evidence that indicates desert tortoises may be present (e.g., scat, burrows, carcasses, courtship rings, drinking depressions, etc., in addition to live tortoises) will be recorded on the datasheet provided in the guidance.

RR-BIO-4 Nesting Bird Pre-Construction Surveys within Project Site

To ensure compliance with the Migratory Bird Treaty Act and Fish and Game Code Sections 3503 and 3513, and to avoid potential impacts to nesting birds, vegetation removal activities will be conducted outside the general avian breeding season (January 15 through August 31) with the understanding that depending on temperature and climatic conditions, nesting may sometimes occur outside of the typical breeding season.

If construction and vegetation trimming/removal activities are undertaken during the avian breeding season (generally January 15 through August 31), pre-construction surveys for nesting birds will be conducted by a Qualified Biologist no more than 7 days prior to any on-site construction activities within a 500-foot buffer around work areas. The Qualified Biologist will consult with appropriate resource agencies to establish adequate construction buffers around nests until the young have fledged.

Active nests identified during pre-construction surveys will be flagged and all site personnel will be notified of their presence and the necessary avoidance buffers will be established.

RR-BIO-5 Burrowing Owl Pre-construction Survey and Protection/Relocation Plan

A pre-construction survey will be performed by a Qualified Biologist between 14 and 30 days of ground disturbance or vegetation removal. The following will apply if occupied burrowing owl burrows are found, consistent with Coachella Valley Multiple Species Habitat Conservation Plan Section 4.4. The burrow will be flagged to include a 160-foot buffer during the non-breeding season (September 1 to January 31), a 250-foot buffer during the breeding season (February 1 to August 31), or a buffer to the edge of the property boundary, if less than 500 feet, will be established around the burrow. The buffer will be staked and flagged. No development or operation and maintenance activities will be permitted within the buffer until the young are no longer dependent on the burrow, as determined by a Qualified Biologist.

If occupied burrowing owl burrows cannot be avoided within the established exclusion buffers, a burrowing owl Protection and Relocation Plan (Plan) for the proposed project will be implemented prior to any ground disturbance or vegetation removal. This Plan shall include, but shall not be limited to, the following elements: (1) burrowing owls shall be relocated to suitable habitat areas within the Set-aside Parcel pursuant to accepted California Department of Fish and Wildlife (CDFW) protocols; (2) determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g., distance to nearest suitable habitat and presence of burrows within that habitat) of the Set-aside Parcel; (3) active relocation and eviction/passive relocation will require the preservation and maintenance of suitable burrowing owl habitat occurring within the Set-aside Parcel; and (4) some level of monitoring for success of the relocation may be required. This Plan, if needed, is subject to review and approval by the Coachella Valley Conservation Commission, California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service prior to any ground disturbance or vegetation clearing within the exclusion buffer.

RR-BIO-6 LeConte's Thrasher Pre-construction Survey in the Whitewater Floodplain Conservation Area

During the nesting season, January 15 through June 15, prior to the start of construction activities, a Qualified Biologist will conduct surveys within the Whitewater Floodplain Conservation Area, within 500 feet of the impact area, or to the property boundary if less than 500 feet. If nesting Le Conte's thrashers are found, an exclusion buffer will be established around the nest site in any location where work may occur within 500 feet of the active nest. The exclusion buffer will be staked and flagged. No construction will be permitted within the buffer during the breeding season of January 15 through June 15 or until the young have fledged.

RR-BIO-7: Avoidance and Minimization to Jurisdictional Waters

The following avoidance and minimization measures would be implemented when ground-disturbing activities occur within 50 feet of waters of the state and/or jurisdictional streambeds:

- All jurisdictional waters within 50 feet of project activities shall be fenced or flagged as environmentally sensitive areas prior to any ground disturbance.
- A Qualified Biological monitor shall be present during construction activities within 50 feet of project activities to ensure avoidance of jurisdictional waters.
- Best Management Practices shall be implemented to avoid indirect impacts to jurisdictional waters, including:
 - Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.
 - Spoil sites shall not be located within jurisdictional waters or in locations that may be subject to high storm flows, where spoils might be washed into drainages.
 - Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous, resulting from project-related activities, shall be prevented from entering jurisdictional waters.
 - Equipment maintenance shall occur outside of jurisdictional waters and in such a manner that no petroleum products or other pollutants from the equipment enters on- or off-site state-jurisdictional waters either directly or indirectly.

Should impacts, modifications, or improvements to jurisdictional waters be required as part of project construction, consultation will be undertaken with the applicable resource agencies to determine if permits and/or mitigation would be required. A Waste Discharge Requirement from the Regional Water Quality Control Board would be required if waters of the state are impacted, as there is no federal action (such as a 404 permit) for the project at the time of this Biological Technical Report. A notification of a Streambed Alteration Agreement to the California Department of Fish and Wildlife also would be required prior to modification of jurisdictional streambeds. Applications for any of these permits would require demonstration of avoidance and minimization of aquatic resources to the maximum extent practicable, and

compensatory mitigation would be required for permanent loss of waters or functions and values.

Equipment maintenance shall occur outside of jurisdictional waters and in such a manner that no petroleum products or other pollutants from the equipment enters on- or off-site state-jurisdictional waters either directly or indirectly.

6.3 Mitigation Measures

MM-BIO-1 Set-aside Parcel Mitigation

The 248.12-acre Set-aside Parcel, of which 247.48 acres would be conserved (omitting areas of disturbance for the met tower and associated access road), shall be donated to the Coachella Valley Multiple Species Habitat Conservation Plan through conveyance to the Coachella Valley Conservation Commission, to offset project impacts within the Coachella Valley Multiple Species Habitat Conservation Plan Whitewater Floodplain Conservation Area prior to any ground disturbance associated with the proposed project.

INTENTIONALLY LEFT BLANK

7 References

- AOS (American Ornithological Society). 2020. "Check-List of North and Middle American Birds." Accessed August 2020. <http://checklist.americanornithology.org/>
- Anthony, R.G., R.L. Knight, G.T. Allen, B.R. McClelland, and J.I. Hodges. 1982. "Habitat Use by Nesting and Roosting Bald Eagles in the Pacific Northwest," 332–342. In Transactions of the Forty-Seventh North American Wildlife and Natural Resources Conference, edited by K. Sabol. Washington, D.C.: Wildlife Management Institute.
- APLIC (Avian Power Line Interaction Committee). 2012. "Reducing Avian Collisions with Power Lines. The State of the Art in 2012." October 2012. Accessed March 15, 2021. https://www.aplic.org/uploads/files/11218/Reducing_Avian_Collisions_2012watermarkLR.pdf.
- Bechard, M. J., C.S. Houston, J.H. Sarasola and A.S. England. 2010. "Swainson's Hawk (*Buteo swainsoni*)." In *The Birds of North America Online*, edited by A. Poole. Ithaca, New York: American Ornithologists' Union and Cornell Lab of Ornithology. <http://bna.birds.cornell.edu/bna/species/265>.
- Brylski, P.V., P.W. Collins, E.D. Pierson, W.E. Rainey, and T.E. Kucera. 1997. *Mammal Species of Special Concern in California*. Draft Final Report. Prepared for the California Department of Fish and Game, Wildlife Management Division, Bird and Mammal Conservation Program. Contract FG3146WM.
- Buehler, D.A. 2000. "Bald Eagle (*Haliaeetus leucocephalus*)." *The Birds of North America Online*, edited by A. Poole. Ithaca, New York: Cornell Lab of Ornithology; Accessed September 2012. <http://bna.birds.cornell.edu/bna/species/506/articles/introduction>.
- BLM (Bureau of Land Management). 2009. "Survey Protocols Required for NEPA and ESA Compliance for BLM Special-Status Plant Species." July 7, 2009. Accessed November 10, 2020. <https://www.blm.gov/policy/ca-im-2009-026>.
- CDFG (California Department of Fish and Game). 2012. "*Haliaeetus leucocephalus*." Element Occurrence Query. California Natural Diversity Database (CNDDB). RareFind, Version 4.0 (Commercial Subscription). Sacramento, California: CDFG, Biogeographic Data Branch. Accessed September 2012. <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>.
- CDFW (California Department of Fish and Wildlife). 2018. "Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities." March 20, 2018. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>.
- CDFW. 2020a. "Special Vascular Plants, Bryophytes, and Lichens List." California Natural Diversity Database. January 2020. Accessed August 2020. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline=1>.
- CDFW. 2020b. "Special Animals List." California Natural Diversity Database. CDFW, Biogeographic Data Branch. July 2020. Accessed August 2020. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline=1>.
- CDFW. 2020c. "California Natural Community List." November 8, 2019. Accessed August 2020. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline>.

- CDFW. 2020d. California Natural Diversity Database (CNDDDB). RareFind, Version 5.2.14 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed August 2020. <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>.
- CEC and CDFG (California Energy Commission and California Department of Fish and Game). 2007. *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development*. Commission Final Report. CEC, Renewables Committee, and Energy Facilities Siting Division, and CDFG, Resources Management and Policy Division. CEC-700-2007-008-CMF. October 2007.
- CNPS (California Native Plant Society). 2001. "CNPS Botanical Survey Guidelines." December 9, 1983; revised June 2, 2001. http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf.
- CNPS. 2020. *Inventory of Rare, Threatened, and Endangered Plants of California*. Online ed. Version 8-03 0.39. Sacramento, California: CNPS, Rare Plant Program. Accessed August 2020. <http://www.rareplants.cnps.org/>.
- CVAG (Coachella Valley Association of Governments). 2016. *Coachella Valley Multiple Species Habitat Conservation Plan*. As amended August 2016. Accessed August 2020. http://www.cvmshcp.org/Plan_Documents_old.htm#plan.
- CVCC (Coachella Valley Conservation Commission). 2007. *Final Recirculated Coachella Valley Multiple Species Habitat Conservation Plan and Natural Communities Conservation Plan*. Coachella Valley Conservation Commission, Palm Desert, California. https://cvmshcp.org/Plan_Documents_old.htm#plan.
- County of Riverside. 2015. "Multipurpose Open Space Element." In *County of Riverside General Plan*. Revised December 8, 2015. Accessed November 2020. https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch05_MOSE_120815.pdf?ver=2017-10-11-102103-833.
- County of Riverside. 2020. "Land Use Element." In *County of Riverside General Plan*. Revised August 4, 2020. Accessed November 2020. https://planning.rctlma.org/Portals/14/genplan/2020/elements/Ch03_Land%20Use_080420.pdf.
- Crother, B.I. 2012. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding, edited by J.J. Moriarty. 7th ed. Society for the Study of Amphibians and Reptiles (SSAR); Herpetological Circular No. 39. August 2012. Accessed January 28, 2013. http://home.gwu.edu/~rpyron/publications/Crother_et_al_2012.pdf.
- Dobkin, D., and S. Granholm. 2005. "Le Conte's Thrasher." Life History Accounts and Range Maps—California Wildlife Habitat Relationships System. California Department of Fish and Game, California Interagency Wildlife Task Group. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2077&inline=1>.
- Edell, T. Personal communication. August 15, 2012.
- EPA (Environmental Protection Agency). 2020. "Watershed Assessment, Tracking & Environmental Results (WATERS)." Accessed 2020. <https://www.epa.gov/waterdata/viewing-waters-data-using-google-earth>.
- Fitton, S. 2008. "Le Conte's Thrasher (*Toxostoma lecontei*)." In *California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate*

- Conservation Concern in California, edited by W.D. Shuford and T. Gardali, 351–358. In *Studies of Western Birds* 1. Camarillo, California: Western Field Ornithologists and Sacramento, California: California Department of Fish and Game.
- Garrett, K., and J. Dunn. 1981. *The Birds of Southern California: Status and Distribution*. Los Angeles, California: Los Angeles Audubon Society.
- Garrett, M.G., J.W. Watson, and R.G. Anthony. 1993. “Bald Eagle Home Range and Habitat Use in the Columbia River Estuary.” *Journal of Wildlife Management* 57(1):19–27.
- Gervais, J.A., D.K. Rosenberg, and L.A. Comrack. 2008. “Burrowing owl (*Athene cunicularia*).” In *California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California*, edited by W.D. Shuford and T. Gardali, 218–226. *Studies of Western Birds* no. 1. Camarillo, California: Western Field Ornithologists, and Sacramento, California: California Department of Fish and Game. February 4, 2008. <http://www.dfg.ca.gov/wildlife/nongame/ssc/birds.html>.
- Google Earth. 2020. Aerial Photograph. 1:200 scale.
- Hallingstad E.C., P.A. Rabie, A.C. Telander, J.A. Roppe, and L.R. Nagy. 2018. “Developing an Efficient Protocol for Monitoring Eagle Fatalities at Wind Energy Facilities.” *PLoS ONE* 13(12): e0208700. <https://doi.org/10.1371/journal.pone.0208700>.
- Haug, E.A., B.A. Millsap, and M.S. Martell. 2011. “The Burrowing Owl (*Speotyto cunicularia*).” Revised by R. Poulin and L.D. Todd. In *The Birds of North America Online*, edited by A. Poole. Ithaca, New York: Cornell Lab of Ornithology. Accessed December 12, 2011. doi: 10.2173/bna.61.
- Historic Aerials. 2020. Aerial Images. www.historicaerials.com.
- Hunt, W.G., R.E. Jackman, T.L. Brown, D.E. Driscoll, and L. Culp. 1998. *A Population Study of Golden Eagles in the Altamont Pass Wind Resource Area: Population Trend Analysis 1997*. Report prepared for National Renewable Energy Laboratory (NREL), Subcontract XAT-6-16459-01. Predatory Bird Research Group, University of California, Santa Cruz.
- Jepson Flora Project. 2020. *Jepson eFlora*. Berkeley, California: University of California. Accessed August 2020. <http://ucjeps.berkeley.edu/interchange/index.html>.
- Johnsgard, P.A. 1990. “Golden Eagle.” In *Hawks, Eagles, and Falcons of North America: Biology and Natural History*, 260–268. Washington, D.C.: Smithsonian Institution Press.
- Klauber, L.M. 1972. *Rattlesnakes: Their Habits, Life Histories, and Influence on Mankind*. 2nd ed. Berkeley, California: University of California Press.
- Kochert, M.N., and K. Steenhof. 2002. “Golden Eagles in the U.S. and Canada; Status, Trends Conservation Challenges.” *Journal of Raptor Research* 36(supplement):33–41.
- Lehman, P.E. 1994. *The Birds of Santa Barbara County, California*. Santa Barbara: University of California, Santa Barbara, Vertebrate Museum.
- Lantz, S. J., H. Smith, and D.A. Keinath. 2004. *Species Assessment for Western Burrowing owl (*Athene cunicularia hypugaea*) in Wyoming*. Prepared for the U.S. Department of the Interior and Bureau of Land Management.

- Millsap, B.A. 1981. Distributional Status of Falconiformes in West Central Arizona with Notes on Ecology, Reproductive Success, and Management. U.S. Department of the Interior, Bureau of Land Management. Technical Note 355.
- NABA (North American Butterfly Association). 2001. "Checklist of North American Butterflies Occurring North of Mexico." Adapted from *North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies*, eds. B. Cassie, J. Glassberg, A. Swengel, and G. Tudor. 2nd ed. Morristown, New Jersey: NABA. Accessed October 14, 2016. <http://www.naba.org/pubs/enames2.html>.
- Pagel, J., K. Kritz, B. Millsap, R. Murphy, E. Kershner, and S. Covington, Scott. 2013. "Bald Eagle and Golden Eagle Mortalities at Wind Energy Facilities in the Contiguous United States." *Journal of Raptor Research* 47:311–315.
- RWQCB (Regional Water Quality Control Board). 2019. *Water Quality Control Plan for the Colorado River Basin*. Revised January 8, 2019. https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/docs/bp032014/r7_bp2019fullbp.pdf.
- Roberson, D. 2002. *Monterey Birds: Status and Distribution of Birds in Monterey County, California*. 2nd ed. Carmel, California: Monterey Peninsula Audubon Society.
- Rosenberg, D., Berkes, F., Bodaly, R., Hecky, R., Kelly, C., Rudd, J. 1997. "Large-scale Impacts of Hydroelectric Development." *Environmental Review* 5:27–54.
- Sawyer, J.O., T. Keeler-Wolf, and J. M. Evans. 2009. *A Manual of California Vegetation*, 2nd edition. Sacramento, California: California Native Plant Society.
- Scott, T.A. 1985. "Human Impacts on the Golden Eagle Population of San Diego County." Master's thesis San Diego State University.
- Sheppard, J.M. 1996. "Le Conte's Thrasher (*Toxostoma lecontei*)." *The Birds of North America Online*, edited by A. Poole. Ithaca, New York: American Ornithologists' Union and Cornell Lab of Ornithology. Accessed September 10, 2012. <http://bna.birds.cornell.edu/bna/species/230doi:10.2173/bna.230>.
- Stalmaster, M.V., and J.L. Kaiser. 1998. "Effects of Recreation Activities on Wintering Bald Eagles." *Wildlife Monographs* (137):1–46.
- Stebbins, R.C. 2003. *Western Reptiles and Amphibians*. 3rd ed. Peterson Field Guide. New York, New York: Houghton Mifflin Company.
- Unitt, P. 2004. *San Diego County Bird Atlas*. San Diego, California: San Diego Natural History Museum.
- USDA (U.S. Department of Agriculture). 2020a. "State Soil Data Access (SDA) Hydric Soils List, California." USDA, Natural Resources Conservation Service. Accessed July 2020. <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>.
- USDA. 2020b. "California." State PLANTS Checklist. http://plants.usda.gov/dl_state.html.
- USGS (U.S. Geological Survey). 2014. Evidence of Absence Software. Data Series 881. Prepared by D. Dalthorp, M.M.P. Huso, D. Dail, and J. Kenyon. <https://pubs.er.usgs.gov/publication/ds881>.
- USDA. 2020c. Web Soil Survey. USDA, Natural Resources Conservation Service, Soil Survey Staff. Accessed 2020. <http://websoilsurvey.nrcs.usda.gov/>.

- USFWS (U.S. Fish and Wildlife Service). 1986. *Pacific Bald Eagle Recovery Plan*. Portland, Ore.: U.S. Fish and Wildlife Service.
- USFWS (U.S. Fish and Wildlife Service). 2000. *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants*. Sacramento, California. January 2000. <https://www.fws.gov/ventura/docs/species/protocols/botanicalinventories.pdf>.
- USFWS. 2008a. *Draft Revised Recovery Plan for the Mojave Population of the Desert Tortoise* (*Gopherus agassizii*). Sacramento, California: USFWS; Region 8, California and Nevada.
- USFWS. 2008b. "Environmental Assessment to Implement a Desert Tortoise Recovery Plan Task: Reduce Common Raven Predation on the Desert Tortoise." March 2008. Accessed November 2020. <https://www.fws.gov/carlsbad/PalmSprings/DesertTortoise/Raven%20EA%20Final%203-08.pdf>
- USFWS. 2009. *Desert Tortoise (Mojave Population) Field Manual* (*Gopherus agassizii*). USFWS, Region 8. December 2009. Accessed November 2020. https://www.fws.gov/nevada/desert_tortoise/documents/field_manual/Desert-Tortoise-Field-Manual.pdf.
- USFWS. 2012. *U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines*. March 23, 2012. Accessed November 2020. http://www.fws.gov/cno/pdf/Energy/2012_Wind_Energy_Guidelines_final.pdf.
- USFWS. 2013. *Eagle Conservation Plan Guidance: Module 1 - Land-Based Wind Energy, Version 2*. USFWS, Division of Migratory Bird Management. April 2013. Accessed November 2020. <https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>.
- USFWS. 2015. Federal Fish and Wildlife Take Permit for the Coachella Valley MSHCP Permittees. Amendment effective December 8, 2015.
- USFWS. 2019. "Preparing for Any Action that May Occur within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*)." October 8, 2019. Accessed August 2020. https://www.fws.gov/nevada/desert_tortoise/documents/manuals/MojaveDesertTortoisePre-projectSurveyProtocol_2019_v2.pdf.
- USFWS. 2020a. "Critical Habitat and Occurrence Data" [GIS data]. Accessed August 2020 <http://www.fws.gov/data>.
- USFWS. 2020b. "National Wetland Inventory." Last updated June 25, 2018. Accessed July 2020. <http://www.fws.gov/wetlands/Data/Mapper.html>.
- USGS (U.S. Geological Survey). 2020. "National Hydrography Dataset." <https://www.usgs.gov/core-science-systems/ngp/national-hydrography>.
- Watson, J.W., M.G. Garrett, and R.G. Anthony. 1991. "Foraging Ecology of Bald Eagles in the Columbia River Estuary." *Journal of Wildlife Management* 55(3):492–299.
- Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*. 3rd ed. Baltimore, Maryland: Johns Hopkins University Press.
- WRCC (Western Regional Climate Center). 2020. "Palm Springs, California (046635)." <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6635>.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988. *California's Wildlife. Vol. 1: Amphibians and Reptiles*. Sacramento, California: California Department of Fish and Game.

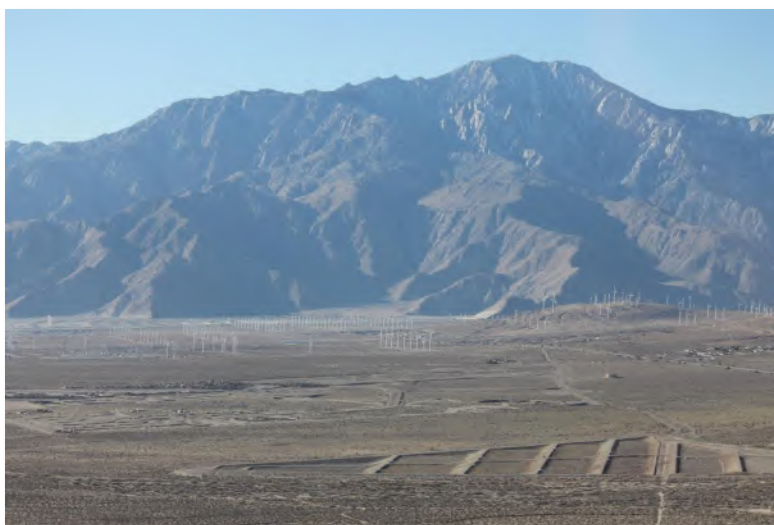
Zeiner, D.C., W.F. Laudenslayer Jr., K.E. Mayer, and M. White, eds. 1990. *California's Wildlife: Vol. 2. Birds*. California Wildlife Habitat Relationships System. Sacramento, California: State of California Department of Fish and Game.

Appendix A

Avian Risk Assessment and Survey Report for the Mountain View Power Partners Wind Project

Avian Risk Assessment and Survey Report and for the Mountain View Power Partners Wind Project Riverside County, California

**Revised Final Report
October 2017 – October 2018**



Prepared for:
Mountain View Power Partners
690 North Studebaker Road
Long Beach, CA

Prepared by:
Joel Thompson and Troy Rintz
Western EcoSystems Technology, Inc.
2725 NW Walnut Boulevard
Corvallis, Oregon

August 4, 2020



EXECUTIVE SUMMARY

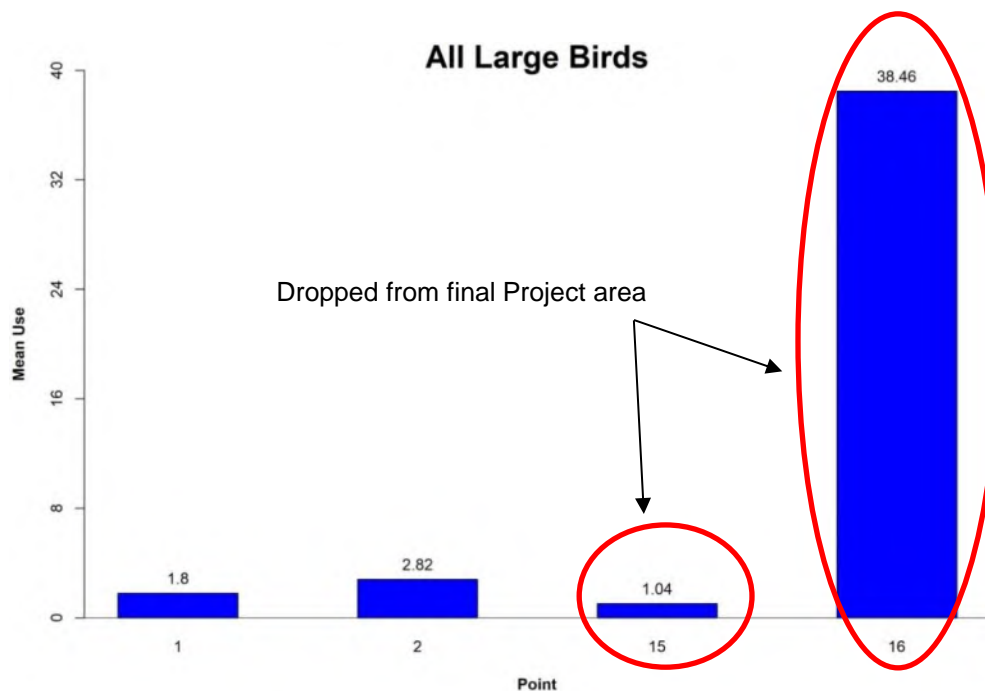
Mountain View Power Partners, LLC (MVPP) is proposing to repower a wind energy facility in Riverside County, California, referred to as the Mountain View Power Partners Wind Project (Project), by replacing 104 existing 600-kilowatt Mitsubishi turbines with 16, 3.0-megawatt (MW) or larger turbines. MVPP contracted Western EcoSystems Technology, Inc. (WEST) to conduct avian use surveys at the Project to provide information useful in assessing potential changes in risk to avian species due to the repowering. This report summarizes the methodology and results of field surveys conducted at the Project from October 2017 – October 2018. Surveys at the Project were designed to help address the questions posed under Tier 3 of the US Fish and Wildlife Service *Land-Based Wind Energy Guidelines* and Stage 2 of the *Eagle Conservation Plan Guidance*. This report was revised in summer 2020 to reflect changes in the Project layout (i.e., final Project area) that influenced the survey results and potential risk to sensitive avian species. In addition to presenting data collected in the original Project area, this revised report provides an update to survey results based on only those data collected in the final, smaller Project area.

Fixed-point avian use surveys were conducted throughout the original Project area to evaluate spatial and temporal patterns in avian use, with added emphasis on use by eagles. Surveys were conducted approximately weekly at four points for large birds and at 15 points for small birds. Each small bird survey was conducted for a period of 10 minutes (min) within a 100-meter (m) radius plot, while large bird surveys were 60 min in duration and included an 800-m radius plot. A total of 202 large bird surveys (202 hours) and 727 small bird surveys (121.2 hours) were conducted during 51 visits.

During small bird surveys, 272 small bird observations were recorded within 172 separate groups, comprising 31 unique species. Four of the 31 small bird species (tree swallow, loggerhead shrike, sage thrasher, and rock wren) accounted for 60% of all small bird observations. Small bird use was highest in spring (0.63 birds/100-m plot/10-min survey) and lowest in summer (0.09). Reducing the Project area led to the elimination of data from three small bird use survey points; however, the elimination of data from points 17-19 did not have a substantial impact on small bird use estimates or the potential risk posed by the project to small birds.

During large bird surveys, 2,266 observations were recorded within 271 separate groups, comprising 28 unique large bird species. Approximately 85% of the 2,266 total large bird observations were recorded during surveys at Point 16, which was located on a berm within the Coachella Valley Water District (CVWD) groundwater recharge ponds. Five species (American coot, California gull, common raven, unidentified gull, and unidentified duck) accounted for 92% of all large bird observations. Large bird use was highest in fall (27.25 birds/800-m plot/60-min survey) and ranged from 1.23 – 6.27 in other seasons. Gulls/terns and rails/coots composed the majority of overall large bird use documented during surveys, with rails/coots accounting for 68.8% of use in fall, and gulls/terns accounting for 40.2%, 64.0%, and 64.4% of use in winter, spring, and summer, respectively. Corvids also contributed significantly to the overall large bird use, ranging from 23.2 – 33.4% in winter, spring, and summer.

A decision by MVPP to avoid repowering wind turbines on CVWD berms led to the elimination of data from large bird use data recorded at points 15 and 16. Elimination of Points 15 and 16 had a substantial impact on large bird diversity and species richness measured during the study period, decreasing the number of unique species observed from 28 to 13 and species richness from 0.93 to 0.58 species/800-m plot/60-min survey. The exclusion of data from large bird Point 16 also had a substantial impact on large bird use estimates, particularly in the fall, when large bird use decreased by more than 95%, from 27.25 to 0.71 birds/800-m plot/60-min survey. Large bird use during the summer also decreased by more than 95%, although use during the summer was relatively low with or without data from Point 16. Reductions in large bird use were also noted in winter and spring, although reductions were not as great. Exclusion of data from large bird point 15 had little impact on the various use metrics.



Mean large bird use by observation point during fixed-point bird use surveys at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018.

Three golden eagles and three bald eagles were observed during the study. The three bald eagles were all observed from Point 16, and one of the golden eagles also was observed from Point 16. Of the two other golden eagles, one was observed from Point 1 within the main portion of the Project area, and one was recorded incidentally flying over Highway 111, outside of the Project area. When including data from all large bird survey points, bald eagles were documented within the 800-m survey plots flying at heights of 200 m or less above ground level (AGL) for a total of 18 min (defined as eagle risk minutes), while golden eagles were documented within the 800-m survey plots at heights of 200 m or less AGL for a total of four eagle risk minutes. With the removal of data from points 15 and 16, eagle risk minutes were reduced to zero for bald eagles and one for golden eagles, out of 102 hours of survey effort. Assuming eagle use is positively correlated

to risk, this reduction in eagle risk minutes observed in the final Project area should result in lower risk to eagles compared to that posed by the original Project area.

To assess risk for golden eagles specifically, the USFWS' Bayesian Collision Risk Model (CRM) was used to predict take of golden eagles using a priors-only model, as well as the site-specific eagle use data collected from October 2017 through October 2018. The level of predicted take resulting from the CRM varied widely depending on model inputs (priors-only vs site-specific data); however, because the repowered Project represents only a small (3.7%) increase in total rotor-swept area relative to the existing Project, the difference in predicted take of golden eagles is small, ranging from 0.001 eagles per year when using site-specific data, up to 0.045 eagles per year when using the priors-only model. This equates to a predicted increase of less than two eagles over a 30-year period for the repowered Project relative to the existing Project, regardless of which inputs are used in the CRM.

The Project's diurnal raptor use level was comparable to that reported for other facilities in southern California. While publicly available post-construction fatality data is limited for the San Geronio area, at the Dillon Wind Energy Facility, located less than 4.8 kilometers north of the Project, no raptor fatalities were found during a year-long post-construction fatality monitoring study conducted in 2008-2009. Other southern California projects (e.g., within the Tehachapi Pass Wind Resource Area) generally have reported raptor fatality estimates of less than 0.2 diurnal raptor/MW/year.

The bird species observed in the Project area were typical of those commonly found in similar habitat types within this region of California. The highest level of large bird use was associated with the groundwater recharge ponds near Point 16 and consisted primarily of water-associated species (i.e., waterbirds, waterfowl, gulls, and coots), suggesting that the CVWD recharge ponds are attracting these species to the Project vicinity. While large bird use was substantially higher in and around the recharge ponds, this portion of the Project area has been removed from the final area being considered for repowering, substantially reducing the amount of large bird use and risk associated with the Project, assuming use is positively correlated to risk. Avian use within the final Project area was generally consistent with expectations, consisting of relatively common species in relatively low abundance (i.e., a majority of seasonal estimates less than one species/bird per survey).

No federally threatened, endangered, or candidate bird species were documented during the study; however, seven species considered sensitive at the state level were recorded during surveys or incidentally. This included one state-endangered species (bald eagle), one state-threatened species (Swainson's hawk), one state fully protected species (golden eagle), and four California species of special concern (American white pelican, northern harrier, burrowing owl, and loggerhead shrike). However, a number of these species were recorded at survey points no longer being considered as part of the Project, again resulting in lower risk assuming that use is positively correlated to risk.

STUDY PARTICIPANTS

Joel Thompson	Sr. Project Manager
Troy Rintz	Project Manager
Daniel Riser-Espinoza	Lead Client Analyst
Raymond Tupling and Guy DiDonato	Analysts
Valarie Woelfel	GIS Technician
Kori Hutchison	Report Writer
Katie Wynne	Technical Editor
Adam Field	QAQC Technician
Carmen Boyd	Project Tracking and Data Manager

REPORT REFERENCE

Thompson, J., and T. Rintz. 2020. Avian Risk Assessment and Survey Report for the Mountain View Power Partners Wind Project, Riverside County, California. Final Report: October 2017 – October 2018. Prepared for Mountain View Power Partners, Long Beach, California. Prepared by Western EcoSystems Technology, Inc. (WEST), Corvallis, Oregon. August 4, 2020.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
INTRODUCTION	9
PROJECT AREA	11
METHODS.....	11
Fixed-Point Bird Use Surveys	11
Small Bird Use Surveys.....	12
Large Bird Use Surveys.....	12
Survey Schedule	14
Quality Assurance and Quality Control	14
Data Compilation and Storage.....	14
Statistical Analyses	14
Bird Diversity and Species Richness	14
Bird Use, Percent of Use and Frequency of Occurrence	14
Bird Flight Height and Behavior	15
Spatial Use.....	15
Eagle Collision Risk.....	15
Incidental Observations.....	16
RESULTS	16
Fixed-Point Bird Use Surveys	16
Bird Diversity and Species Richness	16
Bird Use, Percent of Use, and Frequency of Occurrence	17
Bird Flight Height and Behavior	21
Spatial Use.....	22
Eagle Collision Risk	24
Incidental Observations.....	25
Sensitive Species Observations	26
DISCUSSION.....	27
Diurnal Raptors	27
Bald and Golden Eagles.....	28
CONCLUSIONS.....	31
REFERENCES	32

LIST OF TABLES

Table 1a. Summary of species richness (species/100-meter plot/10-minute survey), and sample size by season and overall during the fixed-point small bird use surveys at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018. Overall values provided with and without small bird points 17-19, which were located in the parcels dropped from the Project area.....	16
Table 1b. Summary of species richness (species/800-meter plot/60-minute survey), and sample size by season and overall during the fixed-point large bird use surveys at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018. Seasonal estimates provided with and without large bird points 15 and 16, which were located in the parcels dropped from the Project area.	17
Table 2a. Mean use (number of birds/plot ^a /10-minute survey), percent of total use (%), and frequency of occurrence (%) for each bird type by season during the fixed-point small bird use surveys at the Mountain View Power Partners Wind Project during fixed-point bird use surveys from October 26, 2017 – October 31, 2018. Overall values provided with and without small bird points 17-19, which were located in the parcels dropped from the Project area.	19
Table 2b. Mean use (number of birds/plot ^a /60-minute survey), percent of total use (%), and frequency of occurrence (%) for each large bird type and raptor subtype by season during the fixed-point large bird use surveys at the Mountain View Power Partners Wind Project during fixed-point bird use surveys from October 26, 2017 – October 31, 2018. Values provided with and without large bird points 15 and 16, which were located in the parcels dropped from the Project area.....	20
Table 3a. Flight height characteristics by bird type ^a and raptor subtype during fixed-point bird use surveys at the Mountain View Power Partners Wind Project during fixed-point bird use surveys from October 26, 2017 – October 31, 2018. Data from all large bird survey points.	22
Table 3b. Flight height characteristics by bird type ^a and raptor subtype during fixed-point bird use surveys at the Mountain View Power Partners Wind Project during fixed-point bird use surveys from October 26, 2017 – October 31, 2018. Data excluded from large bird points 15 and 16, located in the parcels dropped from the Project area.....	22
Table 4a. Eagle observations at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018. Data from all four large bird survey points.	25
Table 4b. Eagle observations at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018. Data excluded from large bird points 15 and 16, located in the parcels dropped from the Project area.	25
Table 5. Number of groups (grps) and observations (obs) of species incidentally observed outside of the standardized fixed-point use surveys at the Mountain View Power Partners Power Partners Wind Project from October 26, 2017 – October 31, 2018.	26

Table 6. Summary of sensitive species observed at the Mountain View Power Partners Wind Project during the fixed-point (FP) bird use surveys and as incidental wildlife observations (Inc.) from October 26, 2017 – October 31, 2018.....	27
---	----

LIST OF FIGURES

Figure 1. Regional features surrounding the Mountain View Power Partners Wind Project, Riverside County, California. Project boundary (in red) represents the Project area under consideration during the avian study period (October 2017 – October 2018), with callout of changes as of July 2020.....	10
Figure 2. Avian fixed-point survey locations for large and small bird use surveys at the Mountain View Power Partners Wind Project, Riverside County, California. Parcels containing points 15,16,17, 18, and 19 were removed from the final Project layout.	13
Figure 3. Mean small bird use by observation point during fixed-point bird use surveys at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018.	23
Figure 4. Mean large bird use by observation point during fixed-point bird use surveys at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018.	24
Figure 5. Comparison of estimated annual diurnal raptor use during fixed-point large bird use surveys at the Mountain View Power Partners Wind (MVPP) Project from October 26, 2017 – October 31, 2018 and diurnal raptor use at other California wind energy facilities with three or four seasons of raptor use data. Data are for the revised MVPP Project layout and exclude data from large bird survey points 15 and 16, which are not located in the final MVPP Project area.....	30

LIST OF APPENDICES

Appendix A. Summary of the Number of Observations and Groups Recorded During Fixed-Point Bird Use Surveys at the Mountain View Power Partners Wind Project, October 26, 2017 – October 31, 2018
Appendix B. Mean Use, Percent of Use, and Frequency of Occurrence for Small Bird and Large Bird Types and Species Observed during Fixed-Point Bird Use Surveys at the Mountain View Power Partners Wind Project, October 26, 2017 – October 31, 2018
Appendix C. Mean Use by Point for Major Bird Types and Diurnal Raptor Subtypes during Fixed-Point Bird Use Surveys at the Mountain View Power Partners Wind Project, October 26, 2017 – October 31, 2018
Appendix D. Large Bird Flight Paths Observed at the Mountain View Power Partners Wind Project, October 26, 2017 – October 31, 2018

Appendix E. Collision Risk Modeling for Golden Eagles at the Mountain View Power Partners
Wind Project

INTRODUCTION

Mountain View Power Partners, LLC (MVPP) is proposing to repower a wind energy facility in Riverside County, California, referred to as the Mountain View Power Partners Wind Project (Project), by replacing 104 existing 600-kilowatt Mitsubishi Turbines with 16, 3.0-megawatt or larger turbines. MVPP contracted Western EcoSystems Technology, Inc. (WEST) to conduct biological studies at the Project to provide information useful in assessing potential changes in risk to avian species due to the repowering. While biological studies were not mandated as a requirement of, or to support any specific permits, MVPP chose to conduct avian surveys consistent with recommendations in Tier 3 of the US Fish and Wildlife Service (USFWS) *Land-Based Wind Energy Guidelines* (USFWS 2012), Stage 2 of the Eagle Conservation Plan Guidance (ECPG; USFWS 2013), and associated Eagle Rule (USFWS 2016), while also collecting data to satisfy the intent of the more dated California Wind Energy Guidelines (California Energy Commission and California Department of Fish and Wildlife [CDFW (formerly California Department of Fish and Game)] 2007). MVPP and WEST met with CDFW and USFWS on November 13, 2017, to introduce the Project and discuss the proposed survey design. WEST prepared a memo on November 27, 2017, to address concerns expressed by the USFWS and provide survey design modifications based on comments provided by USFWS.

The principal objective of the study was to provide site-specific avian use data that would be useful in evaluating potential impacts from the repowering of the Project. The study included fixed-point avian use surveys for large and small birds. Additionally, observations of rare and sensitive species were documented as incidental observations if observed outside of standardized survey periods or while transiting across the Project area between surveys. This report summarizes the methodology and results of field surveys conducted at the Project from October 26, 2017 – October 31, 2018, and was updated in summer 2020 to reflect changes in the Project layout that influenced the survey results and potential for impacts to sensitive avian species.

Surveys were conducted within all land parcels under consideration for development as of the initiation of avian surveys (October 2017; original Project area; Figure 1), and data are presented for all surveys conducted; however, updated results have been incorporated into this revised report based on modifications to the Project layout that resulted in exclusion of the two small parcels located east and southeast of the largest parcel and several avian survey points located on those parcels (Figure 1). The southernmost parcel and survey points are located on the berms in the Coachella Valley Water District (CVWD) recharge ponds, while the easternmost parcel is located near the Project substation (see Figure 1). The updated results are discussed in the context of changes to risk based on the change in Project layout, with an emphasis on eagles and other raptors and/or sensitive species.

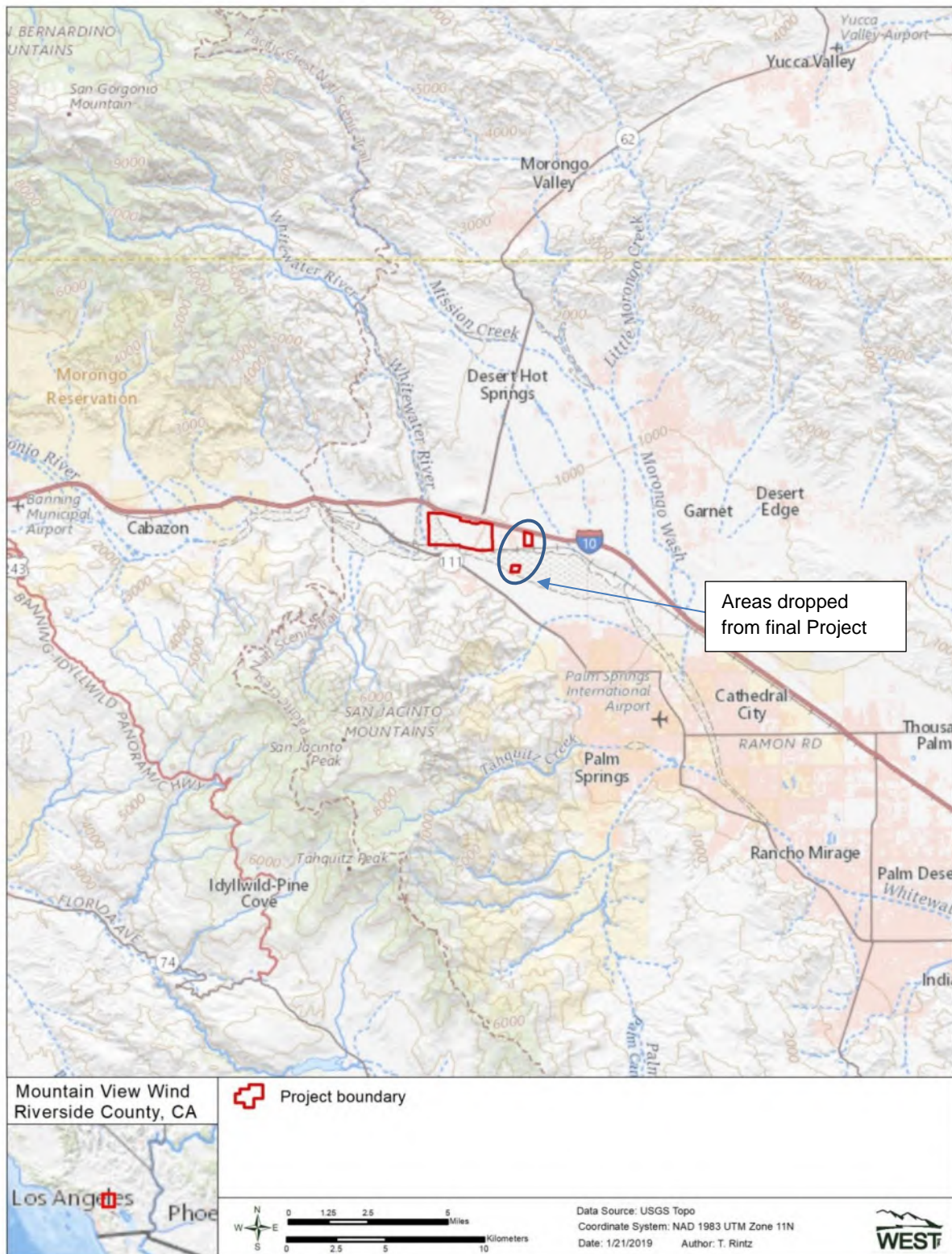


Figure 1. Regional features surrounding the Mountain View Power Partners Wind Project, Riverside County, California. Project boundary (in red) represents the Project area under consideration during the avian study period (October 2017 – October 2018), with callout of changes as of July 2020.

PROJECT AREA

The original Project encompassed approximately 501 hectares (1,238 acres) of public and private land located on the south side of Interstate 10, approximately 4.8 kilometers (km; 3.0 miles [mi]) northwest of Palm Springs, in Riverside County, California (Figure 1). Two small land parcels originally considered for placement of new turbines have been removed from the Project as of July 2020, reducing the Project area by approximately 35 hectares (86 acres). The proposed turbines will sit on towers that are approximately 91.5 meters (m; 300 feet [ft]) tall, with rotor blades approximately 57.2 m (188 ft) in length, for a maximum height of approximately 148.7 m (488 ft) from turbine base to fully extended blade tip.

The Project is near the northwestern extent of the Coachella Valley, which extends for approximately 72 km (45 mi) southeast from the San Bernardino Mountains to the Salton Sea. The Coachella Valley is surrounded on the southwest by the Santa Rosa and San Jacinto mountain ranges, and the Little San Bernardino Mountains on the northeast. The Valley's northwest entrance from the Inland Empire along Interstate 10 is known as the San Geronio Pass and is one of the windiest places in California. The region is an ideal place for wind-generated electricity, and the area adjacent to the Project contains many other wind energy projects.

The Project area includes vegetation components of both the Mojave and Sonoran Deserts, including desert scrub communities dominated by creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), and indigo bush (*Psoralea argophylla*). The region experiences very hot summers, mild winters, frequent gusty winds, and annual rainfall averaging less than 25 centimeters (10 inches) per year, occurring mostly in the winter. Daily high temperatures typically exceed 38 degrees Celsius (100 degrees Fahrenheit) for four months each year. Predominate winds are from the west with occasional easterly winds. There are occasional, intermittent surface waters within the Project, and topography is flat with an elevation of approximately 134 m (440 ft) above mean sea level.

METHODS

Fixed-Point Bird Use Surveys

The USFWS describes survey guidelines for bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) in the ECPG (USFWS 2013) and codified some of those guidelines into survey standards in the 2016 Eagle Rule (USFWS 2016; 50 Code of Federal Regulations Parts 13 and 22, 1974). The standards specify the protocols for station establishment, level of survey effort, and data collection related to bald and golden eagles. These standards were used to structure the survey design and sampling effort, to the extent possible, for all large bird surveys during which eagle use data were collected. Two types of bird use surveys were conducted to maximize the detectability of focal species: 10-minute (min) duration small bird surveys and 60-min duration large bird surveys. Surveys were conducted by a single observer to minimize the potential for double counting individuals.

Small Bird Use Surveys

The objective of the small bird use surveys was to collect data on species occurrence and the spatial and temporal patterns of avian use with a particular focus on passerines and other small birds. However, if large birds of interest (e.g., state or federally listed species, eagles, or otherwise sensitive species) were observed, they were recorded and included as incidental observations.

Small bird use surveys were conducted approximately weekly from 15 survey points (Figure 2), with each point centered in a 100-m (328 ft) radius survey plot. All auditory and visual bird observations within the 100-m circular plot were recorded during a 10-min sample period. For each observation, data recorded included:

- species or closest species group (e.g., unidentified passerine)
- sex
- age
- number of individuals
- distance (m)
- behavior
- flight height above ground level (AGL; maximum, minimum)
- flight direction
- habitat

Large Bird Use Surveys

The objective of large bird use surveys was to collect data on species occurrence and the spatial and temporal patterns of large bird use, with a particular focus on eagles. Large bird use surveys were conducted approximately weekly from four survey points (Figure 2), with each point centered in an 800-m (0.5 mi) radius survey plot. Two points were established in the larger parcel within the Project area and one point each in the two smaller parcels, both of which were later dropped from the Project area (Figure 2). Points were positioned such that adjacent 800-m radius survey plots had minimal overlap and covered a majority of potential turbine locations.

All auditory and visual observations of large birds within the 800-m circular survey plot were recorded during a 60-min sample period. Data collected for each observation was similar to that collected for small birds (see small bird use surveys above). Additional data, consistent with the ECPG and Eagle Rule, was recorded during all eagle observations, including the total number of minutes an eagle was observed within the 800-m survey plot and whether the eagle was flying above or below 200-m AGL, or perched. Flight paths of all raptor, vulture, and waterfowl/waterbird observations were also delineated on datasheets using a topographic inset map, and later digitized into a Geographic Information System (GIS).

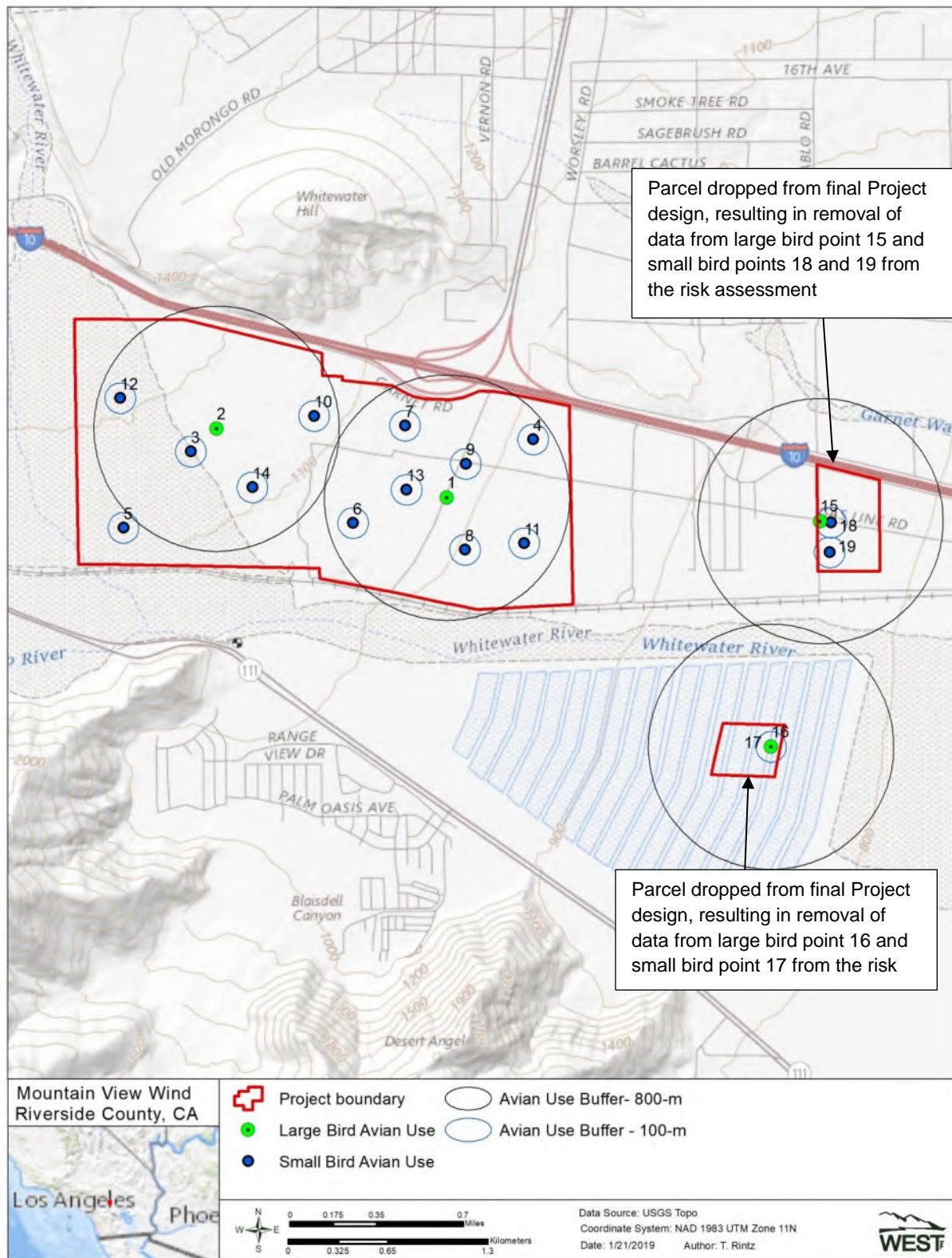


Figure 2. Avian fixed-point survey locations for large and small bird use surveys at the Mountain View Power Partners Wind Project, Riverside County, California. Parcels containing points 15,16,17, 18, and 19 were removed from the final Project layout.

Survey Schedule

The survey schedule was designed to document bird use and behavior across seasons within the Project area. Surveys began in October 2017 and were conducted in all seasons, with seasons defined as summer (June 1 – August 30), fall (August 31 – November 30), winter (December 1 – March 1), and spring (March 2 – May 31). Large and small bird points were surveyed weekly during all seasons. Surveys were conducted during daylight hours and each point was surveyed the same number of times.

Quality Assurance and Quality Control

Quality assurance and quality control (QA/QC) measures were implemented at all stages of the study, including in the field, during data entry and analysis, and report writing. Following surveys, observers were responsible for inspecting data forms for completeness, accuracy, and legibility. Potentially erroneous data were identified using a series of database queries. Irregular codes or data suspected as being questionable were discussed with the observer and/or project manager. Errors, omissions, or problems identified in later stages of analysis were traced back to the raw data forms, and appropriate changes in all steps were made.

Data Compilation and Storage

A Microsoft® Structured Query Language Server database was used to store, organize, and retrieve survey data. Data were keyed into the database using a pre-defined protocol to facilitate subsequent QA/QC and data analysis. All data forms and electronic data files were retained for reference.

Statistical Analyses

Bird Diversity and Species Richness

An index to bird diversity was illustrated by the total number of unique species observed. Species lists (with the number of observations and the number of groups) were generated by season and included all observations of birds detected within the survey plot. In some cases, the tally may represent repeated sightings of the same individual during separate visits. For example, a sum of 10 observations of prairie falcon (*Falco mexicanus*) may be 50 unique birds, or it may be one bird observed on 10 separate visits, or something in between. Species richness by season was calculated by averaging the total number of species observed within each plot during a visit, then averaging across plots within each visit, followed by averaging across visits within the season. Overall species richness was calculated as an average of seasonal values weighted by the number of days in each season. Species diversity and richness were compared among seasons for fixed-point bird use surveys.

Bird Use, Percent of Use and Frequency of Occurrence

For generating standardized fixed-point bird use estimates, small birds recorded within a 100-m survey radius at any time during 10-min surveys and large birds recorded within the 800-m radius plot at any time during 60-min surveys were used in the analysis. The metric used to measure

mean bird use was the number of birds per plot per survey. These standardized estimates of mean bird use were used to compare differences between bird types and seasons. Mean use by season was calculated by summing the total number of birds seen within each plot during a visit, then averaging across plots within each visit, followed by averaging across visits within the season. Overall mean use was calculated as an average of seasonal values weighted by the number of days in each season.

Bird Flight Height and Behavior

Bird flight heights are important metrics to assess potential risk exposure. Flight height information was used to calculate the percentage of birds observed flying within the rotor-swept height (RSH) for turbines likely to be used at the Project. This analysis was conducted for large bird use surveys only. A RSH for potential collision with a turbine blade of 37-173 m (121-567) ft AGL was used for the purposes of the analysis. The flight height recorded during the initial observation was used to calculate the percentage of birds flying within the RSH and mean flight height. The percentage of birds flying within the RSH at any time was calculated using the lowest and highest flight heights recorded.

Spatial Use

Flight paths from large bird use surveys were used to identify patterns of spatial use that could indicate potential areas of increased risk of turbine collision during the operation of the Project. Flight paths delineated in the field, and digitized using GIS, were compared to the underlying topography and vegetation to look for patterns in spatial use. In addition, patterns of spatial use were compared across seasons to determine whether patterns of spatial use coincided with specific time periods or seasons.

Eagle Collision Risk

Eagle observations recorded during surveys were examined to count eagle risk (i.e., exposure) minutes, defined as the number of minutes an eagle was observed in flight within the risk cylinder (i.e., the area within 800 m of the survey point and 200 m (656 ft) or less AGL during the 60-min survey periods), and total eagle minutes, defined as the amount of time eagles were observed inside and outside the risk cylinder. The eagle risk minutes per observation hour were reported by survey plot and season to enable spatial and temporal assessments of eagle risk minutes recorded in the Project area. Data collected for perched eagles and those outside of survey plots were not considered eagle risk minutes; however, they were considered in the total eagle minutes. The flight paths of all eagles were mapped to qualitatively assess areas of eagle use within the Project area.

Eagle risk also was assessed using the USFWS Bayesian collision risk model (CRM; USFWS 2013). The CRM was used to calculate take predictions using the priors-only model, as well as the site-specific eagle use data collected between October 2017 and October 2018. The use of site-specific eagle use data collected in 2017-2018 does not adhere with the prerequisite that use data be collected pre-construction (i.e., prior to wind turbines being installed and operational; USFWS 2013; 2016); as turbines already exist within the Project area and no pre-construction eagle use data was collected prior to the existing Project's installation. However, both scenarios

are presented for consideration of a range of potential impacts resulting from the CRM, depending on the data inputs.

Incidental Observations

Incidental wildlife observations provide records of wildlife seen outside of standardized surveys. All listed or sensitive species, unusual or unique birds, mammals, reptiles, or amphibians were recorded in a similar fashion to standardized surveys. The date, species, number of individuals, behavior, and height above ground (for bird species) were recorded.

RESULTS

Fixed-Point Bird Use Surveys

Fifty-one visits totaling 727 small bird surveys and 202 large bird surveys were conducted at the Project from October 26, 2017 – October 31, 2018 (Tables 1a and 1b). The results of small and large bird use surveys are presented below for two analysis scenarios: 1) the inclusion of data from all points surveyed in the original Project area, and 2) using only those data collected at points in the final Project area (i.e., the exclusion of small bird survey points 17-19 and large bird survey points 15 and 16). Data summaries presented in Appendices A and B represent only those data collected in the final Project area, whereas data from the full dataset can be found in Appendices A and B of the original report (Rintz et. al. 2019).

Bird Diversity and Species Richness

Thirty-one unique small bird species were observed during small bird use surveys, with the greatest number of species observed in spring (19 species) and the fewest in summer (six species; Table 1a). Small bird species richness (species/100-m plot/10-min survey) was similar during fall, winter, and spring (0.24-0.28) and lower in the summer (0.06; Table 1a). The exclusion of data from small bird points 17-19 (i.e., the three small bird point located in the two parcels dropped from the Project area) did not substantially change estimates of bird diversity or species richness measured during the study period (Table 1a).

Table 1a. Summary of species richness (species/100-meter plot/10-minute survey), and sample size by season and overall during the fixed-point small bird use surveys at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018. Overall values provided with and without small bird points 17-19, which were located in the parcels dropped from the Project area.

Season	Number of Visits	# Surveys Conducted	# Unique Species	Species Richness
				Small Birds
Spring	12	171	19	0.28
Summer	12	170	6	0.06
Fall	14	199	16	0.24
Winter	13	187	10	0.28
Overall (all points)	51	727	31	0.21
Overall (without points 17-19)	51	612	28	0.21

Twenty-eight unique large bird species were observed within 800-m radius plots during the large bird use surveys, with the greatest number of species recorded in fall (22 species) and fewest in summer (eight species; Table 1b). Large bird species richness (species/800-m plot/60-min survey) was highest in winter (1.29) and lowest in summer (0.29; Table 1b). The exclusion of data from large bird points 15 and 16 (i.e., the large bird points located in the parcels dropped from the Project area) had a substantial impact on large bird diversity and species richness measured during the study period, decreasing the number of unique species observed from 28 to 13 and large bird species richness from 0.93 to 0.58 species/800-m plot/60-min survey (Table 1b).

Table 1b. Summary of species richness (species/800-meter plot/60-minute survey), and sample size by season and overall during the fixed-point large bird use surveys at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018. Seasonal estimates provided with and without large bird points 15 and 16, which were located in the parcels dropped from the Project area.

Season	Number of Visits	# Surveys Conducted	# Unique Species	Species Richness Large Birds
All Points				
Spring	12	48	13	1.02
Summer	12	48	8	0.29
Fall	14	54	22	1.11
Winter	13	52	13	1.29
Overall	51	202	28	0.93
Points 15 and 16 Excluded				
Spring	12	24	8	0.79
Summer	12	24	0	0
Fall	14	28	4	0.36
Winter	13	26	10	1.19
Overall	51	102	13	0.58

Bird Use, Percent of Use, and Frequency of Occurrence

Small bird surveys conducted at all 15 small bird survey points resulted in 272 small bird observations recorded within 172 separate groups (Rintz et al 2019), compared to 237 observations within 145 groups when data from small bird points 17-19 were excluded (Appendix A1). Among the full dataset, four species accounted for 60% of all small bird observations: tree swallow (*Tachycineta bicolor*; 28 observations), loggerhead shrike (*Lanius ludovicianus*; 31 observations), sage thrasher (*Oreoscoptes montanus*; 46 observations), and rock wren (*Salpinctes obsoletus*; 58 observations; Rintz et al. 2019). Small bird use was lowest in the summer (0.09 birds/100-m plot/10-min) and ranged between 0.32–0.63 birds/100-m plot/10-min survey in the other seasons (Table 2a). Rock wren and yellow-rumped warbler (*Setophaga coronata*) accounted for about 50% of small bird use in the fall, while rock wren and sage thrasher accounted for about 70% of small bird use in the winter, and horned lark (*Eremophila alpestris*) and greater roadrunner (*Geococcyx californianus*) accounted for about 50% of use in the summer (Rintz et al. 2019). Small bird use in spring was more evenly distributed among species, with tree swallow and sage thrasher accounting for about 44% of small bird use (Rintz et al. 2019). The

exclusion of small bird points 17-19 did not substantially alter seasonal or overall small bird use estimates (Table 2a; Appendix B1).

Large bird surveys conducted at all four large bird survey points resulted in 2,266 large bird observations recorded within 271 separate groups (Rintz et al. 2019), compared to 290 observations in 76 groups when data from large bird points 15 and 16 were excluded (Appendix A2; Table 1b). For the full dataset, five species accounted for 92% of all observations. American coot (*Fulica americana*) accounted for 46% of all large bird observations, while four other species: California gull (*Larus californicus*), common raven (*Corvus corax*), unidentified gull, and unidentified duck accounted for an additional 46% combined (Rintz et al. 2019). Large bird use was highest in fall (27.25 birds/800-m plot/60-min survey), followed by winter (6.27), spring (6.25), and summer (1.23; Table 2b). Gulls/terns and rails/coots accounted for a majority of the large bird use documented during surveys, with rails/coots accounting for 68.8% of large bird use in fall, and gulls/terns accounting for 40.2%, 64.0%, and 64.4% of large bird use in winter, spring, and summer, respectively (Table 2b). Corvids also contributed significantly to the overall large bird use, ranging from 23.3 – 33.4% in winter, spring, and summer, respectively (Table 2b).

The exclusion of data from large bird points 15 and 16 had a substantial impact on large bird use estimates. This was most apparent in the fall and summer, when large bird use decreased by more than 95%, from 27.25 to 0.79 birds/800-m plot/60-min survey (Table 2b). Large bird use during the summer decreased from 1.23 to zero birds/800-m plot/60-min survey, although use during the summer was low with or without data from large bird points 15 and 16. Reductions in large bird use were also noted in winter and spring, although reductions were not as great. With the removal of large bird points 15 and 16 from the dataset, winter (rather than fall) was the season with the greatest large bird use, with the majority of that use being gulls/terns, waterfowl, and large corvids (Table 2b). It's noteworthy that with the removal of points 15 and 16 there were no observations of large birds during summer surveys (Table 2b; Appendix A2).

Table 2a. Mean use (number of birds/plot^a/10-minute survey), percent of total use (%), and frequency of occurrence (%) for each bird type by season during the fixed-point small bird use surveys at the Mountain View Power Partners Wind Project during fixed-point bird use surveys from October 26, 2017 – October 31, 2018. Overall values provided with and without small bird points 17-19, which were located in the parcels dropped from the Project area.

Bird Type	Mean Use				% of Use				% Frequency			
	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer
Cuckoos	<0.01	<0.01	0	0.02	3.0	1.2	0	19.9	1.0	0.5	0	1.7
Passerines	0.31	0.42	0.63	0.06	95.6	94.0	100	66.2	21.2	24.0	20.9	3.5
Swifts/Hummingbirds	<0.01	0.02	0	0.01	1.5	4.7	0	13.9	0.5	2.1	0	0.6
Small Birds Overall (all points)	0.32	0.45	0.63	0.09	100	100	100	100				
Small Birds Overall (without points 17-19)	0.28	0.46	0.73	0.10	100	100	100	100				

^a 100-meter (m) radius plot for small birds.

Table 2b. Mean use (number of birds/plot^a/60-minute survey), percent of total use (%), and frequency of occurrence (%) for each large bird type and raptor subtype by season during the fixed-point large bird use surveys at the Mountain View Power Partners Wind Project during fixed-point bird use surveys from October 26, 2017 – October 31, 2018. Values provided with and without large bird points 15 and 16, which were located in the parcels dropped from the Project area.

Type/Species	Mean Use				% of Use				% Frequency			
	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer
All Points												
Loons/Grebes	0.12	0	0	0	0.5	0	0	0	5.4	0	0	0
Waterbirds	0.25	0.08	0.17	0.04	0.9	1.2	2.7	3.4	8.9	7.7	4.2	4.2
Waterfowl	3.29	1.08	0.29	0	12.1	17.2	4.7	0	7.1	7.7	6.2	0
Gulls/Terns	2.05	2.52	4.00	0.79	7.5	40.2	64.0	64.4	17.9	9.6	10.4	2.1
Rails/Coots	18.75	0	0	0	68.8	0	0	0	5.4	0	0	0
Diurnal Raptors	0.21	0.50	0.33	0.08	0.8	8.0	5.3	6.8	19.6	40.4	25.0	6.2
<i>Accipiters</i>	0	0.04	0.02	0	0	0.6	0.3	0	0	3.8	2.1	0
<i>Buteos</i>	0.02	0.23	0.12	0.02	<0.1	3.7	2.0	1.7	1.8	19.2	12.5	2.1
<i>Northern Harrier</i>	0.02	0	0	0	<0.1	0	0	0	1.8	0	0	0
<i>Eagles</i>	0.04	0.02	0.04	0	0.1	0.3	0.7	0	3.6	1.9	4.2	0
<i>Falcons</i>	0.14	0.19	0.15	0.06	0.5	3.1	2.3	5.1	12.5	19.2	12.5	6.2
<i>Osprey</i>	0	0.02	0	0	0	0.3	0	0	0	1.9	0	0
Large Corvids	2.57	2.10	1.46	0.31	9.4	33.4	23.3	25.4	30.4	55.8	47.9	12.5
Large Birds Overall	27.25	6.27	6.25	1.23	100	100	100	100				
Points 15 and 16 Excluded												
Waterbirds	0	0.04	0.21	0	0	0.6	8.9	-	0	3.8	4.2	0
Waterfowl	0	1.62	0	0	0	26.6	0	-	0	3.8	0	0
Gulls/Terns	0	2.46	0.88	0	0	40.5	37.5	-	0	11.5	4.2	0
Diurnal Raptors	0.21	0.42	0.25	0	27.3	7.0	10.7	-	17.9	34.6	25.0	0
<i>Accipiters</i>	0	0.04	0.04	0	0	0.6	1.8	-	0	3.8	4.2	0
<i>Buteos</i>	0	0.23	0.17	0	0	3.8	7.1	-	0	19.2	16.7	0
<i>Eagles</i>	0.04	0	0	0	4.5	0	0	-	3.6	0	0	0
<i>Falcons</i>	0.18	0.12	0.04	0	22.7	1.9	1.8	-	14.3	11.5	4.2	0
<i>Osprey</i>	0	0.04	0	0	0	0.6	0	-	0	3.8	0	0
Large Corvids	0.57	1.54	1.00	0	72.7	25.3	42.9	-	17.9	57.7	41.7	0
Large Birds Overall	0.79	6.08	2.33	0	100	100	100	-				

^a 800-meter (m) radius plot for large birds.

Based on data from all four large bird survey points, diurnal raptor use varied throughout the seasons, from a high of 0.50 raptor/800-m plot/60-min survey in winter to a low of 0.08 in summer (Table 2b). Red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*) were the only raptor species observed in every season (Appendix B2). Red-tailed hawk had the highest mean use of all diurnal raptors (0.23 raptor/800-m plot/60-minute survey).

Two golden eagles were observed during large bird use surveys, both of which were immature birds, and both were observed in the fall. The first was observed on September 27, 2018 from Point 1, and the other on October 10, 2018 from Point 16. Three bald eagles were observed during large bird surveys, all of which occurred in late winter through spring at Point 16: 1) an adult bald eagle observed on February 21, 2018, flying over the recharge ponds for three minutes at heights ranging from 5-40 m AGL; 2) an immature bald eagle observed for 10 minutes hunting and capturing an American coot on March 15, 2018; and 3) an immature bald eagle observed perching on the ground and flying 5-15 m AGL for five minutes on April 10, 2018.

Exclusion of observations from large bird points 15 and 16 did not substantially influence diurnal raptor use in general (see Tables 2a and 2b) but did substantially reduce the number of eagle observations and associated eagle risk minutes (see Eagle Collision Risk section below). Four of the five eagles observed during surveys (three bald eagles and one golden eagle) were recorded from Point 16; therefore, removal of the observations recorded from points 15 and 16 left only one eagle observation recorded within the final Project area.

Bird Flight Height and Behavior

Flight height characteristics, based on initial flight height observations and estimated use, were estimated for large bird groups observed flying (Table 3a). During large bird use surveys at all four large bird survey points, 224 groups were observed flying within the 800-m plots, totaling 1,121 observations. Overall, 26.2% of large birds were recorded flying within the RSH, 60% were below the RSH, and 13.7% were flying above the RSH (Table 3a). Large corvids was the large bird type most often observed flying with the RSH (34.1%), followed by diurnal raptors (27.8%; Table 3a). Among diurnal raptors, buteos and falcons were most often observed flying within the RSH (45.5% and 29.4%, respectively; Table 4a).

With the removal of the large bird use data from points 15 and 16, there was a substantial change in large bird observations and flight behaviors contributing to Project risk (Table 3b). Exclusion of data from points 15 and 16 (16 in particular) decreased, by approximately 80%, the number of large birds observed in flight, especially among the waterbirds, waterfowl, and gulls/terns (Tables 3a and 3b). However, while there was a large reduction in the number of birds observed in flight, a higher percentage of those remaining were observed within the RSH (59.3% compared to 26.2%; Tables 3a and 3b).

Table 3a. Flight height characteristics by bird type^a and raptor subtype during fixed-point bird use surveys at the Mountain View Power Partners Wind Project during fixed-point bird use surveys from October 26, 2017 – October 31, 2018. Data from all large bird survey points.

Bird Type	# Groups Flying	# Obs. Flying	Mean Flight Height (m)	% Obs. Flying	% within Flight height Categories		
					< 37 m	37-173 m ^b	> 173 m
Waterbirds	15	26	39.20	92.9	73.1	11.5	15.4
Waterfowl	13	252	16.92	99.2	82.9	17.1	0
Gulls/Terns	34	476	56.24	100	44.3	26.3	29.4
Diurnal Raptors	35	36	68.29	62.1	58.3	27.8	13.9
<i>Accipiters</i>	1	1	20.00	33.3	100	0	0
<i>Buteos</i>	10	11	105.50	55.0	36.4	45.5	18.2
<i>Northern Harrier</i>	1	1	1.00	100	100	0	0
<i>Eagles</i>	5	5	52.60	100	80.0	0	20.0
<i>Falcons</i>	17	17	38.29	60.7	64.7	29.4	5.9
<i>Osprey</i>	1	1	400.00	100	0	0	100
Large Corvids	127	331	25.19	97.9	64.4	34.1	1.5
Large Birds Overall	224	1,121	37.09	50.7	60.0	26.2	13.7

^a 800-meter (m) radius plot for large birds.

^b The likely “rotor-swept height” for potential collision with a turbine blade, or 37-173 meters (m) above ground level

Table 3b. Flight height characteristics by bird type^a and raptor subtype during fixed-point bird use surveys at the Mountain View Power Partners Wind Project during fixed-point bird use surveys from October 26, 2017 – October 31, 2018. Data excluded from large bird points 15 and 16, located in the parcels dropped from the Project area.

Bird Type	# Groups Flying	# Obs. Flying	Mean Flight Height (m)	% Obs. Flying	% within Flight height Categories		
					< 37 m	37-173 m ^b	> 173 m
Waterbirds	3	6	100	133	0	33.3	66.7
Waterfowl	1	42	100	60	0	100	0
Gulls/Terns	6	85	100	137	0	63.5	36.5
Diurnal Raptors	14	15	65.2	120	26.7	46.7	26.7
<i>Accipiters</i>	1	1	50.0	20	100	0	0
<i>Buteos</i>	5	6	60.0	112	16.7	66.7	16.7
<i>Eagles</i>	1	1	100	200	0	0	100
<i>Falcons</i>	6	6	66.7	83	33.3	50.0	16.7
<i>Osprey</i>	1	1	100	400	0	0	100
Large Corvids	43	78	97.5	34	59.0	37.2	3.8
Large Birds Overall	67	226	95.8	66	22.1	59.3	18.6

^a 800-meter (m) radius plot for large birds.

^b The likely “rotor-swept height” for potential collision with a turbine blade, or 37-173 meters (m) above ground level

Spatial Use

Small bird use varied from 0.06 to 1.63 birds/100-m plot/10-min survey, with the highest use occurring at Point 5 (Figure 3; Appendix C1). Point 5 is located on the western edge of the Project and no features were readily apparent that might differentiate Point 5 from the other points and account for the relatively higher small bird use at this location. Small bird use at points 17-19 was

moderate relative to other points; therefore the exclusion of data from points 17-19 did not substantially influence small bird spatial use patterns within the Project area (Figure 3).

Large bird use was highly concentrated at Point 16 in the recharge ponds, with approximately 85% of all large bird observations recorded from this survey point. Point 16 had a large bird use estimate of 38.46 observations/800-m plot/60-min survey, while large bird use at the two points within the final Project area (points 1 and 2) was much lower (1.8 and 2.82 observations/800-m plot/60-min survey, respectively; Figure 4). Large bird use at Point 15 was the lowest of all four large bird points (Figure 4). A majority of all large bird use at Point 16 consisted of water-associated species (i.e., rails, coots, gulls, terns, waterfowl; Figure 4, Appendix C2, Appendix D1). While diurnal raptor use was variable among the four large bird survey points, higher use by diurnal raptors was also documented over the recharge ponds near Point 16, including one golden eagle and all three bald eagle observations (Appendix C2, Appendix D2, Appendix D3). As a result, the exclusion of data from Point 16 substantially decreased the overall large bird use associated with the final Project area and eliminated this area of concentrated use documented near the recharge ponds. Exclusion of data from Point 15 had little effect on the survey results.

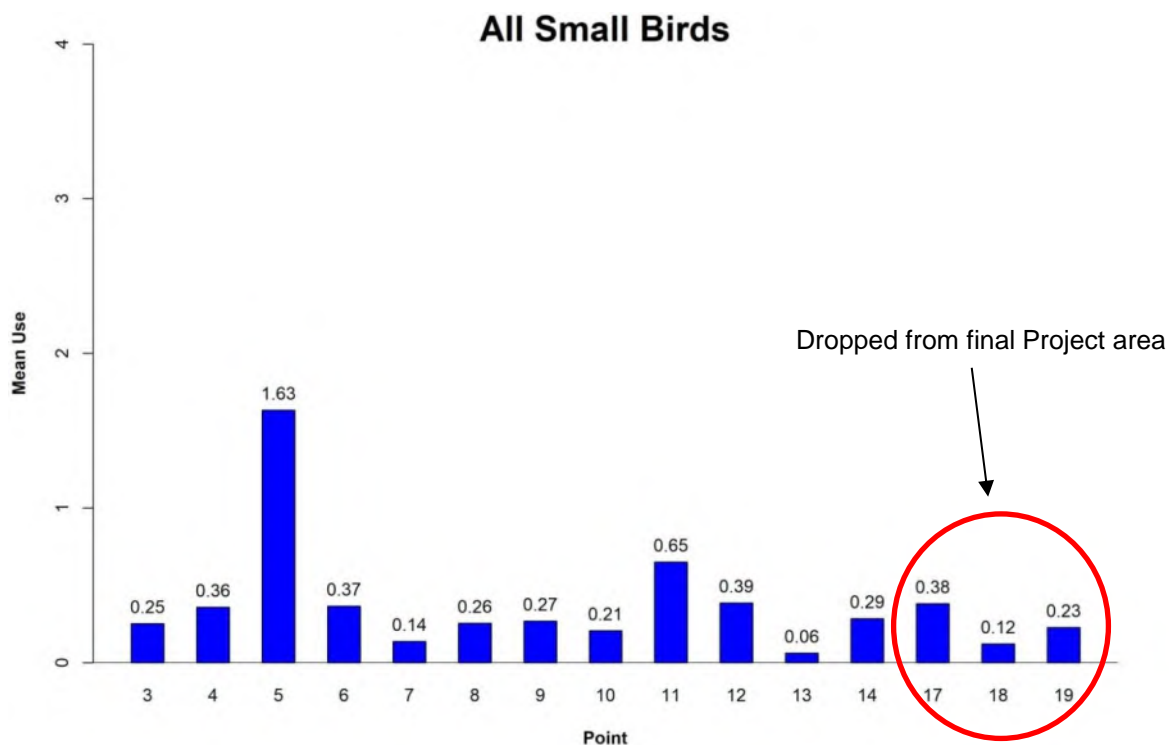


Figure 3. Mean small bird use by observation point during fixed-point bird use surveys at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018.

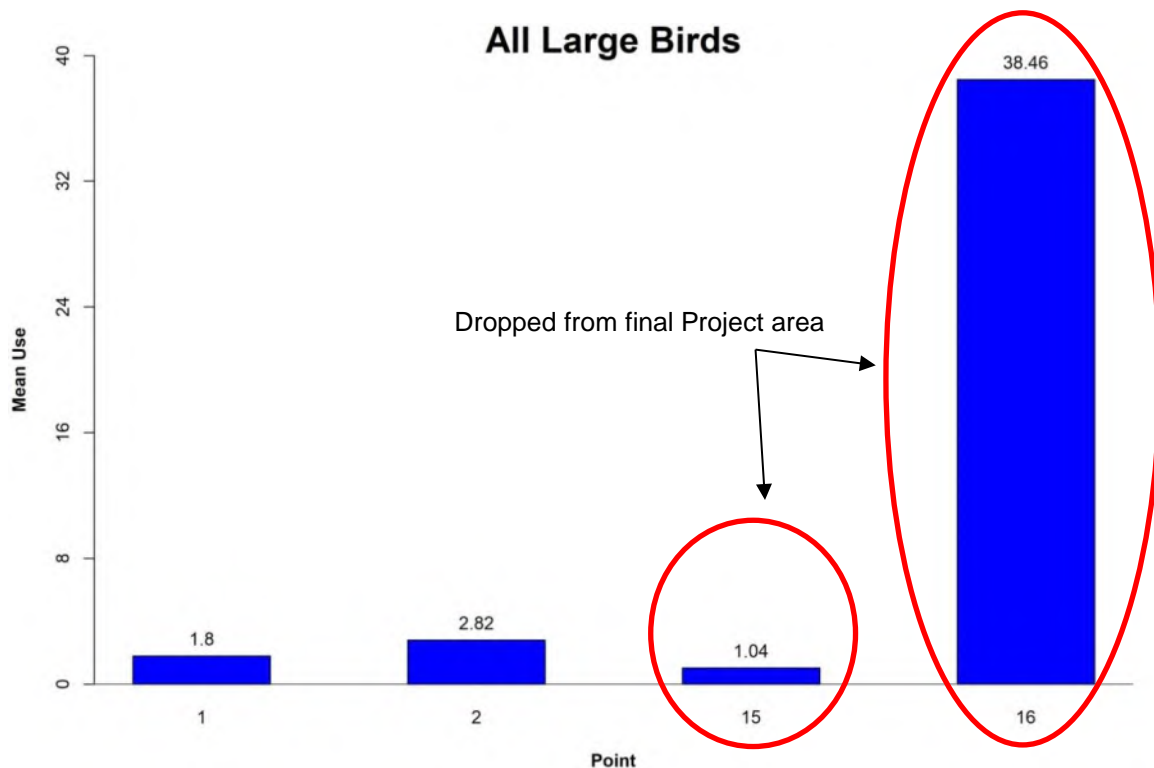


Figure 4. Mean large bird use by observation point during fixed-point bird use surveys at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018.

Eagle Collision Risk

The first of two golden eagles observed during surveys was observed on September 27, 2018, flying at 200 m AGL for one minute within the outer portion of the 800-m survey plot of Point 1. The second was observed on October 10, 2018, flying at eight m AGL for three min over the recharge ponds 500-800 m southwest of Point 16 (Table 4a). Exclusion of observations from large bird points 15 and 16 substantially reduced the eagle-specific risk minutes observed for both bald and golden eagles (Tables 4a and 4b). Four of the five eagles observed during surveys (three bald eagles and one golden eagle) were recorded from Point 16; therefore, removal of the observations recorded from points 15 and 16 left only one eagle observation recorded within the final Project area (Table 4b). The one remaining observation was the golden eagle observed from Point 1, which resulted in only one eagle risk minute compared to the 22 (18 bald eagle and four golden eagle) risk minutes observed when data from points 15 and 16 were included in the dataset (Tables 4a and 4b).

Table 4a. Eagle observations at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018. Data from all four large bird survey points.

	Spring	Summer	Fall	Winter	Total
Survey Effort (hrs)	48	48	54	52	202
Bald Eagle					
Observations	2	0	0	1	3
Risk Minutes(≤800 m and ≤200 m AGL)	15	0	0	3	18
Risk Minutes/ Survey Hour	0.3125	0	0	0.0577	0.0891
Golden Eagle					
Observations	0	0	2	0	2
Risk Minutes(≤800 m and ≤200 m AGL)	0	0	4	0	4
Risk Minutes/ Survey Hour	0	0	0.0741	0	0.0198

hrs = hours, m = meters, AGL = above ground level

Table 4b. Eagle observations at the Mountain View Power Partners Wind Project from October 26, 2017 – October 31, 2018. Data excluded from large bird points 15 and 16, located in the parcels dropped from the Project area.

	Spring	Summer	Fall	Winter	Total
Survey Effort (hrs)	24	24	28	26	102
Bald Eagle					
Observations	0	0	0	0	0
Risk Minutes(≤800 m and ≤200 m AGL)	0	0	0	0	0
Risk Minutes/ Survey Hour	0	0	0	0	0
Golden Eagle					
Observations	0	0	1	0	1
Risk Minutes(≤800 m and ≤200 m AGL)	0	0	1	0	1
Risk Minutes/ Survey Hour	0	0	0.0357	0	0.0098

hrs = hours, m = meters, AGL = above ground level

Although eagle use data were collected in the presence of operational turbines, which is inconsistent with the survey guidance presented in the 2016 Eagle Rule (USFWS 2016), the golden eagle data were used in the USFWS Bayesian CRM to predict eagle risk at the existing and proposed repowered Projects (Appendix E). Using the one minute of eagle risk collected during the 102 hours of surveys conducted within the final Project area, the CRM results in approximately two golden eagle fatalities every 30 years for the existing Project, as well as the repowered Project (Appendix E). The results are similar for the existing and repowered Projects because the rotor swept areas and resulting hazardous volume for both are similar, varying by only 3.7% (Appendix E).

Incidental Observations

Thirteen bird species were recorded as incidental observations during the study, including one golden eagle (Table 5). Only two species, Eurasian collared- dove (*Streptopelia decaocto*) and mourning dove (*Zenaida macroura*), were observed only incidentally; all other species were also observed while conducting standardized avian use surveys. Because incidental observations are by definition those observed outside of formal surveys, the revised dataset excluding large bird

points 15 and 16 and small bird points 17-19 did not influence the number of incidental observations reported.

Table 5. Number of groups (grps) and observations (obs) of species incidentally observed outside of the standardized fixed-point use surveys at the Mountain View Power Partners Power Partners Wind Project from October 26, 2017 – October 31, 2018.

Species	Scientific Name	# grps	# obs
American white pelican	<i>Pelecanus erythrorhynchos</i>	2	261
double-crested cormorant	<i>Phalacrocorax auritus</i>	1	1
California gull	<i>Larus californicus</i>	8	308
red-tailed hawk	<i>Buteo jamaicensis</i>	1	1
golden eagle	<i>Aquila chrysaetos</i>	1	1
prairie falcon	<i>Falco mexicanus</i>	1	1
peregrine falcon	<i>Falco peregrinus</i>	1	1
American kestrel	<i>Falco sparverius</i>	4	4
burrowing owl	<i>Athene cunicularia</i>	2	2
Eurasian collared-dove	<i>Streptopelia decaocto</i>	1	1
mourning dove	<i>Zenaida macroura</i>	2	2
common raven	<i>Corvus corax</i>	33	49
rock wren	<i>Salpinctes obsoletus</i>	2	2
Total	13 species	60	635

Sensitive Species Observations

Three bird species listed as state threatened, endangered, or fully protected were recorded during surveys or incidentally at the Project: bald eagle (state endangered), Swainson's hawk (*Buteo swainsoni*; state threatened), and golden eagle (state fully protected; CDFW 2018; Table 6). Bald eagles and golden eagles are further protected under the Bald and Golden Eagle Protection Act (1940). Additionally, four species considered California species of special concern were recorded during the study: burrowing owl (*Athene cunicularia*), northern harrier (*Circus cyaneus*), American white pelican (*Pelecanus erythrorhynchos*), and loggerhead shrike (CDFW 2018; Table 6). Several of these observations (three bald eagles, one golden eagle, one northern harrier, five American white pelicans, and four loggerhead shrikes) were recorded during surveys at points located in the recharge ponds, which have been removed from the final Project area. An additional seven observations of loggerhead shrike were at recorded at small bird points 18 and 19, both of which were also located on a parcel removed from the final Project area. No federally threatened or endangered species were observed during the study.

Table 6. Summary of sensitive species observed at the Mountain View Power Partners Wind Project during the fixed-point (FP) bird use surveys and as incidental wildlife observations (Inc.) from October 26, 2017 – October 31, 2018.

Species	Scientific Name	Status	FP		Inc.		Total	
			# grps	# obs	# grps	# obs	# grps	# obs
golden eagle	<i>Aquila chrysaetos</i>	FP	2 ^a	2	1	1	3 ^a	3
burrowing owl	<i>Athene cunicularia</i>	SSC	0	0	2	2	2	2
Swainson's hawk	<i>Buteo swainsoni</i>	ST	1	1	0	0	1	1
northern harrier	<i>Circus cyaneus</i>	SSC	1 ^a	1	0	0	1 ^a	1 ^a
bald eagle	<i>Haliaeetus leucocephalus</i>	SE	3	3	0	0	3	3
American white pelican	<i>Pelecanus erythrorhynchos</i>	SSC	1 ^a	5	2	261	3 ^a	266
Large Birds Overall 6 species			8	12	5	264	13	276
loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	31 ^b	31	0	0	31 ^b	31
Small Birds Overall 1 species			31	31	0	0	31	31

SE=State Endangered; ST=State Threatened; FP=State Fully Protected; SSC=California Species of Special Concern

^a includes 1 group observed during surveys at large bird Point 16.^b includes 4 groups observed at small bird Point 17

DISCUSSION

Bird species observed in the Project area during the study were typical of those commonly found in similar habitat types within this region of California. Bird use was highest for species common and widespread in the region, and the bird community observed coincided with the assemblage expected based on habitats present within the Project area. For example, the highest level of avian use was associated with recharge ponds near Point 16 and consisted primarily of water-associated species (i.e., waterbirds, waterfowl, gulls, and coots). American coot accounted for nearly half of the total large bird observations, and all of these were observed in the fall. The proportion of bird use represented by water-associated species indicates that the CVWD recharge ponds are attracting these species to the Project vicinity. While avian use was substantially higher in and around the recharge ponds, an area dropped from the final Project layout, avian use within the remaining portion of the Project was consistent with expectations, representing relatively common species in relatively low abundance (i.e., a majority of seasonal estimates less than one species/bird/survey). Modifications to the original Project area resulted in substantial reductions in large bird use relative to the final Project area, and assuming that bird use is positively related to risk, these modifications should result in reduced risk within the final Project area when compared to the original Project area. This reduction of risk would apply to water-associated avian species in general but also applies to other sensitive species, such as loggerhead shrike, for which 11 of 31 (35%) observations were recorded in areas dropped from the final Project.

Diurnal Raptors

Red-tailed hawk had the highest mean use of all diurnal raptors but accounted for only 1.7% of large bird use in spring and summer, 3.7% in winter, and less than 0.1% in fall, when large numbers of water-associated birds were present and accounted for a higher proportion of large bird use. Diurnal raptor use was highest during the winter periods when red-tailed hawk use

increased; however, use was still relatively low at about one observation recorded per every four hours of survey effort (Appendix B2). Regardless of the inclusion or exclusion of large bird points 15 and 16, red-tailed hawk was the most abundant raptor species observed during surveys.

To compare with other wind energy facilities in California that implemented similar protocols and had data for three or four seasons, but utilized shorter 20-30 minute surveys, annual mean raptor use at the Project was recalculated using data for the first 20 min of each 60-min survey. Using data from all large bird survey points, diurnal raptor use at the Project (0.28 raptors/800-m/20-min) fell near the middle of the range of raptor use estimates (0.06–2.34 raptors/800-m/20-min) at 12 other wind energy facilities in California; however, when data from large bird points 15 and 16 was removed, which are in the areas no longer being considered for repowering, diurnal raptor use dropped to 0.04 raptors/800-m/20-min and was at the lower end of raptor use reported at the 12 other wind energy sites in California (Figure 5). The Project's raptor use estimate was comparable to that reported for other facilities in southern California (e.g., North Sky River, AOCM, Tehachapi Pass, Alta East, San Gorgonio; Figure 5). Of these southern California projects, San Gorgonio is the only data from nearby (within the San Gorgonio Wind Resource Area near Palm Springs), while the others are all located in other wind resource areas 225 km (140 mi) or more to the north (e.g., Tehachapi and Altamont Wind Resource Areas). Southern California wind energy facilities have generally reported raptor fatality estimates of less than 0.2 diurnal raptors/megawatt/year (WEST 2019). At the Dillon Wind Energy Facility, located approximately 4.8 km (3.0 mi) north of the Project, no raptor fatalities were discovered during a year-long post-construction fatality monitoring study in 2008-2009 (Chatfield et al. 2009).

Bald and Golden Eagles

Three bald eagles were observed during large bird use surveys for a total of 18 eagle minutes. All three individuals were observed foraging over the recharge ponds near Point 16. Given the proximity of Point 16 to typical bald eagle foraging resources, and the lack of observations elsewhere within the Project, it is assumed that these observations were directly correlated with the presence of the recharge ponds and large numbers of prey resources (e.g., ducks and coots) that the recharge ponds attract. With the exclusion of the Project parcel located in the recharge ponds, all bald eagle observations recorded during the study were also excluded from the revised dataset. Assuming that bald eagle use is positively associated with risk, this modification to the final Project area should reduce the risk posed by the Project to bald eagles.

Two golden eagles were observed during large bird use surveys. One was observed flying in a straight line over the recharge ponds near Point 16 and resulted in three eagle minutes. The other was observed flying across the 800-m survey plot at Point 1 and resulted in one eagle risk minute. One additional golden eagle was incidentally observed along Highway 111 outside of the survey area. While the recharge ponds appear to be providing some attraction for bald eagles, the lower level of use by golden eagles suggests that the ponds are not as attractive to golden eagles. While golden eagle use was already considered to be relatively low, the removal of the parcel in the recharge ponds and the corresponding data from Point 16 further reduced golden eagle use estimates associated with the Project. Assuming that golden eagle use is positively associated

with risk, this modification to the final Project area should reduce the risk posed to golden eagles by the Project.

When used in the USFWS' Bayesian CRM, the one minute of golden eagle risk lowers the predicted take rate from approximately 2.5 golden eagles per year for the priors-only model to approximately two golden eagles over 30 years using the site-specific data (see Attachment A). However, use of the site-specific data collected at the Project may be deemed inappropriate for use in the CRM because it was collected in the presence of turbines. The other primary means of updating CRM results is to update the collision priors through incorporation of post-construction fatality data. If the eagle use data are deemed inappropriate for use in the CRM, the next opportunity to update the CRM and produce a take prediction that is based on site-specific data would be after the repowered project is operational and fatality monitoring data is available for incorporation into the CRM. Given the degree of variability between the priors-only model and that from site-specific eagle use data, it would be recommended that post-construction fatality monitoring data be collected and incorporated in the CRM to improve predictions of future impacts to golden eagles. Collection of such data could be part of an adaptive management approach for monitoring and responding to potential impacts of the repowered Project.

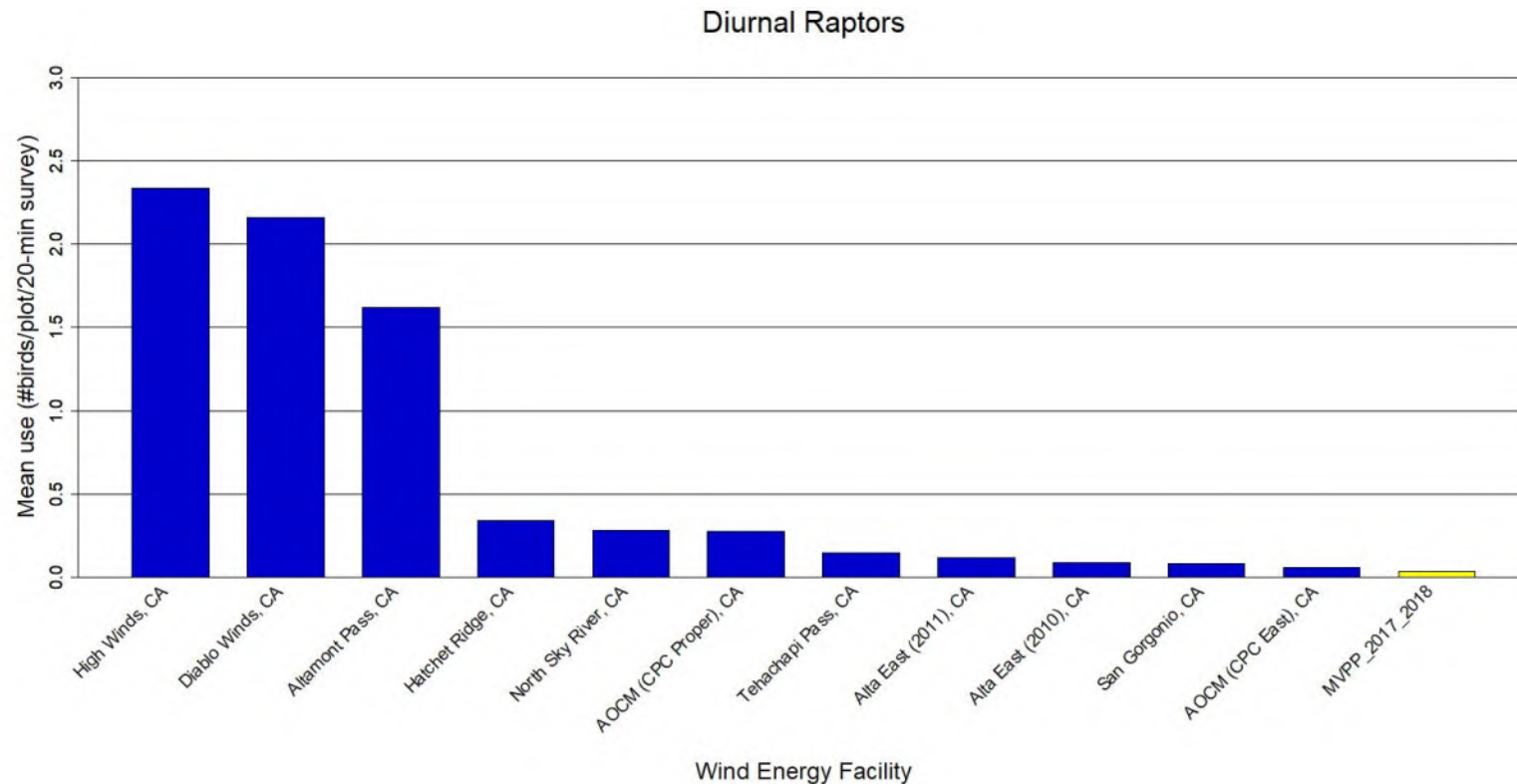


Figure 5. Comparison of estimated annual diurnal raptor use during fixed-point large bird use surveys at the Mountain View Power Partners Wind (MVPP) Project from October 26, 2017 – October 31, 2018 and diurnal raptor use at other California wind energy facilities with three or four seasons of raptor use data. Data are for the revised MVPP Project layout and exclude data from large bird survey points 15 and 16, which are not located in the final MVPP Project area.

Data from the following sources:

Study and Location	Reference	Study and Location	Reference	Study and Location	Reference
Mountain View Power Partners (MVPP), CA	This study				
High Winds, CA	Kerlinger et al. 2005	North Sky River, CA	Erickson et al. 2011	Alta East (2010), CA	Chatfield et al. 2011
Diablo Winds, CA	WEST 2006	AOCM (CPC Proper), CA	Chatfield et al. 2010	San Geronio, CA	Anderson et al. 2000, Erickson et al. 2002
Altamont Pass, CA	Orloff and Flannery 1992	Tehachapi Pass, CA	Anderson et al. 2000, Erickson et al. 2002	AOCM (CPC East), CA	Chatfield et al. 2010
Hatchet Ridge, CA	Young et al. 2007	Alta East (2011), CA	Chatfield et al. 2011		

CONCLUSIONS

Tier 3 studies are used to address questions regarding impacts that cannot be sufficiently addressed using available literature (i.e., during Tier 1 and 2 desktop analyses; USFWS 2012). To satisfy recommendations of the USFWS *Land-Based Wind Energy Guidelines* (USFWS 2012) and *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development* (CEC and CDFG 2007), MVPP collected a full year of avian use data that, when combined with available literature reviewed in previous tiers, provides for a better-informed assessment of the risk of potential adverse impacts to species of concern at the Project.

While overall large bird use within the original Project area was slightly greater than that recorded at San Geronio (the only project in the immediate area with available avian use data), the higher use at the Project was largely attributed to concentrations of water-associated species attracted to the recharge ponds near survey Point 16. Removal of that portion of the Project area, as well as the other small parcel associated with Point 15, along with the turbines that currently exist in these two areas, resulted in substantially lower large bird use estimates within the revised Project area, bringing it in line with the estimates of San Geronio. Assuming bird use is positively correlated to risk, removal of turbines from the high use area around Point 16 (within the recharge ponds) should result in a lower risk of impacts to avian species overall.

This study also was designed to specifically document use of bald and golden eagles following survey recommendations in the ECPG and Eagle Rule (USFWS 2013, 2016). During the year of surveys, two golden eagles and three bald eagles were observed, resulting in 22 total eagle risk minutes (18 for bald eagle and four for golden eagle). Removal of the parcel that contained Point 16 resulted in the removal of 21 of the 22 eagle risk minutes from the final dataset, including all bald eagle risk minutes and three of four golden eagle risk minutes. Based on the assumption that eagle use is positively associated with risk (USFWS 2016), this revision to the Project layout should substantially reduce the risk to eagles posed by the Project. More detailed analysis of eagle risk using the USFWS' CRM also indicates that regardless of the level of risk predicted, the incremental increase in risk to eagles for the repowered Project compared to the existing Project is minimal, with predicted changes in risk ranging from essentially zero to about two eagles over 30 years.

Overall, site-specific data collected during this yearlong study indicate relatively low use of the final Project area by eagles and other state-listed sensitive avian species, with no federally listed threatened or endangered species documented during surveys. It is recommended that this data be used to inform long-term management of the Project through its incorporation into a Bird and Bat Conservation Strategy (USFWS 2012) that would ultimately guide how MVPP would adaptively manage the Project relative to bird and bat impacts.

REFERENCES

- 50 Code of Federal Regulations (CFR) 13. 1974. Title 50 - Wildlife and Fisheries; Chapter I - United States Fish and Wildlife Service, Department of the Interior; Subchapter B - Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants; Part 13 - General Permit Procedures. 50 CFR 13. [39 Federal Register (FR) 1161, January 4, 1974. 16 United States Code (USC) 668a, 704, 712, 742j-1, 1382, 1538(d), 1539, 1540(f), 3374, 4901-4916; 18 USC 42; 19 USC 1202; Executive Order (EO) 11911, 41 FR 15683; 31 USC 9701.].
- 50 Code of Federal Regulations (CFR) 22. 1974. Title 50 - Wildlife and Fisheries; Chapter I - United States Fish and Wildlife Service, Department of the Interior; Subchapter B - Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants; Part 22 - Eagle Permits. 50 CFR 22. [39 Federal Register (FR) 1183, January 4, 1974, unless otherwise noted. 16 United States Code (USC) 668-668d; 16 USC 703-712; 16 USC 1531-1544].
- Anderson, R., D. Strickland, J. Tom, N. Neumann, W. Erickson, J. Cleckler, G. Mayorga, G. Nuhn, A. Leuders, J. Schneider, L. Backus, P. Becker, and N. Flagg. 2000. Avian Monitoring and Risk Assessment at Tehachapi Pass and San Geronio Pass Wind Resource Areas, California: Phase 1 Preliminary Results. *In*: Proceedings of the National Avian Wind Power Planning Meeting III (PNAWPPM-III), May 1998, San Diego, California. National Wind Coordinating Collaborative (NWCC)/RESOLVE, Washington, D.C. Pp 31-46.
- Anderson, R., J. Tom, N. Neumann, W. P. Erickson, M. D. Strickland, M. Bourassa, K. J. Bay, and K. J. Sernka. 2005. Avian Monitoring and Risk Assessment at the San Geronio Wind Resource Area. NREL/SR-500-38054. August 2005. Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming. Available online: <http://www.nrel.gov/docs/fy05osti/38054.pdf>
- Bald and Golden Eagle Protection Act (BGEPA). 1940. 16 United States Code (USC) Section (§) 668-668d. Bald Eagle Protection Act of 1940, June 8, 1940, Chapter 278, § 2, 54 Statute (Stat.) 251; Expanded to include the related species of the golden eagle October 24, 1962, Public Law (PL) 87-884, 76 Stat. 1246. [as amended: October 23, 1972, PL 92-535, § 2, 86 Stat. 1065; November 8, 1978, PL 95-616, § 9, 92 Stat. 3114.].
- California Department of Fish and Wildlife (CDFW). 2018. Special Animals List. California Natural Diversity Database. April 2018. Available online: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline>
- California Energy Commission (CEC) and California Department of Fish and Game (CDFG). 2007. California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development. Commission Final Report. CEC, Renewables Committee, and Energy Facilities Siting Division, and CDFG, Resources Management and Policy Division. CEC-700-2007-008-CMF.
- Chatfield, A., W. Erickson, and K. Bay. 2009. Avian and Bat Fatality Study, Dillon Wind-Energy Facility, Riverside County, California. Final Report: March 26, 2008 - March 26, 2009. Prepared for Iberdrola Renewables, Portland, Oregon. Prepared by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming. June 3, 2009.
- Chatfield, A., W. P. Erickson, and K. Bay. 2010. Avian Baseline Studies at the Sun Creek Wind Resource Area, Kern County, California. Final Report: May 2009 - May 2010. Prepared for CH2M HILL, Oakland, California. Prepared by Western EcoSystems Technology, Inc., Cheyenne, Wyoming. September 30, 2010.

- Chatfield, A., W. P. Erickson, and K. Bay. 2011. Avian Baseline Studies at the Alta East Wind Resource Area, Kern County, California. Final Report: July 10, 2010 - June 1, 2011. Prepared for CH2M HILL, Oakland, California. Prepared by Western EcoSystems Technology, Inc., Cheyenne, Wyoming. July 13, 2011. Appendix D-8. *In:* Bureau of Land Management (BLM). 2013. Alta East Wind Project: Proposed Plan Amendment and Final Environmental Impact Statement. CACA #0052537. US Department of the Interior BLM. February 2013. Available online: http://www.blm.gov/ca/st/en/fo/ridgecrest/alta_east_wind_project.html; 2011 Avian Baseline Report (Appendix D-8) available online at: http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/ridgecrest/alta_east_wind.Par.22191.File.dat/D8%20Avian%20Baseline%20Studies%202011.pdf
- Erickson, W. P., A. Chatfield, and K. Bay. 2011. Avian Baseline Studies for the North Sky River Wind Energy Project, Kern County, California. Final Report: May 18, 2010 – May 26, 2011. Final Report. Prepared for CH2M HILL, Portland Oregon. Prepared by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming. July 7, 2011.
- Erickson, W. P., G. D. Johnson, D. P. Young, D. Strickland, R. Good, M. Bourassa, K. Bay, and K. Sernka. 2002. Synthesis and Comparison of Baseline Avian and Bat Use, Raptor Nesting and Mortality Information from Proposed and Existing Wind Developments. Technical report prepared for Bonneville Power Administration, Portland, Oregon by WEST, Inc., Cheyenne, Wyoming. December 2002. Available online: https://www.fs.fed.us/psw/publications/documents/psw_gtr191/psw_gtr191_1029-1042_erickson.pdf
- Homer, C. G., J. A. Dewitz, L. Yang, S. Jin, P. Danielson, G. Xian, J. Coulston, N. D. Herold, J. D. Wickham, and K. Megown. 2015. Completion of the 2011 National Land Cover Database for the Conterminous United States-Representing a Decade of Land Cover Change Information. Photogrammetric Engineering and Remote Sensing 81(5): 345-354. Available online: <http://www.mrlc.gov/nlcd2011.php>
- Kerlinger, P., L. Culp, and R. Curry. 2005. Post-Construction Avian Monitoring Study for the High Winds Wind Power Project, Solano County, California. Year One Report. Prepared for High Winds, LLC and FPL Energy.
- National Research Council (NRC). 2007. Environmental Impacts of Wind-Energy Projects. National Academies Press, Washington, D.C. www.nap.edu
- North American Datum (NAD). 1983. NAD83 Geodetic Datum.
- Orloff, S. and A. Flannery. 1992. Wind Turbine Effects on Avian Activity, Habitat Use, and Mortality in Altamont Pass and Solano County Wind Resource Areas, 1989-1991. Final Report P700-92-001 to Alameda, Contra Costa, and Solano Counties, and the California Energy Commission, Sacramento, California, by Biosystems Analysis, Inc., Tiburon, California. March 1992.
- Rintz, T., J. Thompson, and K. Hutchison. 2019. Wildlife Survey Report for the Mountain View Power Partners Wind Project and Yavi Energy, LLC, Riverside County, California. Final Report: October 2017 – October 2018. Prepared for Mountain View Power Partners and Yavi Energy, LLC, Bismarck, North Dakota. Prepared by Western EcoSystems Technology, Inc. (WEST), Corvallis, Oregon. February 13, 2019.
- US Fish and Wildlife Service (USFWS). 2012. Land-Based Wind Energy Guidelines. March 23, 2012. 82 pp. Available online: http://www.fws.gov/cno/pdf/Energy/2012_Wind_Energy_Guidelines_final.pdf

- US Fish and Wildlife Service (USFWS). 2013. Eagle Conservation Plan Guidance: Module 1 - Land-Based Wind Energy, Version 2. US Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management. April 2013. 103 pp. + frontmatter. Available online: <https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>
- US Fish and Wildlife Service (USFWS). 2016. Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests; Final Rule. 50 CFR 13 and 22. Department of the Interior Fish and Wildlife Service. 81 Federal Register (FR) 242: 91494-91554. December 16, 2016.
- US Geological Survey (USGS) National Land Cover Database (NLCD). 2011. National Land Cover Database 2011 (NLCD 2011). Multi-Resolution Land Characteristics Consortium (MRLC), National Land Cover Database (NLCD). USGS Earth Resources Observation and Science (EROS) Center, Sioux Falls, South Dakota. Available online: <http://www.mrlc.gov/nlcd2011.php>; Legend: http://www.mrlc.gov/nlcd11_leg.php
- US Geological Survey (USGS). 2018. USGS Topographic Maps. Accessed January 17, 2018. Information online: <https://nationalmap.gov/ustopo/index.html>
- Western EcoSystems Technology, Inc. (WEST). 2006. Diablo Winds Wildlife Monitoring Progress Report, March 2005 - February 2006. Technical report submitted to FPL Energy and Alameda County California. WEST, Cheyenne, Wyoming.
- Western EcoSystems Technology, Inc. (WEST). 2019. Regional Summaries of Wildlife Fatalities at Wind Facilities in the United States. 2019 Report from the Renew Database. Published by WEST, Inc., Cheyenne, Wyoming. December 31, 2019.
- Young, D. P., Jr., G. D. Johnson, V. K. Poulton, and K. Bay. 2007. Ecological Baseline Studies for the Hatchet Ridge Wind Energy Project, Shasta County, California. Prepared for Hatchet Ridge Wind, LLC, Portland, Oregon. Prepared by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming. August 31, 2007. Available online: <https://tethys.pnnl.gov/sites/default/files/publications/Young-et-al-2007.pdf>

**Appendix A. Summary of the Number of Observations and Groups Recorded During
Fixed-Point Bird Use Surveys at the Mountain View Power Partners Wind Project,
October 26, 2017 – October 31, 2018**

Appendix A1. Summary of individual and group observations by bird type and species for fixed-point small bird surveys at the Mountain View Power Partners Wind Project during from October 26, 2017 – October 31, 2018. Data limited to survey points within the final project area (i.e., excludes data from small bird Point 17). All data, inclusive of small bird points 17-19, are available in the original version of this report (Rintz et al. 2019).

Type/Species	Scientific Name	Fall		Winter		Spring		Summer		Total	
		# grps	# obs	# grps	# obs	# grps	# obs	# grps	# obs	# grps	# obs
Cuckoos		2	2	1	1	0	0	3	3	6	6
greater roadrunner	<i>Geococcyx californianus</i>	2	2	1	1	0	0	3	3	6	6
Passerines		38	44	44	66	46	105	5	9	133	224
unidentified passerine		1	1	0	0	0	0	0	0	1	1
house finch	<i>Haemorhous mexicanus</i>	2	4	1	2	2	2	0	0	5	8
ash-throated flycatcher	<i>Myiarchus cinerascens</i>	0	0	0	0	2	2	0	0	2	2
Say's phoebe	<i>Sayornis saya</i>	1	1	0	0	0	0	0	0	1	1
western kingbird	<i>Tyrannus verticalis</i>	0	0	0	0	0	0	1	1	1	1
blue-gray gnatcatcher	<i>Poliophtila caerulea</i>	1	2	1	1	0	0	0	0	2	3
ruby-crowned kinglet	<i>Regulus calendula</i>	1	1	0	0	0	0	0	0	1	1
black-throated sparrow	<i>Amphispiza bilineata</i>	0	0	0	0	3	4	0	0	3	4
horned lark	<i>Eremophila alpestris</i>	1	1	0	0	2	3	1	5	4	9
Savannah sparrow	<i>Passerculus sandwichensis</i>	1	1	0	0	0	0	0	0	1	1
vesper sparrow	<i>Pooecetes gramineus</i>	1	1	0	0	0	0	0	0	1	1
Brewer's sparrow	<i>Spizella breweri</i>	0	0	0	0	3	14	0	0	3	14
chipping sparrow	<i>Spizella passerina</i>	0	0	0	0	1	1	0	0	1	1
white-crowned sparrow	<i>Zonotrichia leucophrys</i>	0	0	0	0	4	8	0	0	4	8
unidentified sparrow		0	0	0	0	1	6	0	0	1	6
northern mockingbird	<i>Mimus polyglottos</i>	0	0	0	0	1	1	0	0	1	1
sage thrasher	<i>Oreoscoptes montanus</i>	0	0	8	24	10	20	0	0	18	44
barn swallow	<i>Hirundo rustica</i>	0	0	0	0	2	3	0	0	2	3
tree swallow	<i>Tachycineta bicolor</i>	0	0	0	0	1	27	0	0	1	27
western tanager	<i>Piranga ludoviciana</i>	0	0	0	0	1	1	0	0	1	1
black-headed grosbeak	<i>Pheucticus melanocephalus</i>	0	0	0	0	0	0	1	1	1	1
loggerhead shrike	<i>Lanius ludovicianus</i>	4	4	5	5	9	9	2	2	20	20
warbling vireo	<i>Vireo gilvus</i>	0	0	0	0	1	1	0	0	1	1
yellow-rumped warbler	<i>Setophaga coronata</i>	2	4	1	1	2	2	0	0	5	7

Appendix A1. Summary of individual and group observations by bird type and species for fixed-point small bird surveys at the Mountain View Power Partners Wind Project during from October 26, 2017 – October 31, 2018. Data limited to survey points within the final project area (i.e., excludes data from small bird Point 17). All data, inclusive of small bird points 17-19, are available in the original version of this report (Rintz et al. 2019).

Type/Species	Scientific Name	Fall		Winter		Spring		Summer		Total	
		# grps	# obs	# grps	# obs	# grps	# obs	# grps	# obs	# grps	# obs
black-throated gray warbler	<i>Setophaga nigrescens</i>	1	1	0	0	0	0	0	0	1	1
rock wren	<i>Salpinctes obsoletus</i>	22	23	28	33	1	1	0	0	51	57
Swifts/Hummingbirds		1	1	4	4	0	0	1	2	6	7
white-throated swift	<i>Aeronautes saxatalis</i>	0	0	0	0	0	0	1	2	1	2
Anna's hummingbird	<i>Calypte anna</i>	0	0	2	2	0	0	0	0	2	2
Costa's hummingbird	<i>Calypte costae</i>	0	0	2	2	0	0	0	0	2	2
unidentified hummingbird		1	1	0	0	0	0	0	0	1	1
Overall		41	47	49	71	46	105	9	14	145	237

Appendix A2. Summary of individual and group observations by bird type and species for fixed-point large bird surveys at the Mountain View Power Partners Wind Project during from October 26, 2017 – October 31, 2018. Data limited to survey points within the final project area (i.e., excludes data from large bird point 15 and 16). All data, inclusive of large bird points 15 and 16, are available in the original version of this report (Rintz et al. 2019).

Type/Species	Scientific Name	Fall		Winter		Spring		Summer		Total	
		# grps	# obs	# grps	# obs	# grps	# obs	# grps	# obs	# grps	# obs
Waterbirds		0	0	1	1	2	5	0	0	3	6
great egret	<i>Ardea alba</i>	0	0	1	1	1	1	0	0	2	2
double-crested cormorant	<i>Phalacrocorax auritus</i>	0	0	0	0	1	4	0	0	1	4
Waterfowl		0	0	1	42	0	0	0	0	1	42
Canada goose	<i>Branta canadensis</i>	0	0	1	42	0	0	0	0	1	42
Gulls/Terns		0	0	5	64	2	75	0	0	7	139
California gull	<i>Larus californicus</i>	0	0	2	19	0	0	0	0	2	19
unidentified gull		0	0	3	45	2	75	0	0	5	120
Diurnal Raptors		5	6	10	11	6	6	0	0	21	23
Cooper's hawk	<i>Accipiter cooperii</i>	0	0	1	1	1	1	0	0	2	2
red-tailed hawk	<i>Buteo jamaicensis</i>	0	0	5	6	3	3	0	0	8	9
Swainson's hawk	<i>Buteo swainsoni</i>	0	0	0	0	1	1	0	0	1	1
golden eagle	<i>Aquila chrysaetos</i>	1	1	0	0	0	0	0	0	1	1
prairie falcon	<i>Falco mexicanus</i>	2	3	2	2	1	1	0	0	5	6
American kestrel	<i>Falco sparverius</i>	2	2	1	1	0	0	0	0	3	3
osprey	<i>Pandion haliaetus</i>	0	0	1	1	0	0	0	0	1	1
Large Corvids		8	16	21	40	15	24	0	0	44	80
common raven	<i>Corvus corax</i>	8	16	21	40	15	24	0	0	44	80
Overall		13	22	38	158	25	110	0	0	76	290

Appendix B. Mean Use, Percent of Use, and Frequency of Occurrence for Small Bird and Large Bird Types and Species Observed during Fixed-Point Bird Use Surveys at the Mountain View Power Partners Wind Project, October 26, 2017 – October 31, 2018

Appendix B1. Mean small birds use (number of small birds/100-meter plot/10-minute survey), percent of total use (%), and frequency of occurrence (%) for each small bird type and species by season during the fixed-point bird use surveys at the Mountain View Power Partners Wind Project during from October 26, 2017 – October 31, 2018. Data limited to survey points within the final project area (i.e., excludes data from small bird points 17-19). All data, inclusive of small bird points 17-19, are available in the original version of this report (Rintz et al. 2019).

Type/Species	Mean Use				% of Use				% Frequency			
	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer
Cuckoos	0.01	0.01	0	0.02	4.3	1.4	0	21.4	1.2	0.6	0	2.1
greater roadrunner	0.01	0.01	0	0.02	4.3	1.4	0	21.4	1.2	0.6	0	2.1
Passerines	0.26	0.42	0.73	0.06	93.6	93.0	100	64.3	19.6	21.8	22.2	3.5
unidentified passerine	0.01	0	0	0	2.1	0	0	0	0.6	0	0	0
house finch	0.02	0.01	0.01	0	8.5	2.8	1.9	0	1.2	0.6	1.4	0
ash-throated flycatcher	0	0	0.01	0	0	0	1.9	0	0	0	1.4	0
Say's phoebe	0.01	0	0	0	2.1	0	0	0	0.6	0	0	0
western kingbird	0	0	0	0.01	0	0	0	7.1	0	0	0	0.7
blue-gray gnatcatcher	0.01	0.01	0	0	4.3	1.4	0	0	0.6	0.6	0	0
ruby-crowned kinglet	0.01	0	0	0	2.1	0	0	0	0.6	0	0	0
black-throated sparrow	0	0	0.03	0	0	0	3.8	0	0	0	2.1	0
horned lark	0.01	0	0.02	0.03	2.1	0	2.9	35.7	0.6	0	1.4	0.7
Savannah sparrow	0.01	0	0	0	2.1	0	0	0	0.6	0	0	0
vesper sparrow	0.01	0	0	0	2.1	0	0	0	0.6	0	0	0
Brewer's sparrow	0	0	0.10	0	0	0	13.3	0	0	0	2.1	0
chipping sparrow	0	0	0.01	0	0	0	1.0	0	0	0	0.7	0
white-crowned sparrow	0	0	0.06	0	0	0	7.6	0	0	0	2.8	0
unidentified sparrow	0	0	0.04	0	0	0	5.7	0	0	0	0.7	0
northern mockingbird	0	0	0.01	0	0	0	1.0	0	0	0	0.7	0
sage thrasher	0	0.15	0.14	0	0	33.8	19.0	0	0	5.1	6.3	0
barn swallow	0	0	0.02	0	0	0	2.9	0	0	0	1.4	0
tree swallow	0	0	0.19	0	0	0	25.7	0	0	0	0.7	0
western tanager	0	0	0.01	0	0	0	1.0	0	0	0	0.7	0
black-headed grosbeak	0	0	0	0.01	0	0	0	7.1	0	0	0	0.7
loggerhead shrike	0.02	0.03	0.06	0.01	8.5	7.0	8.6	14.3	2.4	3.2	5.6	1.4
warbling vireo	0	0	0.01	0	0	0	1.0	0	0	0	0.7	0
yellow-rumped warbler	0.02	0.01	0.01	0	8.5	1.4	1.9	0	1.2	0.6	1.4	0
black-throated gray warbler	0.01	0	0	0	2.1	0	0	0	0.6	0	0	0
rock wren	0.14	0.21	0.01	0	48.9	46.5	1.0	0	10.7	12.8	0.7	0

Appendix B1. Mean small birds use (number of small birds/100-meter plot/10-minute survey), percent of total use (%), and frequency of occurrence (%) for each small bird type and species by season during the fixed-point bird use surveys at the Mountain View Power Partners Wind Project during from October 26, 2017 – October 31, 2018. Data limited to survey points within the final project area (i.e., excludes data from small bird points 17-19). All data, inclusive of small bird points 17-19, are available in the original version of this report (Rintz et al. 2019).

Type/Species	Mean Use				% of Use				% Frequency			
	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer
Swifts/Hummingbirds	0.01	0.03	0	0.01	2.1	5.6	0	14.3	0.6	2.6	0	0.7
white-throated swift	0	0	0	0.01	0	0	0	14.3	0	0	0	0.7
Anna's hummingbird	0	0.01	0	0	0	2.8	0	0	0	1.3	0	0
Costa's hummingbird	0	0.01	0	0	0	2.8	0	0	0	1.3	0	0
unidentified hummingbird	0.01	0	0	0	2.1	0	0	0	0.6	0	0	0
Overall	0.28	0.46	0.73	0.10	100	100	100	100				

Appendix B2. Mean large birds use (number of large birds/800-meter plot/60-minute survey), percent of total use (%), and frequency of occurrence (%) for each large bird type and species by season during the fixed-point bird use surveys at the Mountain View Power Partners Wind Project during from October 26, 2017 – October 31, 2018. Data limited to survey points within the final project area (i.e., excludes data from large bird points 15 and 16). All data, inclusive of large bird points 15 and 16, are available in the original version of this report (Rintz et al. 2019).

Type/Species	Mean Use				% of Use				% Frequency			
	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer
Waterbirds	0	0.04	0.21	0	0	0.6	8.9		0	3.8	4.2	0
great egret	0	0.04	0.04	0	0	0.6	1.8		0	3.8	4.2	0
double-crested cormorant	0	0	0.17	0	0	0	7.1		0	0	4.2	0
Waterfowl	0	1.62	0	0	0	26.6	0		0	3.8	0	0
Canada goose	0	1.62	0	0	0	26.6	0		0	3.8	0	0
Gulls/Terns	0	2.46	0.88	0	0	40.5	37.5		0	11.5	4.2	0
California gull	0	0.73	0	0	0	12.0	0		0	3.8	0	0
unidentified gull	0	1.73	0.88	0	0	28.5	37.5		0	11.5	4.2	0
Diurnal Raptors	0.21	0.42	0.25	0	27.3	7.0	10.7		17.9	34.6	25.0	0
<u>Accipiters</u>	<i>0</i>	<i>0.04</i>	<i>0.04</i>	<i>0</i>	<i>0</i>	<i>0.6</i>	<i>1.8</i>		<i>0</i>	<i>3.8</i>	<i>4.2</i>	<i>0</i>
Cooper's hawk	0	0.04	0.04	0	0	0.6	1.8		0	3.8	4.2	0
<u>Buteos</u>	<i>0</i>	<i>0.23</i>	<i>0.17</i>	<i>0</i>	<i>0</i>	<i>3.8</i>	<i>7.1</i>		<i>0</i>	<i>19.2</i>	<i>16.7</i>	<i>0</i>
red-tailed hawk	0	0.23	0.13	0	0	3.8	5.4		0	19.2	12.5	0
Swainson's hawk	0	0	0.04	0	0	0	1.8		0	0	4.2	0
<u>Eagles</u>	<i>0.04</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>4.5</i>	<i>0</i>	<i>0</i>		<i>3.6</i>	<i>0</i>	<i>0</i>	<i>0</i>
golden eagle	0.04	0	0	0	4.5	0	0		3.6	0	0	0
<u>Falcons</u>	<i>0.18</i>	<i>0.12</i>	<i>0.04</i>	<i>0</i>	<i>22.7</i>	<i>1.9</i>	<i>1.8</i>		<i>14.3</i>	<i>11.5</i>	<i>4.2</i>	<i>0</i>
prairie falcon	0.11	0.08	0.04	0	13.6	1.3	1.8		7.1	7.7	4.2	0
American kestrel	0.07	0.04	0	0	9.1	0.6	0		7.1	3.8	0	0
<u>Osprey</u>	<i>0</i>	<i>0.04</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0.6</i>	<i>0</i>		<i>0</i>	<i>3.8</i>	<i>0</i>	<i>0</i>
osprey	0	0.04	0	0	0	0.6	0		0	3.8	0	0
Large Corvids	0.57	1.54	1.00	0	72.7	25.3	42.9		17.9	57.7	41.7	0
common raven	0.57	1.54	1.00	0	72.7	25.3	42.9		17.9	57.7	41.7	0
Overall	0.79	6.08	2.33	0	100	100	100					

**Appendix C. Mean Use by Point for Major Bird Types and Diurnal Raptor Subtypes during
Fixed-Point Bird Use Surveys at the Mountain View Power Partners Wind Project,
October 26, 2017 – October 31, 2018**

Appendix C1. Mean use (number of birds/10-minute survey) by point for small bird^a types observed at the Mountain View Power Partners Wind Project during from October 26, 2017 – October 31, 2018.

Bird Type	Survey Point														
	3	4	5	6	7	8	9	10	11	12	13	14	17 ^b	18 ^b	19 ^b
Cuckoos	0	0	0	0	0	0.04	0.02	0.04	0	0.02	0	0	0	0	0
Passerines	0.25	0.36	1.57	0.37	0.14	0.21	0.25	0.17	0.65	0.29	0.06	0.29	0.38	0.12	0.23
Swifts/Hummingbirds	0	0	0.06	0	0	0	0	0	0	0.08	0	0	0	0	0
All Small Birds	0.25	0.36	1.63	0.37	0.14	0.26	0.27	0.21	0.65	0.39	0.06	0.29	0.38	0.12	0.23

^a 100-meter (m) radius plot for small birds.

^b Survey point removed from final Project area

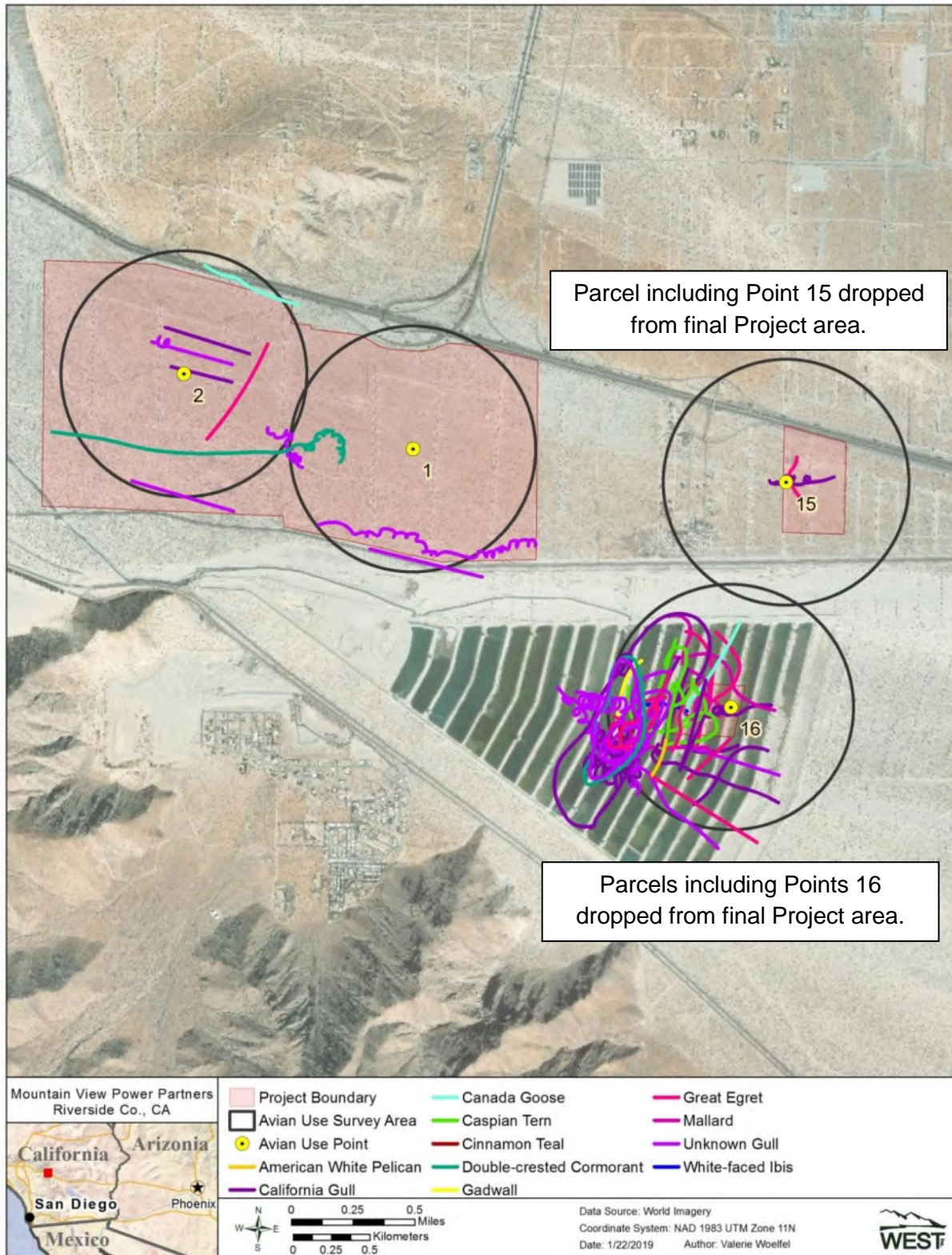
Appendix C2. Mean use (number of birds/60-minute survey) by point for large birds^a, major bird types, and diurnal raptor subtypes observed at the Mountain View Power Partners Wind Project during from October 26, 2017 – October 31, 2018.

Bird Type	Survey Point			
	1	2	15 ^b	16 ^b
Loons/Grebes	0	0	0	0.14
Waterbirds	0.02	0.10	0	0.44
Waterfowl	0	0.82	0	4.24
Gulls/Terns	0.49	1.18	0.18	7.64
Rails/Coots	0	0	0	21.00
Diurnal Raptors	0.14	0.31	0.22	0.48
<u>Accipiters</u>	0	0.04	0.02	0
<u>Buteos</u>	0.06	0.14	0.12	0.08
<u>Northern Harrier</u>	0	0	0	0.02
<u>Eagles</u>	0.02	0	0	0.08
<u>Falcons</u>	0.06	0.12	0.08	0.30
<u>Osprey</u>	0	0.02	0	0
Large Corvids	1.16	0.41	0.64	4.52
All Large Birds	1.80	2.82	1.04	38.46

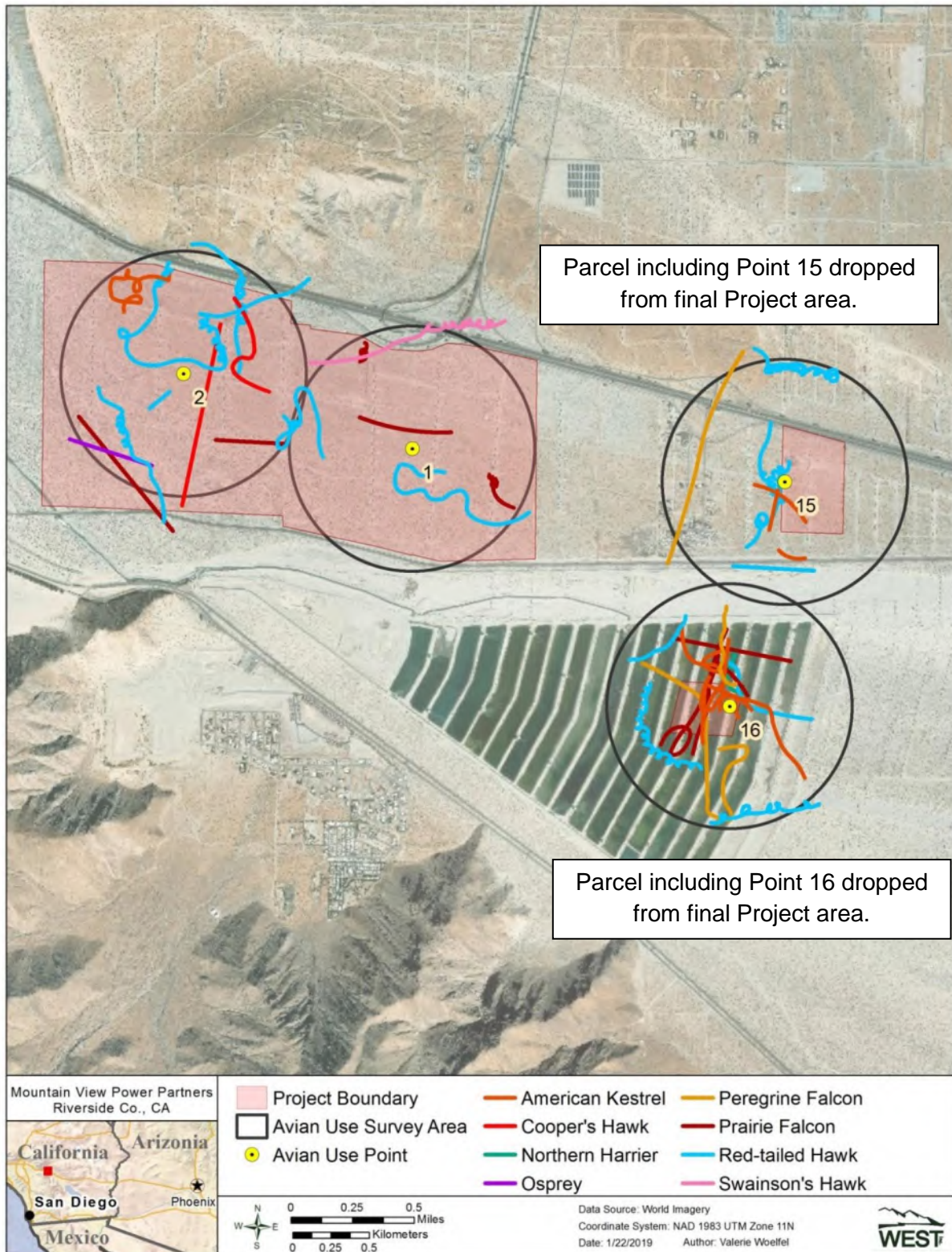
^a 800-meter (m) radius plot for large birds.

^b Survey point removed from final Project area

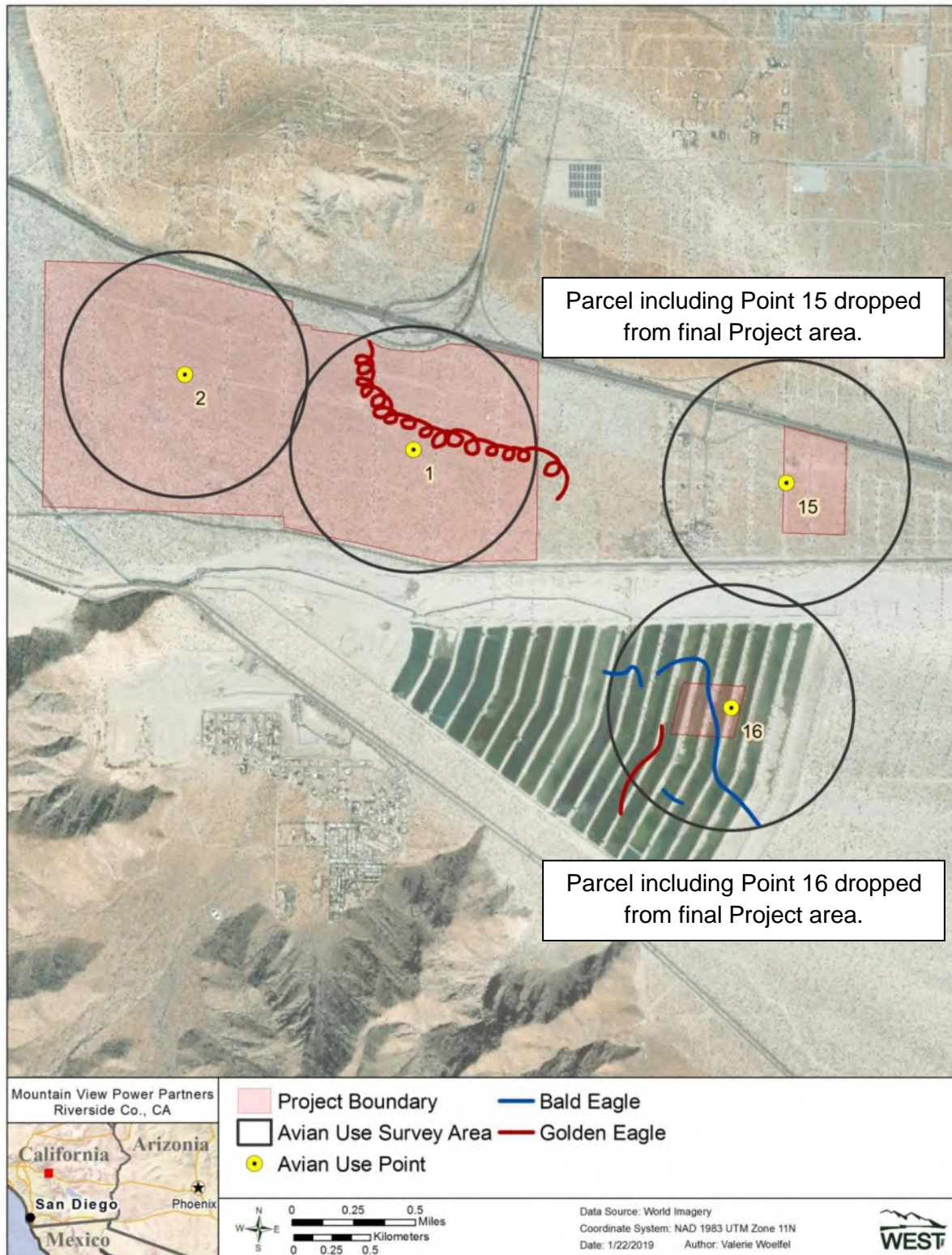
**Appendix D. Large Bird Flight Paths Observed at the Mountain View Power Partners
Wind Project, October 26, 2017 – October 31, 2018**



Appendix D1. Water-associated bird flight paths recorded at the Mountain View Power Partners Wind Project during large bird use surveys conducted October 26, 2017 – October 31, 2018. Data from all surveys included; however, parcels including points 15 and 16 have been dropped from the final Project area.



Appendix D2. Buteo flight paths recorded at the Mountain View Power Partners Wind Project during large bird use surveys conducted October 26, 2017 – October 31, 2018. Data from all surveys included; however, parcel including points 15 and 16 have been dropped from the final Project area.



Appendix D3. Bald eagle and golden eagle flight paths recorded at the Mountain View Power Partners Wind Project during large bird use surveys conducted October 26, 2017 – October 31, 2018. Data from all surveys included; however, parcel including points 15 and 16 have been dropped from the final Project area.

**Appendix E. Collision Risk Modeling for Golden Eagles at the Mountain View Power
Partners Wind Project**

INTRODUCTION

Mountain View Power Partners (MVPP) owns and operates the MVPP Wind Project (Project) in Riverside County, California. MVPP is proposing to repower the Project by replacing 104 of the Project's 111 existing 600-kilowatt (kW) turbines with 16, 3.0-megawatt (MW) or larger turbines, while also retaining seven of the existing 600-kW turbines. Western EcoSystems Technology, Inc. (WEST) conducted avian surveys at the Project from October 2017 – October 2018 with the primary objective of providing site-specific data that would be useful to evaluate potential impacts from the proposed repowering of the Project. Assessing risk to eagles was a key goal of the survey effort. Large bird / eagle use surveys were conducted at four survey points over a 12-month period, the details of which are provided in the final report (Thompson and Rintz 2020).

To obtain a prediction of eagle fatalities at the Project, WEST used the collision risk modeling framework presented in the Eagle Conservation Plan Guidance (ECPG; USFWS 2013) to calculate take predictions based on 1) the priors-only (USFWS 2013) and 2) site-specific eagle use data collected between October 26, 2017 and October 31, 2018. This modeling framework was developed using information specific to golden eagles and the following site-specific data: 1) the number of eagle risk minutes defined as eagle minutes within 800 meters (m) of observers and flying 200 m or less above ground level (AGL) during the surveys, 2) an estimate of annual daylight hours when eagles are at risk, and 3) the quantity and rotor radius of the turbines. Take estimates were generated for the Project as it currently exists (111, 600-kW turbines) as well as the repowered Project (16 new 3.0 MW or larger turbines plus seven of the existing 600-kW turbines).

METHODS

Bayesian Eagle Fatality Model

The USFWS uses a Bayesian approach to predict the annual eagle fatality rate for a wind energy facility. This approach uses statistical models to define the relationship between eagle exposure, collision rate, and fatalities, and to account for uncertainty (Table 1; USFWS 2013). In addition to running the model with the priors only, site-specific eagle use data collected during field surveys were used to update the Bayesian prior distribution for eagle exposure rate, as described in the following section.

Table 1. Definitions of variables for predicting annual eagle fatalities from turbine collisions at a wind facility (USFWS 2013 Eagle Conservation Plan Guidance, Appendix D).

Parameter	Variable Name	Definition
F	Annual Fatalities	Annual eagle fatalities from turbine collisions
λ	Exposure Rate	Eagle risk minutes within the Project area (in proximity to turbine hazardous volume) per survey hours·kilometer ³
C	Collision Rate	The rate of an eagle colliding with a turbine per exposure
ε	Expansion Factor	Product of daylight hours and total turbine hazardous volume (hours·kilometer ³)

k	Eagle Risk Minutes	Number of minutes that eagles were observed flying within 800 m and below 200 m during survey point counts
δ	Turbine Hazardous Volume	Rotor-swept area around a proposed turbine (kilometer ³)
n	Trials	Number of trials for which events could have been observed (the number of hours·kilometer ³ observed)
τ	Operating Hours	Total time in hours turbines are estimated to be operating per year
n	Number of Turbines	Number of turbines existing/proposed at the Project

Exposure Rate

Exposure rate (λ) is the estimated number of eagle risk minutes per survey hour kilometer³ (hr · km³). The prior distribution for exposure rate presented in the ECPG was derived from data from a range of projects under USFWS review and the projects from Whitfield (2009). The prior distribution is intended to model exposure rates for any wind energy facility. The USFWS defines the prior distribution for exposure rate as:

Prior $\lambda \sim \text{Gamma}(\alpha, \beta)$, with shape and rate parameters $\alpha = 0.97$ and $\beta = 0.55$.

Data collected on eagle exposure between October 2017 and October 2018 were used to update the prior distribution and estimate the parameters for the posterior distribution. By assuming the eagle risk minutes follow a Poisson distribution with rate parameter λ , the posterior distribution for exposure rate is:

$$\text{Posterior } \lambda \sim \text{Gamma}\left(\alpha' = \alpha + \sum_{i=1}^n k_i, \beta' = \beta + n\right)$$

where $\sum k_i$ is the total observed eagle risk minutes, n is the number of trials, and α and β are from the prior distribution. The number of trials is the survey effort (hr · km³) from the point count surveys.

Collision Rate

The collision rate, C , is the rate of an eagle colliding with a turbine per exposure in the hazardous area, where all collisions are considered to be fatal.

The collision rate prior distribution presented in the ECPG is given as:

Prior $C \sim \text{Beta}(\nu, \nu')$, with parameters $\nu = 2.31$ and $\nu' = 396.69$.

Expansion Factor

The expansion factor (ε) is used to scale the per unit exposure rate (eagle risk minutes per hr · km³) to the daylight hours (τ) in one year and total hazardous volume (km³) within the Project. The expansion factor is:

$$\varepsilon = \tau \sum_{i=1}^n \delta_i,$$

where n is the number of turbines, and δ is the area (3-D hazardous area) centered at the base of a turbine having radius equal to the rotor-swept radius of the turbine and extending 200 m above ground level (AGL).

Predicted Annual Fatalities

The USFWS Bayesian collision risk model assumes that higher site-specific eagle flight activity will correspond to higher annual eagle mortality. Under this assumption, predictions of annual eagle mortality were modeled as the eagle exposure within areas of potential eagle-wind turbine interactions multiplied by a collision rate factor.

The distribution of predicted annual fatalities can be estimated as the product of the expansion factor, the exposure rate posterior distribution, and the collision rate distribution:

$$F = \varepsilon \cdot \text{posterior } \lambda \cdot \text{prior } C.$$

Credible intervals (i.e., Bayesian confidence intervals) were calculated using a simulation of 10,000 Monte Carlo draws from the posterior distribution of eagle exposure and the collision rate distribution (Manly 1991). The product of each of these draws, with the exposure area corresponding to turbine type, was used to predict the distribution of possible fatalities at the proposed Project. The USFWS recommends the upper 80th percentile of this distribution (i.e. the upper 80th credible limit) as a conservative prediction of take for a proposed project (USFWS 2013).

RESULTS

Exposure Rate

In addition to the priors only model, one golden eagle was observed during 102 survey hours from October 26, 2017 – October 31, 2018, resulting in one eagle risk minute (Table 2). The one eagle risk minute was used to update the mean exposure rate, resulting in a mean posterior exposure rate of 0.05, compared to 1.75 for the priors-only model (Table 3).

Table 2. Survey effort, golden eagle (GOEA) observations, and eagle risk minutes recorded during large bird use surveys conducted October 26, 2017 – October 31, 2018 at the Mountain View Power Partners Wind Project, Riverside County, CA.

Season	Survey Hours	GOEA Observations	Total Minutes	Risk Minutes
Fall	28	1	1	1
Spring	24	0	0	0
Summer	24	0	0	0
Winter	26	0	0	0
Total	102	1	1	1

Table 3. Estimated Exposure Rates (λ) from eagle observations made during point count surveys for golden eagles at the Mountain View Power Partners Wind Project, Riverside County, CA. Values presented for the Priors only model and inclusion of one eagle risk minute collected during surveys conducted October 26, 2017 – October 31, 2018.

Variable	Priors Only	Updated Exposure Priors
1) Number of Surveys	-	102
2) Average Length of Surveys (hours)	-	1
3) Survey Hours	-	102
4) Plot Radius (meters)	-	800
5) Recorded Eagle Risk Minutes (200 m or less within 800 m plots)	-	1
6) Exposure Rate Parameter α' (Line 5 + α)	0.97	1.97
7) Exposure Rate Parameter β' (trials [survey hours x km ³ of volume surveyed] + β)	0.97	41.57
8) Mean Exposure Rate (Line 6 / Line 7, hours x km ²)	1.75	0.05

Expansion Factor

The expansion factor scales the exposure rate to the hazardous volume and the amount of time that eagles are at risk of collision within the Project to estimate the potential eagle-wind turbine interactions (minutes of flight within the turbine hazardous volume; Table 4).

For the Project, we assessed risk for two different hazardous volumes: 1) the current/existing Project (111 turbines with 22.5 m rotor radius) and 2) the proposed repowered Project (16 turbines with rotor radius of 58.5 m and seven turbines with rotor diameter of 22.5 m; Table 4). Daylight hours were estimated for the Project area as the hours between sunrise and sunset, based on sunrise and sunset times calculated using the NOAA Solar Calculator (NOAA 2019) implemented in the maptools package (Bivand and Lewin-Koh 2019) of Program R (R Core Team 2019). While the newer turbines will have a much larger rotor swept area per turbine, the reduction in total number of turbines results in a hazardous volume for the repowered Project that is very similar to that of the existing Project, increasing by only 3.7%.

Table 4. Expansion Factors (ϵ) for the proposed existing and proposed repowered Mountain View Power Partners Wind Project for all daylight hours.

Variable	Existing Project	Repowered Project
9) Operating Time (annual daylight hours)	4,446	4,446
10a) Rotor Radius (meters) – Turbine Size A	22.5	22.5
11a) Turbine Size A Hazardous Volume (km ³) –	0.036	0.002
12a) Number of Size A Turbines	111	7
10b) Rotor Radius (meters) – Turbine Size B	-	58.5
11b) Turbine Size B Hazardous Volume (km ³)	-	0.034
12b) Number of Size B Turbines	-	16
13) Overall Expansion Factor (hours x hazardous volume)	156.98	162.86

Collision Rate

Annual eagle fatality rate at the Project was predicted using the Bayesian collision risk model with the collision rate prior distribution presented in the ECPG (Table 5).

Table 5. Collision rate prior distributions.

Parameter	Values
14) Prior Fatalities (annual)	2.31
15) Prior Exposure Events not Resulting in Fatality	396.69
16) Prior Mean Collision Rate	0.00579

Fatality Prediction

Using the CRM and information presented above for four modeling scenarios: 1) existing Project with priors only, 2) existing Project with updated exposure, 3) repowered Project with priors only, and 4) repowered Project with updated exposure, we find that the predicted eagle take varies dramatically, from about 0.07 per year based on the 80th credible limit of the prediction using the updated exposure priors to about 2.5 per year based on the 80th credible limit of the prediction using the priors only (Table 6).

Table 6. Predicted golden eagle fatalities per year for the Mountain View Power Partners Wind Project. The modeled predictions used the collision rate prior distribution presented in the ECPG and updated exposure priors based on site-specific eagle use data collected **October 26, 2017 – October 31, 2018.**

Variable	Priors Only	Updated Exposure Priors
Existing Project		
Estimated annual eagle fatalities	1.595	0.043
Upper 80th credible limit	2.440	0.066
Predicted take over five years	12.2	0.328
Predicted take over 30 years	73.2	1.965

Repowered Project		
Estimated annual eagle fatalities	1.654	0.045
Upper 80th credible limit	2.485	0.067
Predicted take over five years	12.4	0.334
Predicted take over 30 years	74.5	2.004

DISCUSSION AND CONCLUSIONS

The USFWS recommends using pre-construction eagle use data to predict post-construction fatalities; however the Project being evaluated herein is an operational project consisting of older turbines that have been in operation since September 2001, far preceding the 2009 Eagle Rule (USFWS 2009). As such, there is no true, pre-construction eagle use data available to inform the collision risk model; however, site-specific eagle use data (i.e., risk minutes) were collected from October 2017 through October 2018 to provide information on seasonal avian use patterns in and around the Project. Because the data were collected consistent with ECPG guidance (other than being during existing operations), the site-specific eagle use data were used to update the exposure priors in the CRM and presented along with the ‘priors only’ model above to provide a range of outcomes given the two sets of data inputs available for use in the CRM.

The outcomes of the CRM differ substantially depending on which inputs are used, leading to a large degree of uncertainty in the true level of risk posed by the Project. To date, two eagle fatalities have been documented at the Project since it began operations in 2001 (approximately 19 years of operations). While formal fatality monitoring studies have not been conducted at the Project, eagle carcasses tend to persist longer and are relatively easy to find compared to other smaller bird and bat species (Hallingstad et al. 2018). Furthermore, many, if not most golden eagle fatalities are documented incidentally and reported by Project personnel (Pagel et al. 2013), which is the case with the two golden eagle fatalities reported at the Project over its approximately 19 years of operations. While there is some probability that additional eagle fatalities may have occurred over the life of the existing Project, it seems unlikely that the number would be in excess of two per year, given that only two have been found in the past 19 years. In fact, assuming that site personnel have an overall probability of detecting eagles fatalities of 0.12 or higher (readily achievable given turbine specs, sparse vegetation allowing for good visibility, and monthly visits by site personnel to each turbine pad and access road), the Evidence of Absence (EoA) statistical estimator (Dalthorp et al. 2014) would suggest mortality rates of less than one per year are reasonable.

The existing Project was developed prior to the 2009 Eagle Rule and was therefore part of the baseline take evaluated under the 2009 Eagle Rule. As such, the amount of take associated with the existing Project would not have to be mitigated per the Eagle Rule (USFWS 2016; USFWS 2019). For the priors only model, the difference between the existing Project and the repowered Project is 0.045 eagles per year, or 1.34 over 30 years. For the model with updated priors, based on site-specific eagle use data, the difference between the existing Project (i.e., baseline) and the repowered Project is only 0.001 per year, or 0.039 eagles over 30 years. Because the repower

will only minimally increase the rotor swept area (3.7% increase) and subsequent risk to eagles beyond that of the existing Project, the difference in predicted take from the CRM results is less than two eagles over a 30 year period, regardless of which data inputs are used to inform the CRM.

REFERENCES

- Bivand, R., and N. Lewin-Koh (2019). maptools: Tools for Handling Spatial Objects. R package version 0.9-9. <https://CRAN.R-project.org/package=maptools>
- Dalthorp, D. H., M. M. P. Huso, D. Dail, and J. Kenyon. 2014. Evidence of Absence Software. Corvallis, OR: USGS. ISBN. Available online at <http://pubs.usgs.gov/ds/0881/>
- Hallingstad E.C., P.A. Rabie, A.C. Telander, J.A. Roppe, and L.R. Nagy. 2018. Developing an efficient protocol for monitoring eagle fatalities at wind energy facilities. PLoS ONE 13(12): e0208700. <https://doi.org/10.1371/journal.pone.0208700>
- Manly, B.F.J. 1991. Randomization and Monte Carlo Methods in Biology. Chapman and Hall, London, United Kingdom.
- National Geographic Society (National Geographic). 2018. World Maps. Digital topographic map. PDF topographic map quads. Accessed March 8, 2018. Available online: <http://www.natgeomaps.com/trail-maps/pdf-quads>
- National Oceanic and Atmospheric Administration (NOAA). 2019. NOAA Solar Calculator. Global Radiation Group, Global Monitoring Division, Earth System Research Laboratory. <https://www.esrl.noaa.gov/gmd/grad/solcalc/>
- Pagel, J., K. Kritz, B. Millsap, R. Murphy, E. Kershner, and S. Covington, Scott. 2013. Bald Eagle and Golden Eagle Mortalities at Wind Energy Facilities in the Contiguous United States. Journal of Raptor Research. 47. 311-315. 10.3356/JRR-12-00019.1.
- R Core Team (2019). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org/>.
- U.S. Fish and Wildlife Service (USFWS). 2009. 50 CFR Parts 13 and 22. Eagle Permits; Take Necessary to Protect Interests in Particular Localities. Final Rule. Programmatic Environmental Impact Statement for the Eagle Rule Revision. Federal Register Vol. 74, No. 175. September 2009. Available online: <https://www.fws.gov/northeast/ecologicalservices/pdf/FinalDisturbanceRule9Sept2009.pdf>
- US Fish and Wildlife Service (USFWS). 2012. Land-Based Wind Energy Guidelines. March 23, 2012. 82 pp. Available online: http://www.fws.gov/cno/pdf/Energy/2012_Wind_Energy_Guidelines_final.pdf
- U.S. Fish and Wildlife Service (USFWS). 2013. Eagle Conservation Plan Guidance. Module 1 - Land-Based Wind Energy. Version 2. Division of Migratory Bird Management, USFWS. April 2013. Available online: http://www.fws.gov/migratorybirds/Eagle_Conservation_Plan_Guidance-Module%201.pdf
- U.S. Fish and Wildlife Service (USFWS). 2016. U.S. Fish and Wildlife Service. Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests. Federal Register, Vol. 81, No. 242, Friday, December 16, 2016, Rules and Regulations.

U.S. Fish and Wildlife Service (USFWS). 2019. Final Environmental Assessment Wildhorse Wind Project Eagle Permit. Prepared by U.S. Fish and Wildlife Service, Migratory Birds and Habitat Program, Portland, Oregon. October 2019. Available online: https://www.fws.gov/pacific/migratorybirds/PDF/WH_docs/EA%20FINAL%20MB54872B%202019_1030.pdf

Whitfield, D.P. 2009. Collision Avoidance of Golden Eagles at Wind Farms under the 'Band' Collision Risk Model. Report to Scottish National Heritage. March 2009.

Appendix B

Biological Resources Technical Report for Mountain View Wind Repower Project

Biological Resources Technical Report for Mountain View Power Partners Wind Repower Project

Riverside County, CA

Prepared for:



MVPP North American Development, LLC
690 North Studebaker Road
Long Beach, CA 90803

Prepared by:



Tetra Tech, Inc.
5383 Hollister Avenue, Suite 130
Santa Barbara, CA 93111

August 2020

GENERAL DISCLAIMER FOR SCIENTIFIC WORK PRODUCTS

This deliverable was prepared in accordance with generally accepted professional practices that are typically utilized for scientific work products. The work was performed within the limitations and assumptions of our approved scope of work, and the descriptive documentation associated with this deliverable. Unless explicitly included in our approved scope of work, information provided in this deliverable has not been prepared to meet industry standards for engineering and should not be used for construction.

EXECUTIVE SUMMARY

This Biological Resources Technical Report (Report) documents the results of the biological surveys performed for the proposed Mountain View Power Partners (MVPP) Wind Repower Project (Project) in Riverside County, CA. The entire repower Project site is approximately 1,111 acres. A portion of the Project site is located in the Whitewater Floodplain Conservation Area, as defined in the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) (Coachella Valley Association of Governments [CVAG] 2007). This area comprises approximately 236 acres of the overall site. In July 2020, an additional 38 acres was added to the Project site, which is comprised of three small areas that are located outside of the Conservation Area (Figure 1).

The following surveys were performed within the Conservation Area:

- Protocol-level desert tortoise survey;
- Rare plant surveys (including vegetation mapping), while concurrently recording observations of LeConte's thrasher, burrowing owls, and suitable burrows for burrowing owls;
- Burrowing owl burrow checks.

The following surveys were performed in the remainder of the Project site outside the Conservation Area:

- Rare plant surveys (including vegetation mapping), while concurrently documenting observations of desert tortoise, LeConte's thrasher, burrowing owls, and suitable burrowing owl burrows;
- Burrowing owl burrow checks;
- General biological survey of the added 38-acre area, including vegetation mapping and documenting observations of rare plants, desert tortoise, LeConte's thrasher, burrowing owls, and suitable burrowing owl burrows.

The surveys were conducted in the spring and summer of 2020. All special-status species found at the Project site are presented in Table ES-1.

Table ES-1: Special-status Species Observed in Project Site

Species	Federal Status	State Status/ Other Status	Found inside Conservation Area	Found outside Conservation Area
Burrowing owl (<i>Athene cunicularia</i>)	None	None/S, SSC, BCC, CVMSHCP	At least nine individuals (both adults and juveniles) observed and four occupied burrows. One occupied burrow (with at least five individuals, both adults and juveniles) observed just south of the Project boundary (not located in the Project site but in the buffer area surveyed).	Six individuals (two adults and four juveniles) observed and one occupied burrow.

Table ES-1: Special-status Species Observed in Project Site

Species	Federal Status	State Status/ Other Status	Found inside Conservation Area	Found outside Conservation Area
Golden eagle (<i>Aquila chrysaetos</i>)	None	None/S, FP, WL, BCC	One carcass.	None.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	None	None/SSC, BCC	Observed.	Observed (including fledglings).
California glossy snake (<i>Arizona elegans occidentalis</i>)	None	None/SSC	One carcass.	None.
Red-diamond rattlesnake (<i>Crotalus ruber</i>)	None	None/SSC	One observed.	One observed.

Notes: BCC USFWS Birds of Conservation Concern
 FP CDFW Fully Protected
 FT USFWS Federally Threatened
 S BLM Sensitive Species
 SSC CDFW Species of Special Concern
 ST CDFW State Threatened
 WL CDFW Watch List
 CVMSHCP Coachella Valley Multiple Species Habitat Conservation Covered Species

Although burrows that could potentially be used by the desert tortoise were found on-site, the analysis indicates that there is low likelihood of occurrence of this species in the Project site.

The results of the surveys have been used to inform the pre-construction surveys required and to determine avoidance and minimization measures during construction activities. The recommended measures within this Report are preliminary and will be refined during the CEQA process as more details about the Project design and schedule are available. If habitat for special-status species can be avoided during the finalization of the Project design, this could minimize the requirements. Since occupied burrowing owl burrows and potential desert tortoise burrows were found within the site, it is recommended that burrows are avoided whenever possible during Project implementation.

Table of Contents

1	Introduction.....	1
1.1	Project Description.....	1
2	Regulatory Setting.....	1
2.1	Federal Endangered Species Act.....	1
2.2	California Endangered Species Act.....	2
2.3	Migratory Bird Treaty Act.....	2
2.4	Bald and Golden Eagle Act.....	3
2.5	Coachella Valley Multiple Species Habitat Conservation Plan.....	3
3	Environmental Setting.....	3
4	Methods.....	4
4.1	Methods in Conservation Area.....	4
4.2	Methods in Remainder of the Project Site Outside the Conservation Area.....	7
4.3	Methods Summary and Schedule.....	8
4.4	Access and Safety.....	9
5	Results.....	10
5.1	Results in Conservation Area.....	25
5.1.1	Protocol-Level Desert Tortoise Survey.....	25
5.1.2	Rare Plant Surveys.....	26
5.1.3	Vegetation Mapping.....	26
5.1.4	Burrowing Owl.....	29
5.1.5	Incidental Species Observations.....	30
5.2	Results in Remainder of the Project Site Outside the Conservation Area.....	34
5.2.1	Rare Plant Surveys.....	34
5.2.2	Vegetation Mapping.....	34
5.2.3	Burrowing Owl.....	35
5.2.4	Incidental Observations.....	36
5.3	Rabbit Hemorrhagic Disease.....	39
6	Avoidance and Minimization Measures.....	39
7	References.....	45

List of Tables

Table ES-1: Special-status Species Observed in Project Site	1
Table 1: Field Summary	8
Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer	11
Table 3: Survey Times and Weather Data	24
Table 4: Potential Desert Tortoise Burrows in Conservation Area Portion of Survey Area	25
Table 5: Vegetation Communities in Conservation Area Portion of Survey Area.....	26
Table 6: Potential Burrowing Owl Burrows in Conservation Area Portion of Survey Area	29
Table 7: Plant Species Observed in Conservation Area Portion of Survey Area	30
Table 8: Wildlife Species Observed in Conservation Area Portion of Survey Area	32
Table 9: Vegetation Communities Outside Conservation Area Portion of Survey Area.....	34
Table 10: Plant Species Observed Outside Conservation Area Portion of Survey Area.....	36
Table 11: Wildlife Species Observed Outside Conservation Area Portion of Survey Area	38
Table 12: Special-status Species Observed in Project Site	40
Table 13: Avoidance and Minimization Measures	42

List of Figures

- Figure 1: MVPP Wind Repower Project Location
- Figure 2: Special Status-Species Occurrences and Sign within Survey Area
- Figure 3: Vegetation Communities

List of Appendices

- Appendix A. Desert Tortoise Survey Data Sheets
- Appendix B. Site Photographs

Acronyms and Abbreviations

°F	degrees Fahrenheit
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CVAG	Coachella Valley Association of Governments
CVCC	Coachella Valley Conservation Commission
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
FESA	Federal Endangered Species Act
GPS	Global Positioning System
HCP	Habitat Conservation Plan
ID	identification number (burrow)
ITP	Incidental Take Permit
JPR	Joint Project Review
m	meters
msl	mean sea level
MVPP	Mountain View Power Partners
NEPA	National Environmental Policy Act
RHDV2	Rabbit Hemorrhagic Disease Virus Type 2
Tetra Tech	Tetra Tech, Inc.
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
WECS	wind energy conversion systems
WEST	Western EcoSystems Technology, Inc.

This page intentionally left blank

1 Introduction

This Biological Resources Technical Report (Report) documents the results of the biological surveys performed for the proposed Mountain View Power Partners (MVPP) Wind Repower Project (Project) in Riverside County, CA. MVPP worked with Tetra Tech, Inc. (Tetra Tech), Dudek, and ECORP to conduct biological surveys in support of their Riverside County Wind Energy Conversion Systems (WECS) permit application. This Report was prepared to document the methods and results of the biological surveys, describe any additional requirements (e.g., avoidance and minimization measures, future survey efforts, if any), provide sufficient detail required for the California Environmental Quality Act (CEQA) document to be written, and support the WECS permit application.

1.1 Project Description

MVPP is proposing to repower its existing Mountain View I & II wind energy projects, located in unincorporated Riverside County and City of Palm Springs jurisdictions. The entire repower Project site is 1,111 acres, as shown in Figure 1. The existing and proposed facilities are shown on Figure 1; specific locations of the proposed facilities may be modified during finalization of the Project design. A portion of the Project site is located in the Whitewater Floodplain Conservation Area, as defined in the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) (Coachella Valley Association of Governments [CVAG] 2007). This area comprises approximately 236 acres of the overall Project site. The Project site also includes a 1.5-mile underground electrical line from the eastern-most turbine string, along the railroad right-of-way to the southeastern corner of the substation parcel and extending north to the substation. In July 2020, an additional 38 acres was added to the Project site, which is comprised of three small areas that are located outside of the Conservation Area (Figure 1). MVPP is targeting a December 2021 commercial operations date.

2 Regulatory Setting

Federal, state, and local regulations related to biological resources that pertain to the Project are discussed in the following sections.

2.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) and its implementing regulations in Title 50 of the Code of Federal Regulations (CFR) Section 17 prohibit the take of any fish or wildlife species that is federally listed as threatened or endangered without prior approval pursuant to either Section 7 or Section 10 of the FESA. Species can be listed as endangered, threatened, proposed for listing (proposed for listing in Federal Register), or candidates for listing (where listing is warranted, but precluded by higher priority listing activities).

FESA Section 7(a)(2) requires each federal agency to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat (16 United States Code [U.S.C.] § 1536 (a)(2)). If there is a federal nexus (e.g., permit or funding from a federal entity), then ESA issues are addressed through Section 7 of the FESA and a Biological Assessment is developed.

Section 10 of the FESA allows a non-federal applicant, under certain terms and conditions, to incidentally take a FESA-listed species that would otherwise be prohibited. When a non-federal landowner wishes to proceed with an activity that is legal in all other respects, but that may result in the incidental taking of a listed species, an Incidental Take Permit (ITP) is required. Under Section 10, a U.S. Fish and Wildlife Service (USFWS)-approved Habitat Conservation Plan (HCP) is required to accompany an application for an ITP to demonstrate that all reasonable and prudent efforts have been made to avoid, minimize, and mitigate for the effects of the potential incidental take.

2.2 California Endangered Species Act

The California Endangered Species Act (CESA) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is “consistent” with the CESA under California Fish and Game Code Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project operator would have to apply for an ITP under Section 2081(b).

2.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act makes it unlawful “by any means or in any manner, to pursue, hunt, take, capture, kill [...] possess, offer for sale, sell [...] purchase [...] ship, export, import [...] transport or cause to be transported [...] any migratory bird, any part, nest, or eggs of any such bird” except as otherwise permitted under the regulations (16 U.S.C. 703). The word “take” is defined by regulation as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR 10.12). An April 11, 2018 memorandum from the USFWS provided guidance to “clarify what constitutes prohibited take” (USFWS 2018). The USFWS memo stated that the “take of birds, eggs or nests” was prohibited only when the purpose of the activity was to conduct take, but was not prohibited when the purpose of the activity was not to conduct take.

2.4 Bald and Golden Eagle Act

The Bald and Golden Eagle Protection Act of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) by prohibiting the take, possession, and commerce of these species and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” To disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

2.5 Coachella Valley Multiple Species Habitat Conservation Plan

On October 2, 2008, and as amended in 2016, the CVMSHCP became effective and applies to the portions of the Project within the jurisdiction of the County of Riverside and the City of Palm Springs. The CVMSHCP maintains or restores self-sustaining populations or metapopulations of the species included in the Plan to ensure conservation so that ITPs can be obtained in the Plan area for species listed by the USFWS and/or CDFW. It does not apply to Bureau of Land Management (BLM)-administered lands, such that it does not provide take permit coverage for activities on BLM-administered lands. Separate take permits would be required, as needed for federal lands, outside of the CVMSHCP.

The Project would be required to complete a Joint Project Review (JPR) process through the County of Riverside, with concurrence by Coachella Valley Conservation Commission (CVCC), CDFW, and USFWS. As part of this process, the CVMSHCP establishes a mechanism for mitigating the effects of development through the payment of a Local Development Mitigation Fee (CVAG 2007).

The portions of the Project site that are located within the CVMSCHP Whitewater Floodplain Conservation Area are subject to additional review and certain limits on the amount and location of development (CVAG 2007).

3 Environmental Setting

The Project site is located near the northwestern extent of the Coachella Valley, and a portion of the site is within the Whitewater Floodplain Conservation Area of the CVMSHCP. This region experiences hot summers, mild winters, frequent gusty winds, and annual rainfall averaging less than 10 inches (Western EcoSystems Technology, Inc. [WEST] 2013). Elevation at the site ranges from approximately 240 to 400 meters (m). The site currently supports existing wind turbines. Vegetation on the site includes components of the Mojave and Sonoran deserts, including desert scrub communities.

4 Methods

Survey methods for the Project site were described in the Biological Surveys Work Plan that was finalized in April 2020 before surveys were conducted (Tetra Tech 2020). The Work Plan confirmed and updated the list of special-status species that could occur in the Project area. Special-status species are defined as plants and wildlife holding a status of sensitive, threatened, endangered, rare, or candidate as defined by CDFW, USFWS, California Native Plant Society (CNPS), or the BLM. Based on the list of special-status species, field methods were developed to survey the Project site for natural resources.

The CVMSHCP Whitewater Floodplain Conservation Area has modeled habitat for the Coachella Valley Jerusalem cricket, Coachella Valley milkvetch, triple-ribbed milkvetch, desert tortoise, flat-tailed horned lizard, burrowing owl, LeConte's thrasher, Palm Springs round-tailed ground squirrel, and Palm Springs pocket mouse; therefore, the Project site could contain habitat for these species. These species are covered under the CVMSHCP, and impacts to and mitigation for these species are covered in the CVMSHCP permits. Although there is modeled habitat for the Coachella Valley Jerusalem cricket, it has not been found in this area based on limited surveys. The survey approach also was developed to comply with the applicable measures described in Section 4.4 of the CVMSHCP.

A protocol-level desert tortoise survey, rare plant surveys (including vegetation mapping), LeConte's thrasher surveys and burrowing owl surveys were conducted as described in the sections below. Focused surveys were not conducted for the other species with modeled habitat listed above because these species are covered under the CVMSHCP, and the CVMSHCP does not require surveys for them. However, a habitat assessment was conducted, and any special-status species observed or detected during the surveys were recorded.

Methods below are separated between the Conservation Area (approximately 236 acres in the western corner of the Project site covered by the CVMSHCP) and the remainder of the Project site (approximately 875 acres).

4.1 Methods in Conservation Area

The following surveys were performed within the Conservation Area:

- Protocol-level desert tortoise survey;
- Rare plant surveys (including vegetation mapping), while concurrently recording observations of LeConte's thrasher, burrowing owls, and suitable burrows for burrowing owls;
- Burrowing owl burrow checks.

Desert Tortoise. Desert tortoise is a covered species under the CVMSHCP, and focused surveys are generally not required for covered activities within the Plan area. However, Section 4.4 of the CVMSHCP states that a protocol-level desert tortoise survey is required within Conservation Areas. Therefore, the desert tortoise survey was restricted to the western-most portion of the Project site

that overlaps with the Whitewater Floodplain Conservation Area. A 200-foot buffer around the survey area was also included, consistent with Section 4.4 of the CVMSHCP.

The Project team performed a protocol-level survey for desert tortoise according to USFWS's *Preparing for any Action That May Occur Within the Range of Mojave Desert Tortoise* (USFWS 2019), which requires a 100 percent coverage pedestrian transect survey of the Project site prior to construction activities. The desert tortoise survey was also performed in accordance with the survey requirements outlined in the CVMSHCP for Conservation Areas. The survey was conducted for desert tortoise individuals and their sign (e.g., burrows, carcasses, scat, pellets, drinking sites, tracks, mating rings) during the species spring active period (April through May). The survey was led by an Authorized Desert Tortoise Biologist and the remaining team members consisted of qualified desert tortoise biologists who have undergone the Desert Tortoise Council's Desert Tortoise Workshop and who have considerable experience conducting surveys for and identifying desert tortoise.

Biologists walked the survey area using pedestrian transects spaced no more than 30 feet apart to provide 100-percent survey coverage. Biologists checked under shrubs and trees and visually inspected any burrows encountered for desert tortoise or desert tortoise sign. A portion of the survey area within the buffer along the western boundary was inaccessible due to fenced-in private property (Figure 1). These areas were not surveyed on-foot but were scanned using binoculars. The survey was conducted during atmospheric conditions most conducive to observing desert tortoise and avoided adverse conditions that might have inhibited tortoise activity, including high winds and temperature extremes (less than 50 degrees Fahrenheit [°F] and greater than 104°F).

Locations of tortoises and sign, if detected, were recorded onto data sheets. All tortoise survey data sheets are provided in Appendix A. The date of observation, sign type, sign classification (according to the survey protocol), amount of sign, and any pertinent comments were recorded for any sign encountered. Additionally, detected tortoises and tortoise sign were photographed when feasible, and the location was documented using a Global Positioning System (GPS) unit.

Rare Plant Surveys. The Conservation Area provides habitat for one CVMSHCP-covered plant species, the triple-ribbed milkvetch, and potentially provides habitat for two additional CVMSHCP-covered species: the Coachella Valley milkvetch and the little San Bernardino Mountains linanthus. A review of special-status plants in the region reveals that 12 additional special-status plant species that are not covered species under the CVMSHCP had the potential to occur on or adjacent to the Project site. To address CEQA requirements, rare plant surveys were conducted to determine the presence of these additional plant species on or adjacent to the Project site.

Two rare plant surveys were conducted in the Conservation Area during the blooming periods of the target rare plant species: one in early May and the second in late May. The first rare plant survey within the Conservation Area was conducted simultaneously with the desert tortoise survey.

Prior to conducting the rare plant surveys, a biologist performed blooming status checks at rare plant reference populations. Visiting reference populations ensured that surveys were conducted during the appropriate timeframe, when plants were identifiable.

Survey methods identified in standard rare plant protocol documents such as the USFWS *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), the BLM *Survey Protocols Required for NEPA/ESA Compliance for BLM Special Status Plant Species* (BLM 2009), the CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018), and the CNPS *Botanical Survey Guidelines of the California Native Plant Society* (CNPS 2001) were taken into consideration during the surveys. The four-person survey team consisted of qualified biologists and/or botanists with experience surveying for and identifying southern California flora. Botanists led all rare plant surveys. Plant species observed on site were identified to the taxonomic species in the event that they could be listed under the federal or California Endangered Species Acts or considered rare by CNPS. If a rare plant species was detected, its location was documented using a GPS device with sub-meter accuracy.

In areas of high-quality habitat and/or those containing highest potential for special-status plant species to occur, biologists walked throughout the survey area using pedestrian transects spaced no more than 30 feet apart.

During the rare plant surveys, biologists performed coarse level mapping of plant communities within the Project site. Common plant species were also identified and recorded. Plant communities were mapped using GPS. Nomenclature followed *The Jepson Manual* (Baldwin et al. 2012) for plant names and *A Manual of California Vegetation*, second edition (Sawyer et al. 2009) for vegetation communities. In some cases, a best-fit definition based on habitat descriptions and land-use was applied for vegetation communities.

Other Special-Status Species. During the combined desert tortoise/rare plant survey in early May and the rare plant survey in late May, biologists recorded any other special-status species observed or detected during the survey, including burrowing owl and LeConte's thrasher, on survey data sheets and documented their occurrences using a GPS unit. Any potential burrowing owl burrows were mapped with the GPS unit. Plant and animal species observed on-site during the survey were recorded, and representative site photographs were taken during the survey.

Burrowing Owl Burrow Checks. Burrowing owl and their sign (e.g., burrows, whitewash, feathers, pellets) were documented and mapped during the desert tortoise and rare plant surveys, if observed. Although protocol burrowing owl surveys were not performed, it was anticipated that burrowing owl observations recorded during the rare plant and desert tortoise surveys would gather sufficient data to determine burrowing owl presence and burrow occupancy. In the event that a potential burrowing owl burrow was identified within the Conservation Area and burrowing owl occupation could not be determined at the time it was observed, or more information was needed on an occupied burrow (e.g., nesting status), then a qualified biologist with experience identifying and surveying for burrowing owl performed additional burrow checks within the Conservation Area in June. The purpose of these burrow checks was to gain additional information on burrowing owl use of the Project site in order to provide enough detail to support an impacts analysis for CEQA. The biologist did not perform transect surveys; rather, the biologist visited each previously identified burrow location to observe it at a distance so as to not disrupt the burrowing owls occupying the burrow. Data on burrow occupancy, burrowing owl behavior, and, if necessary, nest status was documented during each burrow check.

4.2 Methods in Remainder of the Project Site Outside the Conservation Area

The following surveys were performed in the remainder of the Project site outside the Conservation Area:

- Rare plant surveys (including vegetation mapping), while concurrently documenting observations of desert tortoise, LeConte's thrasher, burrowing owls, and suitable burrowing owl burrows;
- Burrowing owl burrow checks;
- General biological survey of added 38-acre area, including vegetation mapping and documenting observations of rare plants, desert tortoise, LeConte's thrasher, burrowing owls, and suitable burrowing owl burrows.

Rare Plant Surveys. The Project team conducted rare plant surveys within the approximately 875-acre Project area outside the Conservation Area and the 1.5 mile underground electrical line from the eastern-most turbine string to along the railroad right-of-way to the southeastern corner of the substation parcel. Due to the existing disturbances within the Project site (e.g., access roads, wind turbines, other facilities), 100-percent survey coverage of the Project site was not conducted. Rather, rare plant surveys focused on the areas containing the highest quality habitat and the highest potential for rare plants to occur, also known as intuitive controlled survey method (BLM 2009). Two surveys were conducted to coincide with the blooming periods of the target rare plant species: one in late April and the second in late May.

Rare plant survey methods outside the Conservation Area followed the same approach described above for rare plant surveys inside the Conservation Area. If a rare plant species was detected, its location was documented using a GPS device with sub-meter accuracy. Biologists also mapped existing plant communities within the Project site and recorded common plant species. Plant communities were mapped using GPS.

Other Special-Status Species. During the rare plant surveys in late April and late May outside the Conservation Area, biologists recorded any other special-status species or signs observed during the survey, including desert tortoise, burrowing owl, and LeConte's thrasher, on survey data sheets and documented their occurrences using a GPS unit. Any potential burrowing owl burrows were mapped with the GPS unit. Plant and animal species observed on-site during the survey were recorded, and representative site photographs were taken during the survey.

Burrowing Owl Burrow Checks. Burrowing owl and their sign (e.g., burrows, whitewash, feathers, pellets) was documented and mapped during rare plant surveys, if observed. Although protocol burrowing owl surveys were not performed, it was anticipated that burrowing owl observations recorded during the rare plant and desert tortoise surveys would gather sufficient data to determine burrowing owl presence and burrow occupancy. In the event that a potential burrowing owl burrow was identified outside the Conservation Area and burrowing owl occupation could not be determined at the time it was observed, or more information was needed on an occupied burrow (e.g., nesting status), then a qualified biologist with experience identifying and surveying for burrowing owl performed additional burrow checks in June. As mentioned above, data on burrow occupancy, burrowing owl behavior, and, if necessary, nest status was documented during each burrow check.

General Biological Survey of Added 38-acre Area. A general biological survey of the added 38-acre area, which is comprised of three small areas, was conducted on July 15, 2020. A 200-foot buffer around the added area was also surveyed. A small portion of the 200-foot buffer outside the southeast boundary of the largest of the three small added areas (southeast of B7 on Figure 2) could not be surveyed due to the presence of an existing fenced facility; this area is developed and is not expected to contain special-status biological resources. The survey team consisted of qualified biologists with experience identifying and surveying for special-status biological resources in the region. Biologists walked the survey area using pedestrian transects spaced no more than 30 feet apart to provide 100-percent survey coverage. Biologists performed coarse level mapping of plant communities and documented any special-status species or signs observed during the survey, including rare plant species, desert tortoise, burrowing owl, and LeConte's thrasher. Any special-status species and active or potential burrowing owl and/or desert tortoise burrows were mapped using a GPS unit. Common plant and animal species observed during the survey were also recorded and representative site photographs were taken.

Due to the timing of the survey in July, the survey was conducted within the burrowing owl active period, as defined in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012), and during the typical nesting bird season (February 15 - September 1). While the survey was not conducted during the protocol survey period for desert tortoise, during the appropriate blooming period for most rare plants, or during the nesting season for LeConte's thrasher, the survey was able to determine the presence of potential habitat for these species. Any potential habitat for special-status species was documented and mapped during the survey.

4.3 Methods Summary and Schedule

A summary of the field surveys and assessments is provided in Table 1.

Table 1: Field Summary

Dates (2020)	Species	Survey Area	
		Inside Conservation Area	Outside Conservation Area
Event 1: April 27-30			
	Rare plants (Coachella valley milkvetch, Little San Bernardino Mountains linanthus, and rare plants not covered by CVMSHCP) and vegetation mapping*		X
	Desert tortoise sign (recorded if incidentally observed)		X
	Burrowing owl		X
	LeConte's thrasher (recorded if incidentally observed)		X

Table 1: Field Summary

Dates (2020)	Species	Survey Area	
		Inside Conservation Area	Outside Conservation Area
Event 2: May 4-7			
	Desert tortoise (protocol-level)	X	
	Rare plants (Coachella valley milkvetch, little San Bernardino Mountains linanthus, and rare plants not covered by CVMSHCP) and vegetation mapping	X	
	Burrowing owl	X	
	LeConte's thrasher	X	
Event 3: May 26-29			
	Rare plants (Coachella valley milkvetch, little San Bernardino Mountains linanthus, and rare plants not covered by CVMSHCP)*	X	X
	Desert tortoise sign (recorded if incidentally observed)	X	X
	Burrowing owl	X	X
	LeConte's thrasher (recorded if incidentally observed outside Conservation Area)	X	X
Events 4-5: Two checks, June 6 and 18			
	Burrowing owl burrow checks	X	X
Event 6: July 15 (Added 38-acre Area)			
	General biological survey (vegetation mapping, rare plants, desert tortoise, LeConte's thrasher, burrowing owls, and suitable burrowing owl burrows)**		X (Added 38-acre Area only)

Notes:

*Rare plant surveys were done in areas of high-quality habitat. 100 percent coverage was not performed.

**Due to the timing of the survey in July, the survey was not conducted during the protocol survey period for desert tortoise, during the appropriate blooming period for most special-status plant species, or during the nesting season for LeConte's thrasher.

4.4 Access and Safety

Letters indicating that Project staff are authorized to continue working during COVID-19 were provided to the field team and carried by staff at all times during fieldwork. A Tetra Tech health and safety plan was also prepared that included measures to address COVID-19 concerns and was followed by Tetra Tech and ECORP.

5 Results

Prior to the surveys, a literature and data review of pertinent background information for the Project site was completed, which included the CDFW California Natural Diversity Database (CNDDB) data (CDFW 2020), CNPS Inventory of Rare and Endangered Plants data (CNPS 2020), the CVMSHCP (CVAG 2007), available aerial imagery (Google Earth Pro 2018), and previous avian surveys conducted at the site (WEST 2019). The special-status species in Table 2 are those with potential to occur within or in an approximate 1-mile radius around the site (CDFW 2020, CNPS 2020). Likelihood of occurrence was determined for each species based on the survey results and previous occurrence records near the site.

Survey start and end times and weather conditions were recorded for each visit and are presented in Table 3.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
Plants							
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	None	None/1B.1	Chaparral, coastal scrub, desert dunes, sandy soils, elevations of 75-1,600 m	Mar-Sep	Surveys inside and outside Conservation Area	Low. Neither this species nor its habitat was found in the Project site during surveys. No potential habitat for this species was found in the added 38-acre area. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milkvetch	FE	None/1B.2, CVMSHCP	Desert dunes, Sonoran desert scrub, sandy soils, elevations of 40-655 m	Feb-May	Surveys inside and outside Conservation Area*	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There is one known occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Astragalus tricarinatus</i>	triple-ribbed milkvetch	FE	None/1B.2, CVMSHCP	Joshua tree woodland, Sonoran desert scrub, sandy or gravelly soils, elevations of 450-1,190 m	Feb-May	Surveys inside and outside Conservation Area*	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	None	None/1B.1	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, sandy soils, elevations of 90-800 m	Apr-Jun	Surveys inside and outside Conservation Area	Low. Neither this species nor its habitat was found in the Project site during surveys. No potential habitat for this species was found in the added 38-acre area. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	white-bracted spineflower	None	None/1B.2	Coastal scrub (alluvial fans), Mojavean desert scrub, Pinyon and juniper woodland, sandy or gravelly soils, elevations of 300-1,200 m	Apr-Jun	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There is one known historic occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Dodecahema leptoceras</i>	slender-horned spineflower	FE	SE/1B.1	Chaparral, cismontane woodland, coastal scrub (alluvial fan), sandy or gravelly soils, elevations of 200-760 m	Apr-Jun	Surveys inside and outside Conservation Area	Low. Neither this species nor its habitat was found in the Project site during surveys. No potential habitat for this species was found in the added 38-acre area. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Eriastrum harwoodii</i>	Harwood's eriastrum	None	None/1B.2	Desert dunes, sandy soils, elevations of 125-915 m	Mar-Jun	Surveys inside and outside Conservation Area	Low. Neither this species nor its habitat was found in the Project site during surveys. No potential habitat for this species was found in the added 38-acre area. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Euphorbia misera</i>	cliff spurge	None	None/2B.2	Coastal bluff scrub, coastal scrub, Mojavean desert scrub, rocky soils, elevations of 10-500 m	Dec-Aug	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Imperata brevifolia</i>	California satintail	None	None/2B.2	Chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), riparian scrub, clayey to sandy soils, elevations below 500 m	Sep-May	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Linanthus maculatus</i> ssp. <i>maculatus</i>	Little San Bernardino Mountains linanthus	None	None/1B.2, CVMSHCP	Desert dunes, Joshua tree woodland, Mojavean desert scrub, Sonoran desert scrub, sandy soils, 140-1,220 m	Mar-May	Surveys inside and outside Conservation Area*	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Mentzelia tricuspidis</i>	spiny-hair blazing star	None	None/2B.1	Mojavean desert scrub, sandy or gravelly soils, 150-1,280 m	Mar-May	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender cottonheads	None	None/2B.2	Coastal dunes, desert dunes, Sonoran desert scrub, sandy desert soils, elevations of 0-400 m	Apr-May	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There is one known historic occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i>	desert beardtongue	None	None/2B.2	Mojavean desert scrub, Sonoran desert scrub, sandy or rocky soils, elevations of 80-1,935 m	Jan-May	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	None	None/1B.2	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland, coarse sand to rocky soils, elevations of 400-1,900 m	Mar-Jun	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. The maximum elevation at the site is approximately 400 meters, which is below the elevation range for this species. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Selaginella eremophila</i>	desert spike-moss	None	None/2B.2	Chaparral, Sonoran desert scrub, gravelly or rocky soils, elevations of 200-1,295 m	May-Jul	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
Birds							
<i>Aquila chrysaetos</i>	golden eagle	None	None/S, FP, WL, BCC	Rolling foothills, mountain areas, sage-juniper flats, and desert	NA	Habitat assessment throughout entire Project site	Observed. One carcass of this species was observed within the Conservation Area during surveys and desert habitat occurs within the Project site. The site likely provides foraging habitat for this species. There is one known historic occurrence within one mile of the site (CDFW 2020).
<i>Athene cunicularia</i>	burrowing owl	None	None/S, SSC, BCC, CVMSHCP	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation	NA	Habitat assessment for suitable burrows during desert tortoise/rare plant survey inside Conservation Area, and during rare plant and added 38-acre area surveys outside Conservation Area. Additional burrow checks at suitable burrows. *	Observed. Five burrows occupied by this species were found within the Conservation Area and one occupied burrow was found outside the Conservation Area during surveys. Desert habitat occurs within the Project site. There are two known occurrences within one mile of the site (CDFW 2020).

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Falco mexicanus</i>	prairie falcon	None	None/WL, BCC	Dry, open level or hilly terrain, annual and perennial grasslands, alpine meadows, savannahs, rangeland, agricultural fields, and desert scrub	NA	Habitat assessment throughout entire Project site	Medium. This species was not observed during surveys, but desert habitat occurs within the Project site. There is one known historic occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is medium.
<i>Lanius ludovicianus</i>	Loggerhead shrike	None	None/SSC, BCC	Open areas with scattered shrubs, trees, posts, fences, utility lines, or other perches	NA	Habitat assessment throughout entire Project site	Observed. This species was observed during surveys both inside and outside the Conservation Area.
<i>Toxostoma lecontei</i>	LeConte's thrasher	None	None/SSC, BCC, CVMSHCP	Open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats	NA	Incidental observations noted during desert tortoise/rare plant survey inside Conservation Area, and during rare plant and added 38-acre area surveys outside Conservation Area*	Low. Although desert scrub habitat occurs within the Project site, this species was not observed during surveys. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
Mammals							
<i>Perognathus longimembris bangsi</i>	Palm Springs pocket mouse	None	None/SSC, S, CVMSHCP	Creosote scrub, desert scrub, and grasslands with loosely packed or sandy soils with sparse to moderately dense vegetative cover	NA	Habitat assessment throughout entire Project site*	Low. Although creosote and desert scrub occurs within the Project site, this species was not observed during surveys. Rocky soils also likely preclude this species from occurring on the site. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Xerospermophilus tereticaudus chlorus</i>	Palm Springs round-tailed ground squirrel	None	None/SSC, S, CVMSHCP	Mesquite- and creosote-dominated sand dunes, creosote bush scrub, creosote-palo verde and saltbush/alkali scrub	NA	Habitat assessment throughout entire Project site*	Low. Although creosote scrub occurs within the Project site, this species was not observed during surveys. There is one known historic occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
Reptiles							
<i>Arizona elegans occidentalis</i>	California glossy snake	None	None/SSC	Desert habitats, chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grass	NA	Habitat assessment and throughout entire Project site	Observed. This species was observed during surveys inside the Conservation Area.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Crotalus ruber</i>	Red-diamond rattlesnake	None	None/SSC	Chaparral, woodland, and arid desert habitats, rocky areas and dense vegetation	NA	Habitat assessment and throughout entire Project site	Observed. This species was observed during surveys both inside and outside the Conservation Area.
<i>Gopherus agassizii</i>	desert tortoise	FT	ST/ CVMSHCP	Flats and slopes dominated by creosote bush scrub to rocky slopes in blackbrush and juniper woodland	NA	Protocol survey inside Conservation Area. Incidental observations noted outside Conservation Area during rare plant and added 38-acre area surveys. *	Low. Neither this species nor recent sign (e.g., burrow sites with scat and/or tracks present) was observed during the focused protocol survey of the Conservation Area, but seven burrows that could be used by desert tortoise were found within the Conservation Area. Creosote bush occurs throughout the Project site, but disturbances present due to existing facilities at the Project site reduce the quality of habitat present and may preclude this species from occurring. In addition, the Project site is located towards the western extent of the range of this species in Riverside County. There are also no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Phrynosoma mcallii</i>	flat-tailed horned lizard	None	None/SSC, S, CVMSHCP	Desert scrub, wash, succulent scrub, and alkali scrub, typically associated with desert dune soils	NA	Habitat assessment throughout entire Project site*	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys and no desert dune soils were present at the Project site. The site is just outside of the known range of this species. There is one known historic occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Uma inornata</i>	Coachella Valley fringe-toed lizard	FT	SE/CVMSHCP	Sand dunes in Coachella Valley	NA	Habitat assessment throughout entire Project site*	Low. This species was not observed during surveys and no dune habitat was found within the Project site. There are two known historic occurrences of this species within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
Invertebrates							
<i>Macrobaenetes valgum</i>	Coachella Valley giant sand-treader cricket	None	None/ CVMSHCP	Aeolian (wind-driven) dunes, sand hummocks (mounds), and sand fields	NA	Habitat assessment throughout entire Project site*	Low. This species was not observed during surveys and no dune habitat was found within the Project site. There are no known occurrences of this species within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Stenopelmatus cahuilaensis</i>	Coachella Valley Jerusalem cricket	None	None/ CVMSHCP	Sand dunes and alluvial gravelly/sandy soils	NA	Habitat assessment throughout entire Project site*	Low. This species was not observed during surveys and no dune habitat was found within the Project site. There is one known occurrence of this species within one mile of the Project site (CDFW 2020). Therefore, likelihood of occurrence is low.

Notes: Species based on CNDDDB query for 1-mile radius around center of Project site and CNPS query for two quadrangles (White Water and Desert Hot Springs).

BCC USFWS Birds of Conservation Concern

FE USFWS Federally Endangered

FP CDFW Fully Protected

FT USFWS Federally Threatened

S BLM Sensitive Species

SE CDFW State Endangered

SSC CDFW Species of Special Concern

ST CDFW State Threatened

WL CDFW Watch List

1B CNPS Plants that are rare, threatened, or endangered in California and elsewhere

2B CNPS Plants that are rare, threatened, or endangered in California but more common elsewhere

0.1 Seriously threatened in California

0.2 Moderately threatened in California

CVMSHCP Coachella Valley Multiple Species Habitat Conservation Covered Species

m meters

*Although covered by the CVMSHCP, any observations of this species or its suitable habitat will be included as part of the broader planned survey effort.

Table 3: Survey Times and Weather Data

Date (2020)	Surveys Conducted	Location	Start / End Time (24 hour)	Start / End Temp (°F)	Start / End Wind Speed (mph)	Start / End Cloud Cover (Percent)
April 27	Rare Plant	Outside Conservation Area	0814 / 1500	75 / 93	15-25 / 10-20	0 / 0
April 28	Rare Plant	Outside Conservation Area	0640 / 1400	70 / 105	10-15 / 5-12	0 / 0
April 29	Rare Plant	Outside Conservation Area	0630 / 1400	72 / 101	1-5 / 3-8	0 / 70
April 30	Rare Plant	Outside Conservation Area	0630 / 930	76 / 82	10-20 / 10-15	70 / 85
May 4	Rare Plant, Desert Tortoise (combined)	Inside Conservation Area	0805 / 1445	69 / 95	8-10 / 1-4	0 / 0
May 5	Rare Plant, Desert Tortoise (combined)	Inside Conservation Area	0630 / 1400	73 / 103	3-5 / 2-5	0 / 0
May 6	Rare Plant, Desert Tortoise (combined)	Inside Conservation Area	0630 / 1415	74 / 108	3-10 / 2-5	15 / 15
May 7	Rare Plant, Desert Tortoise (combined)	Inside Conservation Area	0630 / 1345	73 / 108	2-8 / 3-9	10 / 15
May 26	Rare Plant	Inside Conservation Area	0740 / 1435	78 / 102	4-6 / 9-11	0 / 0
May 27	Rare Plant	Inside Conservation Area	0600 / 1340	78 / 103	5-7 / 13-15	0 / 0
May 28	Rare Plant	Outside Conservation Area	0605 / 1345	76 / 103	5-7 / 10-12	0 / 0
May 29	Rare Plant	Outside Conservation Area	0610 / 1400	77 / 96	6-8 / 15-20	0 / 40
June 6	Burrowing Owl Burrow Checks	Mapped Active and Potential Burrowing Owl Burrows	0600 / 1030	80 / 96	5-10 / 5-7	0 / 0
June 18	Burrowing Owl Burrow Checks	Mapped Active and Potential Burrowing Owl Burrows	0600 / 1045	72 / 80	5-10 / 5-10	0 / 0
July 15	General Biological Survey	Outside Conservation Area (Added 38-acre Area)	0600 / 1430	78 / 105	10-20 / 8-15	0 / 0

5.1 Results in Conservation Area

5.1.1 Protocol-Level Desert Tortoise Survey

A protocol-level desert tortoise survey was conducted within the Conservation Area portion of the survey area between May 4 and 7, 2020. On May 6 and 7, temperatures at the end of the survey reached higher than the recommended conditions for tortoise activity (i.e., greater than 104°F). However, the high temperature conditions occurred at the end of the survey days when efforts for the day were nearly complete. Representative photographs taken during the survey are included in Appendix B.

Dominant plant species within the desert tortoise survey area included creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), desert dandelion (*Malacothrix glabrata*), and smokebush (*Psoralea sp.*). Approximately 20 percent of the survey area was classified as disturbed areas.

A total of seven potential desert tortoise burrows were found during the survey. All seven burrows were characterized as Class 4 burrows. Class 4 burrows are described as “good condition, possible tortoise” per the *USFWS Desert Tortoise (Mojave Population) Field Manual* (2009). No desert tortoise individuals or sign (e.g., scat, tracks) were observed during the survey but the burrows were of appropriate size and shape to potentially have been made or used by desert tortoise. Of the seven burrows, five were determined to be occupied by burrowing owl. The remaining two burrows did not have evidence of burrowing owl occupation. All burrows found are shown on Figure 2. Details on desert tortoise occupation and sign for each burrow are presented in Table 4. Burrow identification numbers (IDs) are used consistently throughout this Report. For example, B4 in this section represents the same burrow as B4 in the sections below.

Table 4: Potential Desert Tortoise Burrows in Conservation Area Portion of Survey Area

Burrow ID	Desert Tortoise Occupation	Desert Tortoise Sign	Width x Height x Depth (Aspect)	Notes
B1	Unoccupied	None	6" x 4" x 1' (west)	Burrow occurred under white rhatany (<i>Krameria bicolor</i>) shrub.
B2 (Two Burrows)	Unoccupied*	None	12" x 8" x 3'+ (southeast) 10" x 8" x 2'+ (southeast)	Two adjacent burrows.
B3 (Two Burrows)	Unoccupied*	None	8" x 6" x 2'+ (southeast) 12" x 8" x 2'+ (southwest)	Two adjacent burrows.
B4	Unoccupied	None	24"x12"x4'+ (northwest)	Burrow in wash, possibly coyote (<i>Canis latrans</i>).

Table 4: Potential Desert Tortoise Burrows in Conservation Area Portion of Survey Area

Burrow ID	Desert Tortoise Occupation	Desert Tortoise Sign	Width x Height x Depth (Aspect)	Notes
B5	Unoccupied*	None	14" x 6" x 2'+ (northeast)	Located in survey buffer; not within Project boundary. Burrow occurs on a rocky slope.

Notes: " = inches ; ' = feet.

*Burrows B2, B3, and B5 were found to be occupied by burrowing owl at the time of the survey.

The focused protocol desert tortoise survey did not detect live tortoises or recent tortoise sign (i.e. scat, tracks, recent burrows), but seven burrows (all Class 4, good condition and possibly belonging to desert tortoise [USFWS 2009]) that have the potential to be used by and/or have been made by desert tortoise were observed. Five of the seven burrows had recent burrowing owl use. The Project site is located at the western extent of the known range for desert tortoise in Riverside County, and no known records of desert tortoise have been documented within one mile of the Project site (CDFW 2020). While suitable friable soils and forage are present, on-site disturbances due to existing facilities at the Project site reduce the quality of habitat present and may preclude this species from occurring. Given these factors, there is a low likelihood of desert tortoise occurring on the site.

5.1.2 Rare Plant Surveys

The survey team performed a concurrent desert tortoise survey during the first rare plant survey in May. No special-status plants were found during the surveys. Rainfall for the wet season of 2019-2020 was considered average for the area (less than 10 inches) (Weather Underground 2020). The timing of surveys was considered adequate for detection of all potential special-status plant species.

5.1.3 Vegetation Mapping

Vegetation communities within the survey area were mapped. Table 5 describes the vegetation communities observed within the Conservation Area portion of the survey area. The results of the vegetation mapping are shown on Figure 3. These habitats, along with known species occurrences, were used to determine the likelihood of occurrence for the special-status species presented in Table 2.

Table 5: Vegetation Communities in Conservation Area Portion of Survey Area

Vegetation Community	Acres in Conservation Area	Description
Cheesebush - Sweetbush Scrub	147.7	Cheesebush (<i>Ambrosia salsola</i>) and sweetbush (<i>Bebbia juncea</i>) were co-dominant in the shrub canopy.

Table 5: Vegetation Communities in Conservation Area Portion of Survey Area

Vegetation Community	Acres in Conservation Area	Description
Creosote Bush - White Bursage Scrub	30.2	White bursage (<i>Ambrosia dumosa</i>) and creosote bush (<i>Larrea tridentata</i>) were co-dominant in the shrub canopy.
Creosote Bush Scrub	3.1	Creosote bush was dominant in the shrub canopy.
Developed	0.0	Areas with infrastructure present (e.g., substations, concrete, laydown yards) and no vegetation.
Disturbed	11.3	Areas that lacked development but were heavily influenced by human actions (e.g., grading, trash dumping, dirt roads). Vegetation was absent or consisted primarily of non-native species, such as red brome (<i>Bromus madritensis</i> ssp. <i>rubens</i>), redstem filaree (<i>Erodium cicutarium</i>), and Mediterranean grass (<i>Schismus barbatus</i>).
Disturbed - White Bursage Scrub	39.5	Large scale anthropogenic causes (e.g., cattle grazing, grading) have significantly disturbed vegetation, compared to the undisturbed community. Intermittent white bursage was present with herbaceous plants including desert dandelion (<i>Malacothrix glabrata</i>), Fremont's pincushion (<i>Chaenactis fremontii</i>), and non-native species including stinknet (<i>Oncosiphon piluliferum</i>).
White Bursage Scrub	4.2	White bursage was dominant in the shrub canopy.
Total	236.0	

Vegetation communities are described below. Representative photographs of vegetation types taken during the surveys are included in Appendix B.

Cheesebush - Sweetbush Scrub (*Ambrosia salsola* - *Bebbia juncea* Shrubland Alliance). The Cheesebush - Sweetbush Scrub community was co-dominated by cheesebush and sweetbush (*Bebbia juncea*) in the shrub canopy. Brittlebush (*Encelia farinosa*) and California ephedra (*Ephedra californica*) as well as emergent trees, such as desert willow (*Chilopsis linearis*), were also scattered in portions of the survey area. This community is characterized by an open to intermittent shrub canopy with a sparse or seasonally present herbaceous layer. It also can contain intermittently flooded channels, washes, valleys, flats, or rarely flooded low-gradient deposits. Soils are alluvial, sandy and/or gravelly, or disturbed desert pavement at elevations ranging from 0 m at mean sea level (msl) to 1,600 m above msl (Sawyer et al. 2009). This community was predominantly located in the western portion of the survey area and was mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

Creosote Bush - White Bursage Scrub (*Larrea tridentata* - *Ambrosia dumosa* Shrubland Alliance). The Creosote Bush - White Bursage Scrub community was co-dominated by creosote bush and white bursage, with Fremont's pincushion (*Chaenactis fremontii*) present in the herbaceous layer. This community is characterized by a two-tiered, open to intermittent shrub layer and an absent to

intermittent herbaceous layer containing seasonal annuals. Soils are well-drained alluvial and/or sand on washes, rills, and valleys at elevations ranging from 75 m below msl to 1,600 m above msl (Sawyer et al. 2009). This community was located in the western and eastern portions of the survey area and was mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance). The Creosote Bush Scrub community was dominated by creosote bush in the shrub canopy, with goldenhead (*Acamptopappus sphaerocephalus*) and cheesebush also present, as well as narrow leaved cryptantha (*Cryptantha angustifolia*) in the herbaceous layer. This community is characterized by an open to intermittent shrub canopy with an open to intermittent herbaceous layer containing seasonal annuals and/or native perennial grasses. Soils are well drained gravel on alluvial fans, minor intermittent washes, and upland slopes from 75 m below msl to 1,300 m above msl (Sawyer et al. 2009). This community was predominantly located in the mid-portion of the survey area and was mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

Developed. Areas designated as developed had infrastructure present and no vegetation. Developed is not a vegetation classification, but rather a land cover type and is not restricted to a known elevation. Developed areas included substations, concrete, and laydown yards.

Disturbed. The disturbed classification included areas where the native vegetation community was heavily influenced by human actions, such as grading, trash dumping, and dirt roads, but lacked development. Disturbed is not a vegetation classification, but rather a land cover type and is not restricted to a particular elevation. Disturbed areas located most commonly included dirt roads. In areas classified as disturbed, vegetation was absent or consisted primarily of non-native species, such as red brome (*Bromus madritensis* ssp. *rubens*), redstem filaree (*Erodium cicutarium*), and Mediterranean grass (*Schismus barbatus*).

Disturbed - White Bursage Scrub (Disturbed - *Ambrosia dumosa* Shrubland Alliance). The Disturbed - White Bursage Scrub community had many of the same characteristics as the undisturbed White Bursage Scrub community; however, large scale anthropogenic causes (e.g., cattle grazing, grading) have significantly disturbed the vegetation. This community contained very limited, intermittent white bursage shrubs with a seasonally present herbaceous layer including desert dandelion, Fremont's pincushion, and many non-native species including stinknet (*Oncosiphon piluliferum*). This community was located in a large middle portion of the survey area.

White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance). The White Bursage Scrub community was dominated by white bursage, with cheesebush and white rhatany (*Krameria bicolor*) also present, and smallseed sandmat (*Euphorbia polycarpa*) in the herbaceous layer. The White Bursage Scrub community is characterized by an open to intermittent shrub layer and an open to intermittent herbaceous layer with seasonal annuals. This community is found within older washes and/or river terraces with sandy, clay-rich soils at elevations ranging from 0 m at msl to 1,700 m above msl (Sawyer et al. 2009). This community was located in a small northwestern section of the survey area and was mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

5.1.4 Burrowing Owl

Protocol-level burrowing owl surveys were not conducted; however, burrowing owls and their sign were documented during all surveys conducted on-site. A total of five potential burrowing owl burrows in three locations were found in the Conservation Area portion of the survey area, two locations (B2 and B3) included two adjacent burrows each, for a total of five individual burrows at three sites. One additional burrow was identified outside the site boundary (B5), and it is not included in the site total above.

Five burrows were found to be occupied by burrowing owl (B2, B3, and B5). B2 and B3 had two adjacent burrows at each location, are approximately 60 feet apart from one another, and are likely part of the same burrow complex used by one burrowing owl family group. B5 was found to be occupied by burrowing owl but is outside the site boundary. The other burrow (B4) did not show signs of burrowing owl occupancy. The total number of burrowing owl observations was nine and was calculated as the highest number of owls observed at each burrow location on a single survey date. It is presumed that the same owls were observed during each survey. Nine owls were observed at B2 and B3 (including juveniles). Five owls were observed at B5 (including juveniles), however, since this is outside of the Project site, these owls are not included in the total number of burrowing owl observations. All owls (adults and juveniles) at these locations were wary of human presence during the surveys. All burrows found are shown on Figure 2. Details on burrowing owl for each burrow are presented in Table 6. Representative photographs taken during the surveys are included in Appendix B.

Table 6: Potential Burrowing Owl Burrows in Conservation Area Portion of Survey Area

Burrow ID	Burrowing Owl Occupation	Burrowing Owl Sign	Width x Height x Depth (Aspect)*	Note (Date)
B2 (Two Burrows) B3 (Two Burrows)	Occupied	Whitewash, prey	12" x 8" x 3'+ (southeast) 10" x 8" x 2'+ (southeast) 8" x 6" x 2'+ (southeast) 12" x 8" x 2'+ (southwest)	B2 and B3 are located approximately 60 feet apart; it is presumed that both locations are part of the same complex. On May 4, one owl was observed in a burrow and another was perched nearby at B2. B3 had sign of recent use on May 4. At least nine burrowing owls were observed using and near the burrows at B2 and B3 on June 6, and at least five owls were observed on June 18; juveniles were identified at B2 and B3 during both burrow checks.
B4	Unoccupied	None	24"x12"x4'+ (northwest)	Burrow in wash, possibly coyote (<i>Canis latrans</i>).

Table 6: Potential Burrowing Owl Burrows in Conservation Area Portion of Survey Area

Burrow ID	Burrowing Owl Occupation	Burrowing Owl Sign	Width x Height x Depth (Aspect)*	Note (Date)
B5	Occupied	Whitewash, feathers, pellets	14" x 6" x 2'+ (northeast)	Located in survey buffer; not within Project boundary. Burrow occurs on a rocky slope. No burrowing owls were observed on June 6 (only fresh sign was observed), and at least five owls were at the burrow on June 18, including juveniles.

Notes: " = inches ; ' = feet.

*Burrow dimensions presented in Table 6 are equivalent to those in Table 4 for desert tortoise.

5.1.5 Incidental Species Observations

Plant and wildlife species observed during the surveys were recorded. No LeConte's thrashers were observed during the surveys. Tables 7 and 8 list the plant and wildlife species that were observed within the Conservation Area portion of the survey area.

Table 7: Plant Species Observed in Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Abronia villosa</i> var. <i>villosa</i>	Desert sand verbena
<i>Acamptopappus sphaerocephalus</i>	Goldenhead
<i>Acmispon glaber</i>	Deerweed
<i>Ambrosia dumosa</i>	Burrobush
<i>Ambrosia salsola</i>	Cheesebush
<i>Amsinckia tessellata</i>	Bristly fiddleneck
<i>Atriplex canescens</i>	Fourwing saltbush
<i>Bebbia juncea</i>	Sweetbush
<i>Brassica tournefortii</i> *	Saharan mustard
<i>Brickellia desertorum</i>	Desert brickellbush
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	Red brome
<i>Camissoniopsis pallida</i>	Pale yellow sun cup
<i>Chaenactis fremontii</i>	Fremont's pincushion
<i>Chaenactis stevioides</i>	Desert pincushion
<i>Chilopsis linearis</i>	Desert willow
<i>Chorizanthe brevicornu</i> var. <i>brevicornu</i>	Brittle spineflower
<i>Crassula connata</i>	Sand pygmyweed
<i>Croton californicus</i>	California croton
<i>Cryptantha angustifolia</i>	Narrow leaved cryptantha

Table 7: Plant Species Observed in Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Cryptantha barbiger</i>	Bearded cryptantha
<i>Cryptantha intermedia</i>	Common cryptantha
<i>Cryptantha micrantha</i>	Purple root cryptantha
<i>Cylindropuntia echinocarpa</i>	Silver cholla
<i>Datura wrightii</i>	Jimsonweed
<i>Dicoria canescens</i>	Desert dicoria
<i>Echinocereus engelmannii</i>	Hedgehog Cactus
<i>Encelia actoni</i>	Acton encelia
<i>Encelia farinosa</i>	Brittlebush
<i>Ephedra californica</i>	California ephedra
<i>Eriastrum diffusum</i>	Miniature woollystar
<i>Eriastrum eremicum</i>	Desert woollystar
<i>Erigeron</i> sp.	Horseweed
<i>Eriogonum deflexum</i>	Flat topped buckwheat
<i>Eriogonum fasciculatum</i> var. <i>polifolium</i>	Mojave wild buckwheat
<i>Eriogonum inflatum</i> var. <i>inflatum</i>	Desert trumpet
<i>Eriogonum pusillum</i>	Yellow turbans
<i>Eriogonum reniforme</i>	Kidney leaf buckwheat
<i>Eriogonum</i> sp.	Buckwheat
<i>Erodium cicutarium</i> *	Redstem stork's bill
<i>Eschscholzia minutiflora</i>	Coville poppy
<i>Euphorbia polycarpa</i>	Smallseed sandmat
<i>Ferocactus cylindraceus</i>	California barrel cactus
<i>Funastrum cynanchoides</i> var. <i>hartwegii</i>	Fringed twinevine
<i>Hesperoyucca whipplei</i>	Chaparral yucca
<i>Hilaria rigida</i>	Big galleta
<i>Hordeum murinum</i> *	Foxtail barley
<i>Isocoma acradenia</i>	Alkali goldenbush
<i>Krameria bicolor</i>	White rhatany
<i>Krameria erecta</i>	Littleleaf rhatany
<i>Lactuca serriola</i> *	Prickly lettuce
<i>Larrea tridentata</i>	South American creosote bush
<i>Loeflingia squarrosa</i>	Spreading loeflingia
<i>Loeseliastrum schottii</i>	Schott's calico
<i>Logfia depressa</i>	Dwarf cottonrose

Table 7: Plant Species Observed in Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Lycium andersonii</i>	Anderson's thornbush
<i>Malacothrix glabrata</i>	Desert dandelion
<i>Mirabilis laevis</i>	Desert four o'clock
<i>Oncosiphon piluliferum</i> *	Stinknet
<i>Palafoxia arida</i>	Spanish needle
<i>Parkinsonia florida</i>	Blue paloverde
<i>Pectocarya linearis</i>	Comb-bur
<i>Pectocarya recurvata</i>	Curvenut combseed
<i>Pennisetum setaceum</i> *	Fountaingrass
<i>Peritoma arborea</i>	Bladderpod
<i>Petalonyx thurberi</i> ssp. <i>thurberi</i>	Thurber's sandpaper plant
<i>Physalis crassifolia</i>	Thick leaved ground cherry
<i>Prosopis glandulosa</i>	Honey mesquite
<i>Psathyrotes ramosissima</i>	Turtleback
<i>Psorothamnus arborescens</i> var. <i>simplicifolius</i>	California indigo bush
<i>Rumex</i> sp.	Dock
<i>Salsola paulsenii</i> *	Barbwire Russian thistle
<i>Salvia columbariae</i>	Chia
<i>Schismus barbatus</i> *	Common Mediterranean grass
<i>Stephanomeria pauciflora</i>	Wirelettuce
<i>Stillingia linearifolia</i>	Narrow leaved stillingia
<i>Stipa hymenoides</i>	Indian rice grass
<i>Thamnosma montana</i>	Turpentine broom
<i>Yucca schidigera</i>	Mojave yucca

Note: *Non-native species.

Table 8: Wildlife Species Observed in Conservation Area Portion of Survey Area

Scientific Name	Common Name	Notes
Birds		
<i>Aquila chrysaetos</i> *	Golden eagle	One carcass of this species was observed. The site likely provides foraging habitat for this species.
<i>Athene cunicularia</i> *	Burrowing owl	Individuals (adult and juvenile) and sign of this species were observed.

Table 8: Wildlife Species Observed in Conservation Area Portion of Survey Area

Scientific Name	Common Name	Notes
<i>Cathartes aura</i>	Turkey vulture	-
<i>Corvus corax</i>	Common raven	-
<i>Lanius ludovicianus</i> *	Loggerhead shrike	-
<i>Tyto alba</i>	Barn owl	A carcass of this species was observed.
Mammals		
<i>Ammospermophilus leucurus</i>	White-tailed antelope squirrel	-
<i>Dipodomys</i> sp.	Kangaroo rat	The site is outside the range of listed kangaroo rat species and/or lacks suitable habitat for the species.
<i>Lepus californicus</i>	Black-tailed jackrabbit	-
<i>Neotoma lepida</i>	Desert woodrat	-
<i>Sylvilagus audubonii</i>	Desert cottontail	-
Reptiles		
<i>Arizona elegans occidentalis</i> *	California glossy snake	One carcass of this species was observed.
<i>Aspidoscelis tigris tigris</i>	Great Basin whiptail	-
<i>Callisaurus draconoides rhodostictus</i>	Western zebra-tailed lizard	-
<i>Coluber flagellum piceus</i>	Red racer	-
<i>Crotalus cerastes</i>	Sidewinder	-
<i>Crotalus oreganus helleri</i>	Southern pacific rattlesnake	-
<i>Crotalus ruber</i> *	Red-diamond rattlesnake	One observed.
<i>Dipsosaurus dorsalis dorsalis</i>	Northern desert iguana	-
<i>Gambelia wislizenii</i>	Long-nosed leopard lizard	-
<i>Phrynosoma platyrhinos calidiarum</i>	Southern desert horned lizard	-
<i>Uta stansburiana elegans</i>	Western side-blotched lizard	-

Note: *California Species of Special Concern/California Fully Protected or Watch List Species.

As shown in Table 8, a total of five special-status species were observed inside the Conservation Area: golden eagle (carcass), burrowing owl, loggerhead shrike, California glossy snake (carcass), and red-diamond rattlesnake. These species are not listed under the FESA and CESA but are considered sensitive by the CDFW. In addition, the golden eagle is protected under the Bald and Golden Eagle Protection Act that provides additional protection to this species.

5.2 Results in Remainder of the Project Site Outside the Conservation Area

The results described in the following sections include the remainder of the Project site outside the Conservation Area that was surveyed in April, May, and June 2020, as well as the added 38-acre area that was surveyed in July 2020.

5.2.1 Rare Plant Surveys

Rare plant surveys were conducted in the portion of the survey area outside the Conservation Area on April 27 to 30, and May 28 and 29, 2020. No special-status plants were found during the surveys. The timing of these surveys was considered adequate for detection of all potential special-status plant species.

No special-status plants were observed within the added 38-acre area during the survey on July 15, 2020; however, due to the timing of the survey, the majority of annual plants were unidentifiable and many perennial plants were dormant. Although approximately 21.9 acres of Disturbed - White Bursage Scrub and 16.5 acres of Creosote Bush Scrub (i.e., desert scrub) were found within the added 38-acre area and this survey was not conducted during the blooming period for most special-status plants (Table 2), the entire added area was classified as moderately disturbed habitat based on the presence of non-native species and anthropogenic causes. In addition, no special-status plants were found in the other approximately 685.9 acres of these two on-site desert scrub communities during surveys that were performed during the blooming period. No other potential habitat for special-status plants was found within the added 38-acre area. Therefore, it is unlikely that the added 38-acre area would support special-status plants and no additional surveys for these plants are required.

5.2.2 Vegetation Mapping

Vegetation communities within the survey area were mapped. Table 9 describes the vegetation communities observed in the portion of the survey area outside the Conservation Area, including the added 38-acre area. The results of the vegetation mapping are shown on Figure 3. These habitats, along with known species occurrences, were used to determine the likelihood of occurrence for the special-status species presented in Table 2. Descriptions of the vegetation communities are provided above for vegetation mapping results in the Conservation Area. Representative photographs of vegetation types taken during the surveys are included in Appendix B.

Table 9: Vegetation Communities Outside Conservation Area Portion of Survey Area

Vegetation Community	Acres Outside Conservation Area	Description
Cheesebush - Sweetbush Scrub	10.9	Cheesebush and sweetbush were co-dominant in the shrub canopy.
Creosote Bush - White Bursage Scrub	80.5	White bursage and creosote bush were co-dominant in the shrub canopy.

Table 9: Vegetation Communities Outside Conservation Area Portion of Survey Area

Vegetation Community	Acres Outside Conservation Area	Description
Creosote Bush Scrub	359.8	Creosote bush was dominant in the shrub canopy.
Developed	10.7	Areas with infrastructure present (e.g., substations, concrete, laydown yards) and no vegetation.
Disturbed	78.3	Areas that lacked development but were heavily influenced by human actions (e.g., grading, trash dumping, dirt roads). Vegetation was absent or consisted primarily of non-native species, such as red brome, redstem filaree, and Mediterranean grass. The areas closest to Garnet Avenue were highly disturbed, containing roadside trash and debris.
Disturbed - White Bursage Scrub	321.9	Large scale anthropogenic causes (e.g., cattle grazing, grading) have significantly disturbed vegetation, compared to the undisturbed community. Intermittent white bursage was present with herbaceous plants including desert dandelion, Fremont's pincushion, and non-native species including stinknet.
Total	862.1*	

Note: *Total acres include the remainder of the Project site outside the Conservation Area that was surveyed in April, May, and June 2020, as well as the added 38-acre area that was surveyed in July 2020.

5.2.3 Burrowing Owl

One occupied burrowing owl burrow was found in the portion of the survey area just outside the Conservation Area near a previously used access road. This burrow is labeled as B6 on Figure 2. Two adult owls and four juveniles were observed near the burrow on June 4 and June 18. It is presumed that the same six owls (two adults and four juveniles) were observed on June 4 as were observed on June 18. Owls at this location were less inclined to retreat inside the burrow or flush during the surveys, and were bobbing their heads repeatedly at the presence of the biologist. Biologists were unable to record measurement information for this burrow because owls were present. One burrowing owl was also observed in flight outside the Conservation Area on May 28, 2020 (Figure 2).

One potential burrowing owl burrow of suitable size and shape for the species was found beneath a creosote bush shrub in the added 38-acre area (Figure 2). This burrow is labeled as B7 on Figure 2. B7 was west facing, eight inches wide by 10 inches high, and greater than two feet deep. No owls or owl sign were observed at B7. This burrow was not the appropriate shape to have been made or used by the desert tortoise.

No additional burrows, owl sign, or owls were found outside the Conservation Area. Representative photographs taken during the surveys are included in Appendix B.

5.2.4 Incidental Observations

Plant and wildlife species observed during the surveys were recorded. No LeConte's thrashers were observed during the surveys. Tables 10 and 11 list the plant and wildlife species that were observed in the portion of the survey area outside the Conservation Area, including the added 38-acre area.

Table 10: Plant Species Observed Outside Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Abronia villosa</i> var. <i>villosa</i>	Desert sand verbena
<i>Acmispon glaber</i>	Deerweed
<i>Acmispon strigosus</i>	Strigose lotus
<i>Ambrosia acanthicarpa</i>	Annual bur-sage
<i>Ambrosia dumosa</i>	Burrobush
<i>Ambrosia salsola</i>	Cheesebush
<i>Amsinckia tessellata</i>	Bristly fiddleneck
<i>Atriplex canescens</i>	Fourwing saltbush
<i>Bebbia juncea</i>	Sweetbush
<i>Brassica tournefortii</i> *	Saharan mustard
<i>Brickellia desertorum</i>	Desert brickellbush
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	Red brome
<i>Bromus tectorum</i> *	Cheat grass
<i>Camissoniopsis pallida</i>	Pale yellow sun cup
<i>Chaenactis fremontii</i>	Fremont's pincushion
<i>Chaenactis glabriuscula</i>	Yellow pincushion
<i>Chaenactis stevioides</i>	Desert pincushion
<i>Chilopsis linearis</i>	Desert willow
<i>Chorizanthe brevicornu</i> var. <i>brevicornu</i>	Brittle spineflower
<i>Crassula connata</i>	Sand pygmyweed
<i>Croton californicus</i>	California croton
<i>Cryptantha angustifolia</i>	Narrow leaved cryptantha
<i>Cryptantha barbiger</i>	Bearded cryptantha
<i>Cryptantha circumscissa</i>	Cushion cryptantha
<i>Cryptantha intermedia</i>	Common cryptantha
<i>Cryptantha micrantha</i>	Purple root cryptantha
<i>Cylindropuntia echinocarpa</i>	Silver cholla
<i>Dicoria canescens</i>	Desert dicoria
<i>Ditaxis serrata</i> var. <i>serrata</i>	Saw toothed ditaxis
<i>Echinocereus engelmannii</i>	Hedgehog Cactus

Table 10: Plant Species Observed Outside Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Encelia actoni</i>	Acton encelia
<i>Encelia farinosa</i>	Brittlebush
<i>Ephedra californica</i>	California ephedra
<i>Eriastrum eremicum</i>	Desert woollystar
<i>Erigeron</i> sp.	Horseweed
<i>Eriogonum deflexum</i>	Flat topped buckwheat
<i>Eriogonum fasciculatum</i> var. <i>polifolium</i>	Mojave wild buckwheat
<i>Eriogonum inflatum</i> var. <i>inflatum</i>	Desert trumpet
<i>Eriogonum pusillum</i>	Yellow turbans
<i>Eriogonum reniforme</i>	Kidney leaf buckwheat
<i>Erodium cicutarium</i> *	Redstem stork's bill
<i>Eschscholzia minutiflora</i>	Coville poppy
<i>Eulobus californicus</i>	California primrose
<i>Euphorbia polycarpa</i>	Smallseed sandmat
<i>Ferocactus cylindraceus</i>	California barrel cactus
<i>Hilaria rigida</i>	Big galleta
<i>Hordeum murinum</i> *	Foxtail barley
<i>Krameria bicolor</i>	White rhatany
<i>Krameria erecta</i>	Littleleaf rhatany
<i>Lactuca serriola</i> *	Prickly lettuce
<i>Larrea tridentata</i>	South American creosote bush
<i>Loeflingia squarrosa</i>	Spreading loeflingia
<i>Loeseliastrum schottii</i>	Schott's calico
<i>Logfia depressa</i>	Dwarf cottonrose
<i>Malacothrix glabrata</i>	Desert dandelion
<i>Mirabilis laevis</i>	Desert four o'clock
<i>Nerium oleander</i> *	Oleander
<i>Oncosiphon piluliferum</i> *	Stinknet
<i>Parkinsonia florida</i>	Blue paloverde
<i>Pectocarya linearis</i>	Comb-bur
<i>Pectocarya penicillata</i>	Winged combseed
<i>Pectocarya recurvata</i>	Curvenut combseed
<i>Peritoma arborea</i>	Bladderpod
<i>Petalonyx thurberi</i> ssp. <i>thurberi</i>	Thurber's sandpaper plant
<i>Physalis crassifolia</i>	Thick leaved ground cherry

Table 10: Plant Species Observed Outside Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Plantago ovata</i>	Desert plantain
<i>Prosopis glandulosa</i>	Honey mesquite
<i>Psathyrotes ramosissima</i>	Turtleback
<i>Psorothamnus arborescens</i> var. <i>simplicifolius</i>	California indigo bush
<i>Psorothamnus emoryi</i>	Emory's indigo bush
<i>Rafinesquia neomexicana</i>	Desert chicory
<i>Rumex</i> sp.	Dock
<i>Salsola paulsenii</i> *	Barbwire Russian thistle
<i>Salvia columbariae</i>	Chia
<i>Schismus barbatus</i> *	Common Mediterranean grass
<i>Senegalia</i> sp.	Catclaw
<i>Stephanomeria pauciflora</i>	Wirelettuce
<i>Stillingia linearifolia</i>	Narrow leaved stillingia
<i>Tamarix aphylla</i> *	Athel tamarisk
<i>Thamnosma montana</i>	Turpentine broom
<i>Tiquilia plicata</i>	Fanleaf crinklemat

Note: *Species is not native to California.

Table 11: Wildlife Species Observed Outside Conservation Area Portion of Survey Area

Scientific Name	Common Name	Notes
Birds		
<i>Athene cunicularia</i> *	Burrowing owl	Individuals (adult and juvenile) and sign of this species were observed. One owl was observed in flight and mapped on May 28, 2020 (Figure 2).
<i>Auriparus flaviceps</i>	Verdin	-
<i>Chordeiles acutipennis</i>	Lesser nighthawk	-
<i>Corvus corax</i>	Common raven	-
<i>Haemorrhous mexicanus</i>	House finch	-
<i>Lanius ludovicianus</i> *	Loggerhead shrike	Two fledging shrikes were mapped on April 29, 2020, and one shrike was mapped in the added 38-acre area on July 15, 2020 (Figure 2).
Mammals		
<i>Ammospermophilus leucurus</i>	White-tailed antelope squirrel	-
<i>Canis latrans</i>	Coyote	-
<i>Lepus californicus</i>	Black-tailed jackrabbit	-

Table 11: Wildlife Species Observed Outside Conservation Area Portion of Survey Area

Scientific Name	Common Name	Notes
<i>Neotoma lepida</i>	Desert woodrat	-
<i>Sylvilagus audubonii</i>	Desert cottontail	-
Reptiles		
<i>Aspidoscelis tigris tigris</i>	Great Basin whiptail	-
<i>Callisaurus draconoides rhodostictus</i>	Western zebra-tailed lizard	-
<i>Crotalus ruber*</i>	Red-diamond rattlesnake	One observed.
<i>Crotaphytus</i> sp.	Collared lizard	-
<i>Dipsosaurus dorsalis dorsalis</i>	Northern desert iguana	-
<i>Phrynosoma platyrhinos calidiarum</i>	Southern desert horned lizard	-
<i>Uta stansburiana elegans</i>	western side-blotched lizard	-

Note: *California Species of Special Concern/California Fully Protected or Watch List Species.

As shown in Table 11, a total of three special-status wildlife species were observed outside the Conservation Area: burrowing owl, loggerhead shrike, and red-diamond rattlesnake. These species are not listed under the FESA and CESA but are considered sensitive by the CDFW.

5.3 Rabbit Hemorrhagic Disease

Rabbit Hemorrhagic Disease Virus Type 2 (RHDV2) was confirmed within the Project site, which is a highly contagious disease affecting rabbits and hares. All rabbit or hare carcasses with suspected RHDV2 (e.g., blood on mouth or nose) were reported to the CDFW and locations were recorded with GPS as feasible. MVPP staff buried all carcasses found on the site deep enough to prevent scavenging. Decontamination procedures for boots and gear were followed during surveys, including washing clothing, and disinfecting footwear and equipment in household bleach diluted 1:10 with water for at least 10 minutes. Approximately 60 black-tailed jackrabbit mortalities were observed and/or documented during the surveys.

6 Avoidance and Minimization Measures

The results of the surveys have been used to inform the pre-construction surveys required and to determine avoidance and minimization measures during construction activities. The recommended measures within this Report are preliminary and will be refined during the CEQA process as more details about the Project design and schedule are determined. If habitat for special-status species can be avoided during the finalization of the Project design, this could reduce the requirements. Since occupied burrowing owl burrows and potential desert tortoise burrows were found within the site (Figure 2), it is recommended that burrows are avoided whenever possible during Project implementation.

The portions of the Project site within the Conservation Area must comply with applicable measures described in Section 4.4 of the CVMSHCP (CVAG 2007). These measures are discussed below. In addition, the site must comply with applicable Land Use Adjacency Guidelines described in Section 4.5 of the CVMSHCP (CVAG 2007). The purpose of Land Use Adjacency Guidelines is to avoid or minimize indirect effects from development adjacent to (i.e., sharing a common boundary) or within the Conservation Area. The CVMSHCP includes Guidelines for drainage/runoff, toxics, lighting, noise, invasive species, barriers, and grading/land development.

All special-status species and sign found at the Project site are presented in Table 12. These species include burrowing owl, golden eagle, loggerhead shrike, California glossy snake, and red-diamond rattlesnake. Although burrows that could potentially be used by the desert tortoise were found on-site, the analysis indicates that there is low likelihood of occurrence of this species in the Project site.

Table 12: Special-status Species Observed in Project Site

Species	Federal Status	State Status/ Other Status	Found inside Conservation Area	Found outside Conservation Area
Burrowing owl (<i>Athene cunicularia</i>)	None	None/S, SSC, BCC, CVMSHCP	At least nine individuals (both adults and juveniles) observed and four occupied burrows. One occupied burrow (with at least five individuals, both adults and juveniles) observed just south of the Project boundary (not located in the Project site but in the buffer area surveyed).	Six individuals (two adults and four juveniles) observed and one occupied burrow.
Golden eagle (<i>Aquila chrysaetos</i>)	None	None/S, FP, WL, BCC	One carcass.	None.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	None	None/SSC, BCC	Observed.	Observed.
California glossy snake (<i>Arizona elegans occidentalis</i>)	None	None/SSC	One carcass.	None.
Red-diamond rattlesnake (<i>Crotalus ruber</i>)	None	None/SSC	One observed.	One observed.

Notes: BCC USFWS Birds of Conservation Concern
 FP CDFW Fully Protected
 FT USFWS Federally Threatened
 S BLM Sensitive Species
 SSC CDFW Species of Special Concern
 ST CDFW State Threatened
 WL CDFW Watch List
 CVMSHCP Coachella Valley Multiple Species Habitat Conservation Covered Species

To address the potential occurrence of nesting birds (including LeConte's thrasher under the CVMSHCP) the following pre-construction survey is recommended:

1. A pre-construction nesting bird survey will be performed on the construction site and within 500 feet of the construction site by a qualified biologist within 3 days of ground disturbance or vegetation removal and between delays of greater than 3 days during the nesting season (February 15 - September 1). For the portion of the site within the Whitewater Floodplain Conservation Area, the nesting season for LeConte's thrasher is defined as January 15 - June 15, in accordance with CVMSHCP requirements for the species. If an active nest is found, an appropriate buffer will be determined and established by the qualified biologist based on the bird species occupying the nest and the type of Project activities that are occurring. A 500-foot buffer is required for nesting LeConte's thrashers. The buffer will be staked and flagged. No ground disturbance or vegetation removal will occur within the buffer during the nesting season or until juvenile birds have fledged from the nest as determined by the qualified biologist.

To address the potential occurrence on the site of CDFW Species of Special Concern that are not covered under the CVMSHCP, the following pre-construction survey is recommended throughout the entire site:

2. A pre-construction wildlife survey will be performed on the construction site by a qualified biologist 3 to 14 days prior to ground disturbance or vegetation removal activities and between delays of greater than 14 days. If a sensitive wildlife species is observed within the construction site, a biological monitor will be present on-site during these activities to ensure that impacts to the species are avoided. If applicable, the monitor will flag the boundaries of areas where activities need to be restricted to protect the species. If significant and unavoidable impacts to the species cannot be avoided, compensatory mitigation may be required as determined by the regulatory agency. If a federal or state listed species is found during these surveys, additional consultation with the CDFW and USFWS would be required and activities could not occur until this is completed.

Additional avoidance and minimization measures needed to ensure that the Project remains in compliance with applicable federal, state, and local regulatory requirements are provided in Table 13. Since burrows that could be used by the desert tortoise were found, the applicable measures from the CVMSHCP are included in Table 13. Because triple-ribbed milkvetch and Little San Bernardino Mountains were not found during surveys, specific measures for these species from the CVMSHCP are not required. While the CVMSHCP includes Conservation Objectives for species with modeled Core Habitat or Other Conserved Habitat in the Whitewater Floodplain Conservation Area, these are habitat acreage conservation goals and do not require additional surveys or monitoring for the species (CVAG 2007). It is recommended that MVPP coordinate with the CVCC to ensure the Project is in compliance with the habitat conservation goals for the Conservation Area, which may result in additional Project-specific measures developed during coordination.

The golden eagle is not a covered species under the CVMSHCP; however, it receives protection under the Bald and Golden Eagle Protection Act. MVPP is coordinating with the USFWS and CDFW on a site-specific Avian Risk Assessment and Bird and Bat Conservation Strategy for the Project.

Table 13: Avoidance and Minimization Measures

Species	Recommended Measures Inside Conservation Area	Recommended Measures Outside Conservation Area
Burrowing owl (<i>Athene cunicularia</i>)	<p>The following measure from the CVMSHCP is recommended for burrowing owl (CVAG 2007):</p> <ul style="list-style-type: none"> A pre-construction survey will be performed by an Acceptable Biologist between 14 and 30 days of ground disturbance or vegetation removal. The following will apply if occupied burrowing owl burrows are found, in accordance with Section 4.4 of the CVMSHCP. The burrow will be flagged and a 160-foot buffer during the non-breeding season (September 1 to January 31) and a 250-foot buffer during the breeding season (February 1 to August 31), or a buffer to the edge of the property boundary if less than 500 feet, will be established around the burrow. The buffer will be staked and flagged. No development or operation and maintenance activities will be permitted within the buffer until the young are no longer dependent on the burrow, as determined by an Acceptable Biologist. <p>If owl burrows cannot be avoided, the following measure from the CVMSHCP is recommended (CVAG 2007):</p> <ul style="list-style-type: none"> If a burrow is determined to be unoccupied, the burrow can be made inaccessible to owls and the activity may proceed. If either a nesting or escape burrow is occupied, owls shall be relocated pursuant to accepted USFWS and CDFW protocols. A burrow is assumed occupied if records indicate that, based on surveys conducted following protocol, at least one burrowing owl has been observed occupying a burrow on site during the past three years. Determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g., distance to nearest suitable habitat and presence of burrows within that habitat) in coordination with the USFWS and CDFW. Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with USFWS and CDFW. 	<p>The following measure is recommended for burrowing owl, in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012).</p> <ul style="list-style-type: none"> A pre-construction survey will be performed by a qualified biologist within 14 days of ground disturbance or vegetation removal activities to locate any occupied burrowing owl burrows. If activities are delayed or suspended for more than 14 days after the survey, the site will be resurveyed. If occupied owl burrows are detected in the site, no ground disturbance or vegetation removal activities will be permitted within a buffer of 656 feet from an active burrow during the breeding season (February 1 to August 31). During the non-breeding (winter) season (September 1 to January 31), no activities will be permitted within a buffer of 164 feet from the burrow. A smaller buffer than those described above may be established by the qualified biologist based on the level of disturbance and observed responses of owls. Visible markers will be used to ensure that the buffers are maintained. If ground disturbance or vegetation removal is required within the buffer of an occupied owl burrow during the non-breeding season, or during the breeding season where owls have not yet begun egg laying or where the juveniles are foraging independently and capable of independent survival, a qualified biologist will implement a passive relocation program in accordance with the CDFW Staff Report on Burrowing Owl Mitigation and prepare a Burrowing Owl Exclusion Plan for review by CDFW prior to relocation activities. Training for on-site workers will be conducted to increase the worker's recognition of and commitment to burrowing owl protection.

Table 13: Avoidance and Minimization Measures

Species	Recommended Measures Inside Conservation Area	Recommended Measures Outside Conservation Area
Desert tortoise (<i>Gopherus agassizii</i>)	<p>Tortoise fencing and clearance surveys are not required because the protocol-level presence/absence survey did not detect any live tortoises or recent (i.e., fresh) tortoise sign. In addition, the site is located at the extreme western extent of the known range for desert tortoise, and the habitat present is degraded due to existing development and associated disturbances. However, seven burrows found within the site during the survey have the potential to be used by desert tortoise (all Class 4); therefore, the following measure is recommended:</p> <ul style="list-style-type: none"> A pre-construction survey on the development site and within 200 feet of the site will be conducted no more than 90 days prior to construction to ensure that no desert tortoises are on the site, in accordance with Section 4.4 of the CVMSHCP. The survey is valid for 90 days or indefinitely if tortoise-proof fencing is installed around the development site. <p>The following measures from Section 4.4 of the CVMSHCP for desert tortoise are also required for all projects occurring in Conservation Areas (CVAG 2007):</p> <ul style="list-style-type: none"> Personnel conducting operation and maintenance activities will be instructed to be alert for the presence of desert tortoise. If a tortoise is spotted, activities adjacent to the tortoise's location will be halted and the tortoise will be allowed to move away from the activity area. If the tortoise is not moving, it will be relocated by an Acceptable Biologist to nearby suitable habitat and placed in the shade of a shrub. To the maximum extent feasible, operation and maintenance activities will avoid the period from February 15 and October 31. Two utility development protocols, inactive and active season, provide specific direction on site preparation and construction phases of utility projects in the Conservation Areas. The inactive season protocol must be used for utility maintenance or development within the November 1 - February 14 time frame; the active season protocol must be used for utility maintenance or development within the February 15 - October 31 time frame. Deviations from these time 	None.

Table 13: Avoidance and Minimization Measures

Species	Recommended Measures Inside Conservation Area	Recommended Measures Outside Conservation Area
	<p>frames must be presented to the Reserve Management Oversight Committee. These protocols are detailed within Section 4.4 of the CVMSHCP. It is recommended that applicable measures described in these protocols be implemented prior to and during Project activities.</p> <ul style="list-style-type: none"> Upon locating dead, injured, or sick desert tortoises under any utility or road project, initial notification by the contact representative or Acceptable Biologist must be made to the USFWS or CDFW within three working days of its finding. Written notification must be made within five calendar days with the following information: date; time; location of the carcass; photograph of the carcass; and any other pertinent information. Care must be taken in handling sick or injured animals to ensure effective treatment and care. Injured animals shall be taken care of by the Acceptable Biologist or an appropriately trained veterinarian. Should any treated tortoises survive, USFWS or CDFW should be contacted regarding the final disposition of the animals. 	

Notes: The CVMSHCP defines an Acceptable Biologist as:

- A biologist whose name is on a list maintained by CVCC of biologists who are acceptable to CVCC, CDFW, and USFWS for purposes of conducting surveys of Covered Species.

A qualified biologist is typically more generically described as:

- A biologist with experience in surveying in the region for the special-status species that could occur in the Project area.

7 References

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken (editors)

2012 The Jepson Manual, Vascular Plants of California, Second Edition.

Bureau of Land Management (BLM)

2009 Survey Protocols Required for NEPA and CESA Compliance for BLM Special Status Plant Species. Available at <https://www.blm.gov/policy/ca-im-2009-026>.

California Department of Fish and Wildlife (CDFW)

2012 Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency. March 7.

2018 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. March 20, 2018

2020 California Natural Diversity Database. Version 5.2.14. Accessed March 23, 2020. <http://www.wildlife.ca.gov/Data/BIOS/>.

California Native Plant Society (CNPS)

2001 CNPS Botanical Survey Guidelines. California Native Plant Society, Sacramento, CA. December 9, 1983. Revised June 2, 2001.

2020 Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.45). White Water and Desert Hot Springs Quadrangles. Accessed March 23, 2020. <http://www.rareplants.cnps.org>.

Coachella Valley Association of Governments (CVAG)

2007 Final Recirculated Coachella Valley Multiple Species Habitat Conservation Plan. September 2007. Amended in August 2016.

Google Earth Pro

2018 Imagery accessed March 23, 2020. Version 7.3.2.5491.

Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens

2009 A Manual of California Vegetation, Second Edition. California Native Plant Society Press, Sacramento, California. 1,300 p.

Tetra Tech, Inc. (Tetra Tech)

2020 Biological Surveys Work Plan for MVPP Wind Repower Project, Riverside County, CA. April 9.

U.S. Fish and Wildlife Service (USFWS)

- 2000 Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants. Sacramento, CA. January.
- 2009 Desert Tortoise (Mojave Population) Field Manual (*Gopherus agassizii*). Region 8, Sacramento, CA. December.
- 2018 Guidance on the Recent M-Opinion Affecting the Migratory Bird Treaty Act. April 11.
- 2019 Preparing for Any Action that May Occur within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*). October 8.

Weather Underground

- 2020 Website: <https://www.wunderground.com/>. Accessed June 2020.

Western EcoSystems Technology, Inc. (WEST)

- 2013 Post-Construction Avian and Bat Mortality Study at the Mountain View IV Wind Energy Project. Final Mortality Report March 2012-March 2013.
- 2019 Wildlife Survey Report for the Mountain View Power Partners Wind Project and Yavi Energy, LLC, Riverside County, California. Final Report: October 2017 - October 2018. Prepared for Mountain View Power Partners and Yavi Energy, LLC, Bismarck, North Dakota. February 13.

This page intentionally left blank

FIGURES

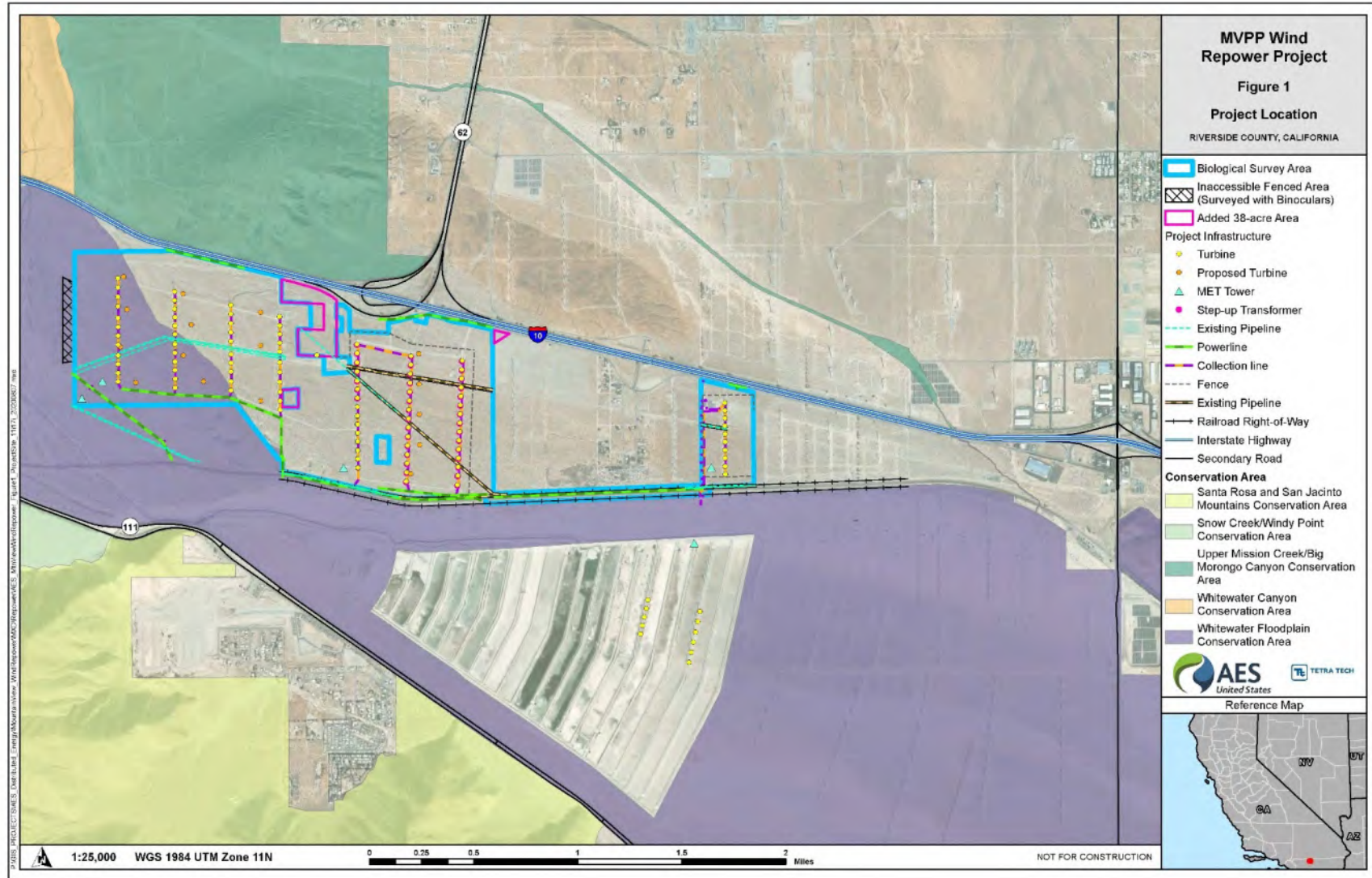


Figure 1: MVPP Wind Repower Project Location

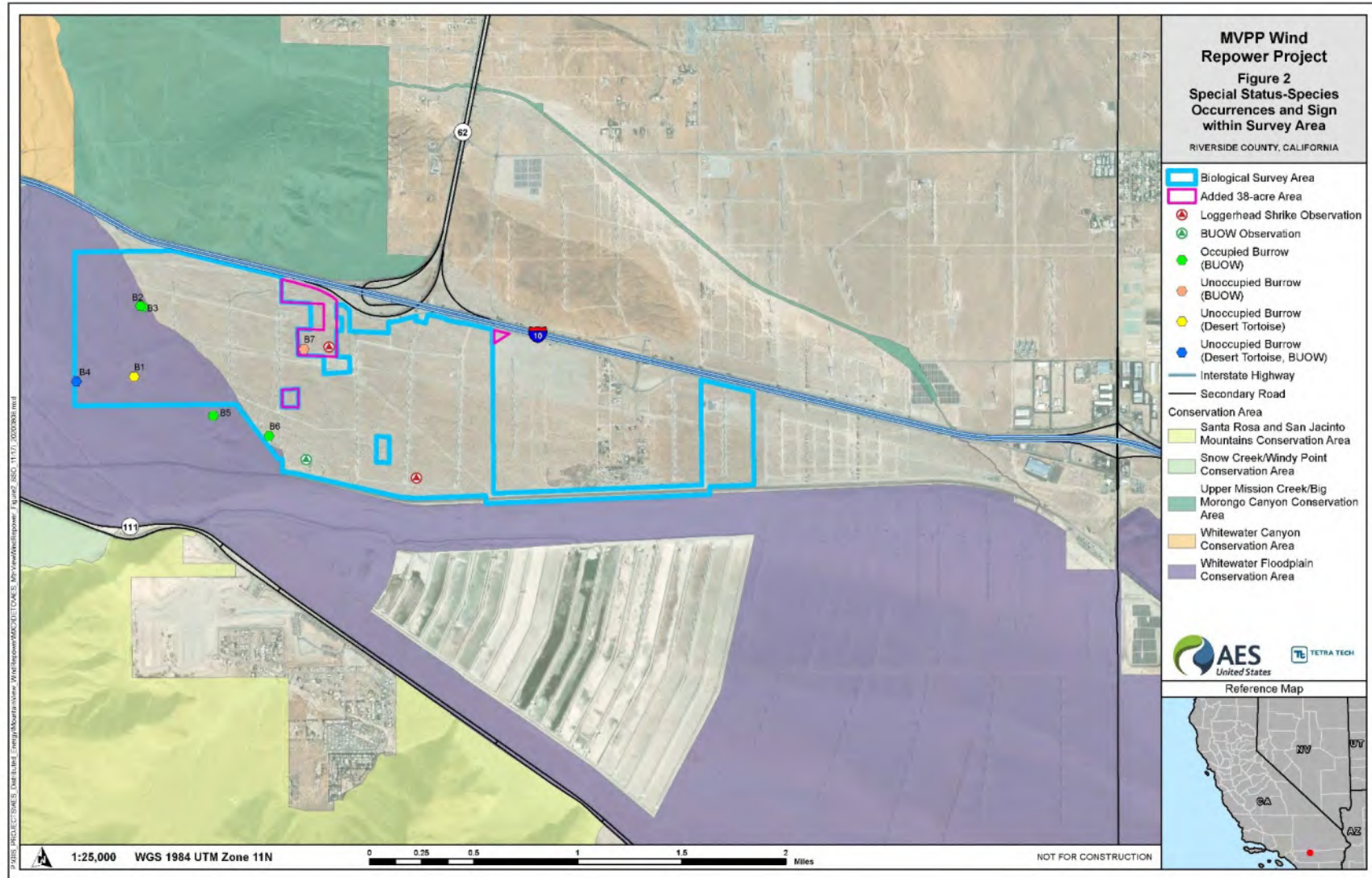


Figure 2: Special Status-Species Occurrences and Sign within Survey Area

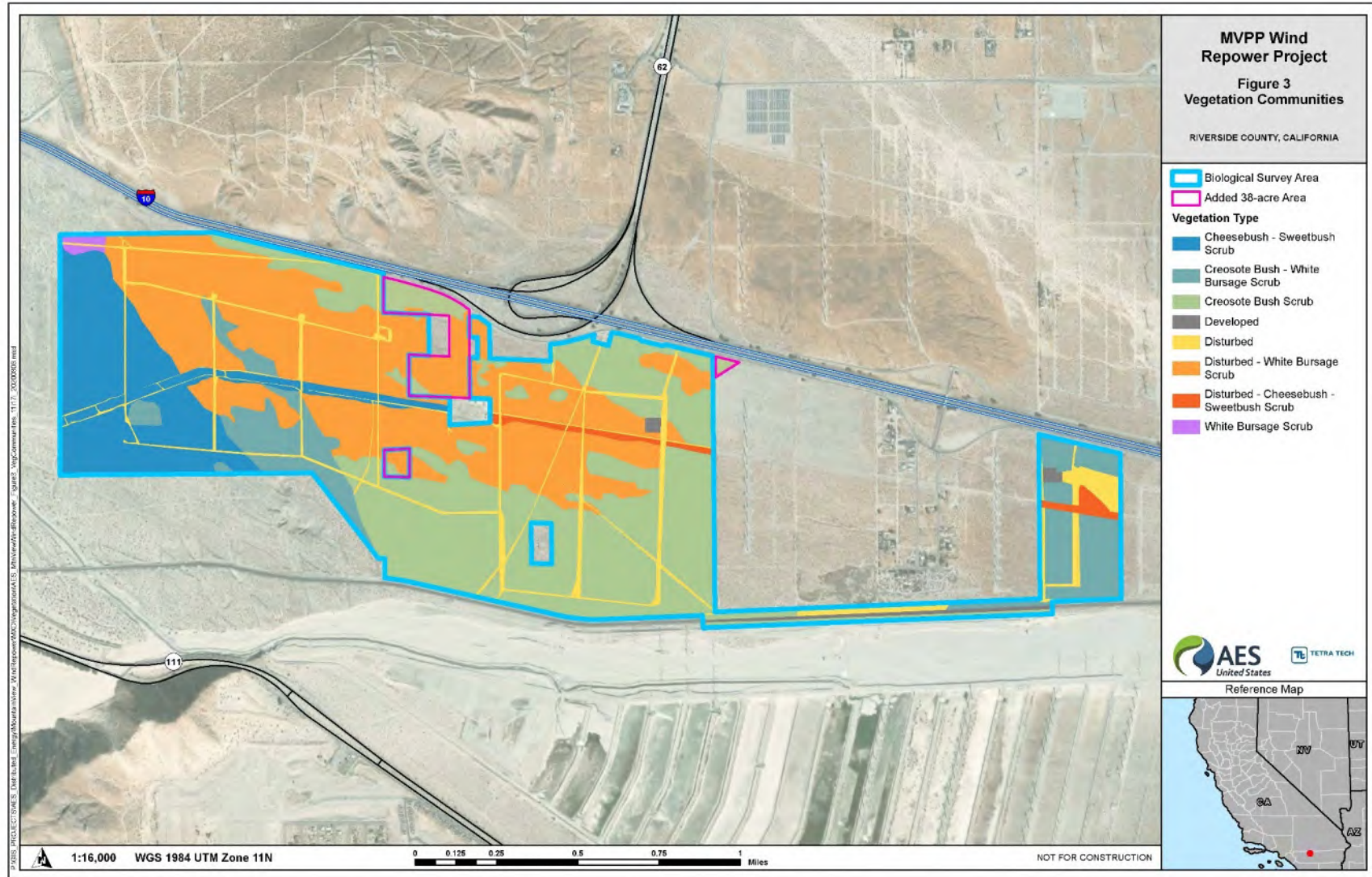


Figure 3: Vegetation Communities

This page intentionally left blank

Appendix A. Desert Tortoise Survey Data Sheets

Date: 5/4/2020
GPS File: Collector

Desert Tortoise Survey



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Project #: 2020-066
Client: Tetra Tech

General Information		Weather Data	
Observers: <u>Taylor Dec</u>	Time (24 hr)	Start: <u>0805</u>	End: <u>1445</u>
<u>Eric Hampton</u>	Temp* (°F) 6" above ground in shade	Start: <u>69</u>	End: <u>75</u>
<u>Alden Evans</u>	Wind (mph)	Start: <u>8-10</u>	End: <u>1-4</u>
<u>Adam Schriber</u>	% Cloud Cover	Start: <u>0</u>	End: <u>0</u>
<u>Kevin Simpson</u>			
Area(s) surveyed			
<u>Central Gully area</u>			
Site Information			
Project Name: <u>MVPP</u>		UTM Coordinates (NAD 83)	
Location: <u>Palm Springs / Whitewater</u>		N: [PHOTOS?]	
County: <u>Riverside</u>		E: [PHOTOS?]	
Quad: _____		S: [PHOTOS?]	
T _____ R _____ S _____		W: [PHOTOS?]	
Parcel #: _____			
Physical Characteristics			
Elevation: _____	Aspect: _____	Soils: _____	
Land Form*: _____	% Slope: _____	Other: _____	
* e.g. mesa, bajada, wash			
Land Uses: _____			
NW: _____		SE: _____	
NE: _____		SW: _____	
Disturbances on Site: [e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other]			
<u>wind energy site - roads, other</u>			
Is site staked or marked? [Y] [X] [N]			
Transect Width: <u>10-m</u>			
Field Observations			
Vegetation Communities:			
Plants <u>Orange-burn scrub</u>			
Animals: [include B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]			
<u>Common Raven</u> <u>barn owl (carcass)</u>			
<u>red-diamond rattlesnake</u> <u>whiptail</u>			
<u>burrowing owl</u> <u>woodrat</u>			
<u>desert hatched lizard</u> <u>kangaroo rat</u>			
<u>cottontail</u> <u>desert sparrow</u>			
<u>zebra-tailed lizard</u> <u>coyote</u>			
<u>side-blotched lizard</u>			
<u>gray-shrike (carcass)</u>			

Form Updated: 11/5/2018

Page 1 of 2

Date: 9/4/2020Recorder: Tetra TechGPS file: Collector

Desert Tortoise Survey

Project #: 2020-009Client: Tetra Tech

Desert Tortoise Sign

Time (24 hr)	Sign*	Class*	Easting UTM NAD83	Northing UTM NAD83	Comments (note aspect of burrows, Unique DT ID, measurements, behavior, etc.)
1012	B	4	33.90837477	-116.6275854	W aspect 6x4x1'd no sign under kramen bicolae
1020	B	4	33.91428268	-116.62683760	2 occupied burrow burrows no DT sign
					Whitewash, pray items at entrance both SE
					aspect, 10x8x2' + 12x8x3' + live owl
					in one burrow, another owl perched nearby
1052	B	4	33.91432142	-116.62704480	occupied burrow burrows (2) one SE aspect
					8x6x2' + 1 SW aspect 12x8x2' +
					whitewash + pray remains present. NO DT sign
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

* T - tortoise, B - burrow, P - Pallet, S - scat, Tr - tracks, C - carcass, O - other (specify)

*BURROW / PALLET (Note Aspect)		*SCAT	
1 - Currently active, w/tortoise or recent sign		1 - Wet or freshly dried, obvious odor	
2 - Good condition, definitely tortoise, no evidence of recent use		2 - Dry w/glaze and some odor, no bleaching, dark brown	
3 - Deteriorated condition (describe), definitely tortoise		3 - Dry, no glaze/odor, light brown, tightly packed, signs of bleaching	
4 - Good condition, possibly tortoise (describe)		4 - Dry, very light brown to yellow, loose material; scaly appearance	
5 - Deteriorated condition, possibly tortoise (describe)		5 - Bleached or consisting only of plant fiber	
*LIVE TORTOISE (MCL, Max Width, Width at 7/8 Marginal, Height)		*CARCASS	
1 - Healthy	A - Foraging	1 - Fresh or putrid	A - signs of predation
2 - URTD	B - Basking	2 - Normal color, scutes adhered to bone	B - No signs of predation
3 - Shell Cracked	C - In burrow	3 - Scutes peeled off bone	
4 - Peeling scutes	D - Digging	4 - Shell gone is falling apart; growth rings on scutes are peeling	
5 - Ticks	E - Traveling	5 - Disarticulated and scattered	

Form Updated: 11/5/2018

Page 2 of 2

Date: 5/5/2020
 GPS File: collector

Desert Tortoise Survey



Project #: 2020-068
 Client: Tetra Tech

General Information		Weather Data	
Observers: <u>Lauren Simpson</u>	Time (24 hr)	Start: <u>0630</u>	End: <u>1400</u>
<u>Greg Hampton</u>	Temp* (°F) 6" above ground in shade	Start: <u>73</u>	End: <u>103</u>
<u>Adam Schrader</u>	Wind (mph)	Start: <u>35</u>	End: <u>2-5</u>
<u>Alden Lomas</u>	% Cloud Cover	Start: <u>0</u>	End: <u>0</u>
Area(s) surveyed			
<u>Central + eastern area</u>			
Site Information			
Project Name: <u>MVWP</u>		UTM Coordinates (NAD 83)	
Location: <u>Palm Springs / White-tail</u>		N: [PHOTOS?]	
County: <u>Riverside</u>		E: [PHOTOS?]	
Quad: _____		S: [PHOTOS?]	
T _____ R _____ S _____		W: [PHOTOS?]	
Parcel #: _____			
Physical Characteristics			
Elevation:	Aspect:	Soils:	
Land Form*:	% Slope:	Other:	
* e.g. mesa, bajada, wash			
Land Uses:			
NW:		SE:	
NE:		SW:	
Disturbances on Site: [e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other]			
<u>wind energy site - roads, etc.</u>			
Is site staked or marked? [Y] <u>(N)</u>			
Transect Width: <u>10-m</u>			
Field Observations			
Vegetation Communities:			
Plants <u>Creosote bush scrub</u>			
Animals: [include: B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]			
<u>Common Raven</u>		<u>blacktailed jackrabbit</u>	
<u>logperched shrike</u>		<u>desert cottontail</u>	
<u>desert quail</u>		<u>antelope ground squirrel</u>	
<u>side-blotched lizard</u>		<u>leopard lizard</u>	
<u>desert horned lizard</u>		<u>whiptail</u>	
<u>zebra-tailed lizard</u>			
<u>andean green rattlesnake</u>		<u>southern pacific rattlesnake</u>	
<u>woodrat</u>			

Form Updated: 11/5/2018

Page 1 of 2

Date: 5/5/20
 Recorder: Lauren Simpson
 GPS file: Collector

Desert Tortoise Survey



ECORP Consulting, Inc.
 ENVIRONMENTAL CONSULTANTS

Project #: 2020-066
 Client: Tetra Tech

Desert Tortoise Sign

	Time (24 hr)	Sign*	Class*	Easting UTM NAD83	Northing UTM NAD83	Comments (note aspect of burrows, Unique DT ID, measurements, behavior, etc.)
1	1240	B	4	33.909860	116.362345	24 X 12 H, 4-5", 1/4" - facing no sign
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

* T - tortoise, B - burrow, P - Pallet, S - scat, Tr - tracks, C - carcass, O - other (specify)

*BURROW / PALLET (Note Aspect)

- 1 - Currently active, w/tortoise or recent sign
- 2 - Good condition, definitely tortoise, no evidence of recent use
- 3 - Deteriorated condition (describe), definitely tortoise
- 4 - Good condition, possibly tortoise (describe)
- 5 - Deteriorated condition, possibly tortoise (describe)

*SCAT

- 1 - Wet or freshly dried, obvious odor
- 2 - Dry w/glaze and some odor, no bleaching, dark brown
- 3 - Dry, no glaze/odor, light brown, tightly packed, signs of bleaching
- 4 - Dry, very light brown to yellow, loose material; scaly appearance
- 5 - Bleached or consisting only of plant fiber

*LIVE TORTOISE (MCL, Max Width,
Width at 7/8 Marginal, Height)

- 1 - Healthy
- 2 - URTD
- 3 - Shell Cracked
- 4 - Peeling scutes
- 5 - Ticks

- A - Foraging
- B - Basking
- C - In burrow
- D - Digging
- E - Traveling

*CARCASS

- 1 - Fresh or putrid
- 2 - Normal color, scutes adhered to bone
- 3 - Scutes peeled off bone
- 4 - Shell bone is falling apart; growth rings on scutes are peeling
- 5 - Disarticulated and scattered

- A - signs of predation
- B - No signs of predation

Form Updated: 11/5/2018

Page 2 of 2

Date: 5/6/2020
 GPS File: Collector

Desert Tortoise Survey



Project #: 2020-066
 Client: Tetra Tech

General Information		Weather Data	
Observers: <u>Lauren Simpson</u>	Time (24 hr)	Start: <u>0630</u>	End: <u>1415</u>
<u>Greg Hampton</u>	Temp* (°F)	Start: <u>74</u>	End: <u>100</u>
<u>Adam Schroeder</u>	5" above ground in shade	Start: <u>3-10</u>	End: <u>2-5 mph</u>
<u>Alexandra Dorough</u>	Wind (mph)	Start: <u>15</u>	End: <u>15</u>
<u>Aiden Loraal</u>	% Cloud Cover		
Area(s) surveyed			
<u>Western end + Southern end</u>			
Site Information			
Project Name: <u>MVWP</u>		UTM Coordinates (NAD 83)	
Location: <u>Palm Springs / Whitewater</u>		N: [PHOTOS?]	
County: <u>Riverside</u>		E: [PHOTOS?]	
Quad: _____		S: [PHOTOS?]	
T: _____ R: _____ S: _____		W: [PHOTOS?]	
Parcel #: _____			
Physical Characteristics			
Elevation: _____	Aspect: _____	Soils: _____	
Land Form*: _____	% Slope: _____	Other: _____	
* e.g. mesa, bajada, wash			
Land Uses: _____			
NW: _____	SE: _____		
NE: _____	SW: _____		
Disturbances on Site: [e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other]			
<u>wind energy site - rocky, OTV</u>			
Is site staked or marked? [Y] [N]			
Transect Width: <u>10-m</u>			
Field Observations			
Vegetation Communities:			
Plants <u>Creosote bush scrub</u>			
Animals: [include: B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]			
<u>black-tailed jackrabbit</u>	<u>desert horned lizard</u>	<u>Golden eagle (carcass)</u>	
<u>desert cottontail</u>	<u>coahuila</u>	<u>burrowing owl (burrow, pellets whitewash)</u>	
<u>antelope ground squirrel</u>	<u>kangaroo rat</u>		
<u>leopard lizard</u>	<u>desert iguana</u>		
<u>whiptail</u>	<u>desert wood rat</u>		
<u>side-blotched lizard</u>	<u>red diamond rattlesnake</u>		
<u>sidewinder</u>	<u>Common raven</u>		
<u>zebra-tailed lizard</u>	<u>loggerhead shrike</u>		

Form Updated: 11/5/2018

Page 1 of 2

Date: 5/6/2020
 Recorder: Lauren Simpson
 GPS file: collector

Desert Tortoise Survey



ECORP Consulting, Inc.
 1000 W. 10th Street, Suite 100, Flagstaff, AZ 86001

Project #: 2020-066
 Client: Tetra Tech

Desert Tortoise Sign

Desert Tortoise Sign						
	Time (24 hr)	Sign°	Class*	Easting UTM NAD83	Northing UTM NAD83	Comments (note aspect of burrows, Unique DT ID, measurements, behavior, etc.)
1	0650	B	4	33.90663362	-112.67091276	14X6, 2ft depth, No sign, BLOW pellets
2						On slope, NE Aspect
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

* T - tortoise, B - burrow, P - Pallet, S - scat, Tr - tracks, C - carcass, O - other (specify)

*BURROW / PALLET (Note Aspect)

- 1 - Currently active, w/tortoise or recent sign
- 2 - Good condition, definitely tortoise, no evidence of recent use
- 3 - Deteriorated condition (describe), definitely tortoise
- 4 - Good condition, possibly tortoise (describe)
- 5 - Deteriorated condition, possibly tortoise (describe)

*SCAT

- 1 - Wet or freshly dried, obvious odor
- 2 - Dry w/glaze and some odor, no bleaching, dark brown
- 3 - Dry, no glaze/odor, light brown, tightly packed, signs of bleaching
- 4 - Dry, very light brown to yellow, loose material; scaly appearance
- 5 - Bleached or consisting only of plant fiber

*LIVE TORTOISE (MCL, Max Width,
Width at 7/8 Marginal, Height)

- 1 - Healthy
- 2 - URTD
- 3 - Shell Cracked
- 4 - Peeling scutes
- 5 - Ticks

- A - Foraging
- B - Basking
- C - In burrow
- D - Digging
- E - Traveling

*CARCASS

- 1 - Fresh or putrid
- 2 - Normal color, scutes adhered to bone
- 3 - Scutes peeled off bone
- 4 - Shell bone is falling apart; growth rings on scutes are peeling
- 5 - Disarticulated and scattered

- A - signs of predation
- B - No signs of predation

Form Updated: 11/5/2018

Page 2 of 2

Date: 5/7/2020
GPS File: Collector

Desert Tortoise Survey

ECORP Consulting, Inc.
PROFESSIONAL CONSULTANTS

Project #: 2020-066
Client: Tetra Tech

General Information		Weather Data	
Observers: <u>Lauren Simpson</u>	Time (24 hr)	Start: <u>0630</u>	End: <u>1345</u>
<u>Greg Hampton</u>	Temp* (°F) 6" above ground in shade	Start: <u>73</u>	End: <u>108</u>
<u>Cortay Lancaster</u>	Wind (mph)	Start: <u>2-8</u>	End: <u>3-7</u>
<u>Alexandra Dorough</u>	% Cloud Cover	Start: <u>10</u>	End: <u>15</u>
Area(s) surveyed			
<u>Southern + northern areas</u>			
Site Information			
Project Name: <u>MVWP</u>		UTM Coordinates (NAD 83)	
Location: <u>Palm Springs / White Center</u>		N: [PHOTOS?]	
County: <u>Riverside</u>		E: [PHOTOS?]	
Quad: _____		S: [PHOTOS?]	
T _____ R _____ S _____		W: [PHOTOS?]	
Parcel #: _____			
Physical Characteristics			
Elevation:	Aspect:	Soils:	
Land Form*:	% Slope:	Other:	
* e.g. mesa, bajada, wash			
Land Uses:			
NW:		SE:	
NE:		SW:	
Disturbances on Site: (e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other)			
<u>wind energy site - road, DTV</u>			
Is site staked or marked? [Y] <u>(N)</u>			
Transect Width: <u>10-m</u>			
Field Observations			
Vegetation Communities:			
Plants <u>creosote bush scrub</u>			
Animals: [include: B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]			
<u>black-tailed jackrabbit</u>		<u>zebra-tailed lizard</u>	
<u>desert cottontail</u>		<u>side-blotched lizard</u>	
<u>desert woodrat</u>		<u>whiptail</u>	
<u>loggerhead shrike</u>			
<u>burrowing owl (live animal, burrow)</u>			
<u>common barn</u>			
<u>turkey vulture</u>			
<u>desert iguana</u>			

Form Updated: 11/5/2018

Page 1 of 2

Date: 5/7/2020
 Recorder: Lauron Simpson
 GPS file: Collector

Desert Tortoise Survey



Project #: 2020-066
 Client: Tetra Tech

Desert Tortoise Sign					
Time (24 hr)	Sign*	Class*	Easting UTM NAD83	Northing UTM NAD83	Comments (note aspect of burrows, Unique DT ID, measurements, behavior, etc.)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

*T - tortoise, B - burrow, P - Pallet, S - scat, Tr - tracks, C - carcass, O - other (specify)

*BURROW / PALLET (Note Aspect)		*SCAT	
1 - Currently active, w/tortoise or recent sign		1 - Wet or freshly dried, obvious odor	
2 - Good condition, definitely tortoise, no evidence of recent use		2 - Dry w/glaze and some odor, no bleaching, dark brown	
3 - Deteriorated condition (describe), definitely tortoise		3 - Dry, no glaze/odor, light brown, tightly packed, signs of bleaching	
4 - Good condition, possibly tortoise (describe)		4 - Dry, very light brown to yellow, loose material; scaly appearance	
5 - Deteriorated condition, possibly tortoise (describe)		5 - Bleached or consisting only of plant fiber	
*LIVE TORTOISE (MCL, Max Width, Width at 7/8 Marginal, Height)		*CARCASS	
1 - Healthy	A - Foraging	1 - Fresh or putrid	A - signs of predation
2 - URTD	B - Basking	2 - Normal color, scutes adhered to bone	B - No signs of predation
3 - Shell Cracked	C - In burrow	3 - Scutes peeled off bone	
4 - Peeling scutes	D - Digging	4 - Shell bone is falling apart; growth rings on scutes are peeling	
5 - Ticks	E - Traveling	5 - Disarticulated and scattered	

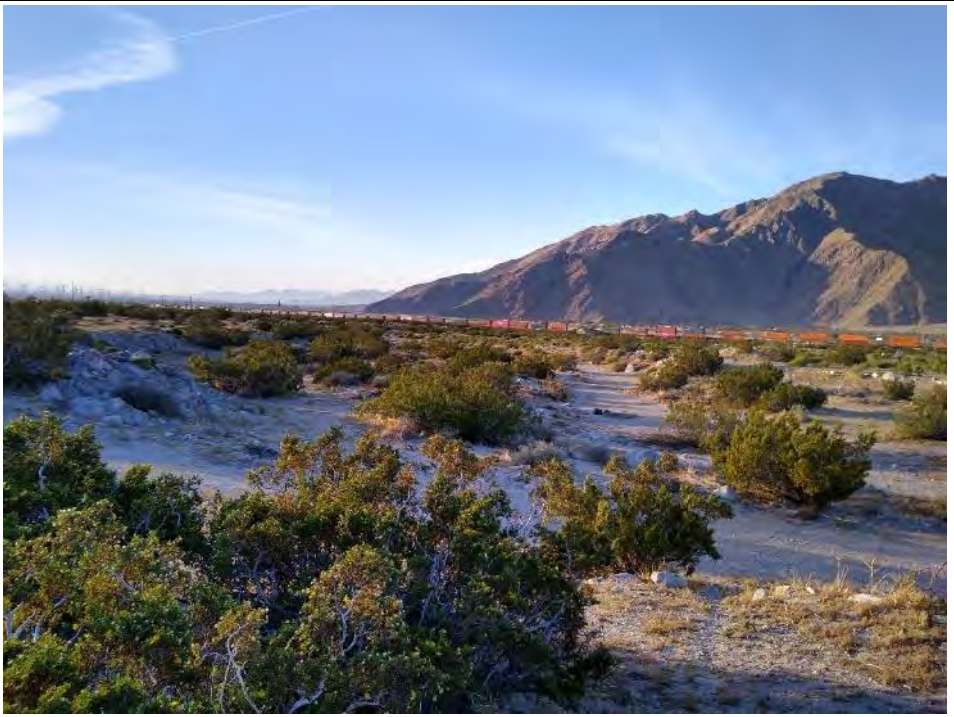
Form Updated: 11/5/2018


Page 1 of 2

This page intentionally left blank

Appendix B. Site Photographs

Photograph 1	 A photograph of a desert landscape. In the foreground, there is dry, yellowish-brown scrub vegetation and several large, smooth, light-colored boulders. In the middle ground, a line of white wind turbines is visible against a backdrop of rugged, brown mountains. The sky is clear and blue.
Location: Inside Conservation Area	
Notes: Protocol survey area for desert tortoise, facing south.	


Photograph 2	 A photograph of a desert landscape. In the foreground, there is a dry riverbed with some green shrubs. In the middle ground, a line of orange and red freight trains is visible. In the background, there are large, brown mountains under a clear blue sky.
Location: Inside Conservation Area	
Notes: Southern portion of protocol survey area for desert tortoise, facing southeast.	

Photograph 3	
Location: Inside Conservation Area	
Notes: Southern portion of protocol survey area for desert tortoise, facing north.	

Photograph 4	
Location: Inside Conservation Area	
Notes: Representative photograph of Class 4 desert tortoise burrow.	

Photograph 5	
Location: Inside Conservation Area	
Notes: Representative photograph of Cheesebush - Sweetbush Scrub.	

Photograph 6	
Location: Outside Conservation Area	
Notes: Representative photograph of Disturbed - Cheesebush - Sweetbush Scrub	

Photograph 7	
Location: Inside Conservation Area	
Notes: Representative photograph of Creosote Bush Scrub.	


Photograph 8	
Location: Inside Conservation Area	
Notes: Representative photograph of Creosote Bush - White Bursage Scrub.	

Photograph 9	
Location: Inside Conservation Area	
Notes: Representative photograph of White Bursage Scrub.	

Photograph 10	
Location: Outside Conservation Area	
Notes: Representative photograph of Disturbed - White Bursage Scrub.	


Photograph 11	
Location: Outside Conservation Area	
Notes: Representative photograph of Disturbed area.	

Photograph 12	
Location: Outside Conservation Area	
Notes: Representative photograph of Disturbed area (road).	

Photograph 13	
Location: Outside Conservation Area (Added 38-acre Area)	
Notes: Added 38-acre area, facing south.	

Photograph 14	
Location: Outside Conservation Area (Added 38-acre Area)	
Notes: Added 38-acre area, facing east.	

Photograph 15	
Location: Outside Conservation Area (Added 38-acre Area)	
Notes: Developed and fenced facility in 200-foot buffer of the added 38-acre area. Located outside the southeast boundary of the largest of the three small added areas that comprise the added 38 acres.	


Photograph 16	
Location: Inside Conservation Area	
Notes: Habitat and land features surrounding four burrows at B2 and B3, facing south.	

Photograph 17	
Location: Inside Conservation Area	
Notes: First of two occupied burrowing owl burrows located at B2.	


Photograph 18	
Location: Inside Conservation Area	
Notes: Second of two occupied burrowing owl burrows located at B2.	

Photograph 19	
Location: Inside Conservation Area	
Notes: First of two occupied burrowing owl burrows at B3.	

Photograph 20	
Location: Inside Conservation Area	
Notes: Second of two occupied burrowing owl burrows at B3.	

Photograph 21		
Location: Inside Conservation Area		
Notes: Representative photo of burrow at B5 (located outside of the Project boundary).		

Photograph 22		
Location: Inside Conservation Area		
Notes: B5 burrow entrance, fresh burrowing owl pellets, whitewash, and feathers present (located outside of the Project boundary).		

Photograph 23	
Location: Outside Conservation Area	
Notes: Habitat and land features surrounding B6, facing southeast.	

Photograph 24	
Location: Outside Conservation Area	
Notes: Burrow entrance at B6.	

Photograph 25	
Location: Outside Conservation Area (Added 38-acre Area)	
Notes: Burrow entrance at B7.	

Photograph 26	
Location: Inside Conservation Area	
Notes: Carcass of golden eagle.	

Photograph 27	
Location: Inside Conservation Area	
Notes: Observation of southern desert horned lizard.	

Photograph 28	
Location: Inside Conservation Area	
Notes: Observation of northern desert iguana.	

This page intentionally left blank.

Appendix C

Palm Springs Ground Squirrel Habitat Assessment of the Set-aside Parcel for the Mountain View Wind Repower Project

October 5, 2020

12649.03

Michael Hughes
AES North American Development, LLC
690 North Studebaker Road
Long Beach, California 90803

Subject: *Palm Springs Ground Squirrel Habitat Assessment of the Gabrych Set-Aside Parcel for the Mountain View Power Partners Wind Repower Project, Riverside County, California*

Dear Mr. Hughes:

The proposed Mountain View Power Partners Wind Repower Project (project) is located within unincorporated Riverside County and Bureau of Land Management jurisdictions, in a region situated in the northwestern portion of the Coachella Valley. The proposed project would repower and combine the existing Mountain View I & II wind farms through removal of 104 existing wind turbine generators (WTGs), leaving 7 existing turbines in place, and installing 16 new, higher-capacity WTGs. Project components include the following: WTGs (including turbine pad, safety features, and transformer contained within WTG unit), the electrical collection system, access roads, temporary laydown yards, and parking. The existing Mountwind substation would be utilized for the repower project.

This report summarizes the results of a habitat assessment for the Palm Springs ground squirrel¹ (PSGS) (*Xeromophilus tereticaudus chlorus*), a California Species of Special Concern, on the Gabrych Set-Aside Parcel, referred to herein as the survey area, an approximately 253.73-acre site in the San Geronio Pass area of the northwestern Coachella Valley, Riverside County, California.

1 Project Location and Site Description

The survey area is undeveloped, consisting of rocky and sandy areas with predominantly native vegetation east of the Whitewater River, adjoined to the east by an existing wind energy facility. The survey area is on the U.S. Geological Survey Whitewater and Desert Hot Spring 7.5-minute quadrangle maps (T3S R3E, NW¼, SW¼, SE¼, Section 13). Figure 1, Project Location, shows the Gabrych Set-Aside Parcel (survey area) on the western boundary of the proposed project. Report figures are found in Attachment A. Site Photos of the survey area are found in Attachment B.

The western part of the survey area contains a mix of flat areas interspersed with areas of sharp relief caused by historical water flows; the eastern and southern parts are mainly sandy, relatively flat areas with some small areas of sharp relief. The elevation of the survey area ranges from 1,260 feet above mean sea level in the northwestern corner to 1,040 feet above mean sea level in the southeastern corner, with a 3% slope to the southeast. The soils in the survey area are largely Carsitas cobbly sands and Cerizzo stony sands, which occur on floodplains and alluvial fans in the project region (NRCS 2020).

¹ Also commonly referred to as Coachella Valley round-tailed ground squirrel.

The plant communities in the survey area include white bursage scrub, cheesebush–sweetbush scrub, creosote bush–white bursage scrub, and creosote bush scrub (Tetra Tech 2020). The white bursage scrub community is dominated by white bursage (*Ambrosia dumosa*), with cheesebush (*Ambrosia salsola*) and white rhatany (*Krameria bicolor*); the white bursage scrub community was most common in the northwestern corner of the survey area. Cheesebush–sweetbush scrub, dominated by cheesebush and sweetbush (*Bebbia juncea*), occurs in various parts of the survey area. The creosote bush–white bursage scrub community, dominated by creosote bush (*Larrea tridentata*) and white bursage, is common in the southern and eastern parts of the survey area. The creosote bush scrub community is dominated by creosote bush, with rayless goldenhead (*Acamptopappus sphaerocephalus*) and cheesebush also present, and is common in the eastern part of the survey area. Shrubs that occur widely across the survey area include creosote bush, California ephedra (*Ephedra californica*), cheesebush, white bursage, desert willow (*Chilopsis linearis*), and brittlebush (*Encelia farinosa*).

The Gabrych Set-Aside Parcel (survey area) is located within the Whitewater Floodplain Conservation Area under the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) (CVAG 2016). The Whitewater Floodplain Conservation Area provides Core Habitat for a number of species, including PSGS. The Gabrych Set-Aside Parcel also contains parts of two “Other Conserved Habitat” areas in the form of Modeled Habitat for the PSGS (CVAG 2016), as shown in Figure 2, Palm Springs Ground Squirrel Potentially Suitable Habitat.

2 Palm Springs Ground Squirrel

The PSGS is a small, gray–olive- or cinnamon-colored ground squirrel with a long, round tail. The pelage is pale, without spots, and blends with sandy desert soils. This species occurred historically in the Coachella Valley from the San Geronio Pass area from Cabazon and Whitewater Station east and south through the Coachella Valley to Mecca (Brylski et al. 1997). Round-tailed ground squirrels, including the PSGS, occur in scrub and wash habitats, including mesquite and creosote-dominated sand dunes, creosote bush scrub, creosote-palo verde and saltbush/alkali scrub (Ryan 1968). Substrates include wind-blown sand, coarse sand, and packed silt with desert pavement (Ryan 1968). PSGS prefer sandy hummocks at the base of large shrubs, which provide burrow sites and cover (Grinnell and Dixon 1918, as cited in CVAG 2016). In areas of overlap with the antelope ground squirrel (AGS) (*Ammospermophilus leucurus*), the PSGS occurs in the sandier floodplain and antelope ground squirrel occur in rockier habitats. Burrows are dug at the bases of shrubs (Brylski et al. 1997).

The project site is located in the northwestern corner of the species’ historical range, with historical records as far west as Cabazon (CDFW 2020). The nearest PSGS record in the California Natural Diversity Database (CDFW 2020) is a museum record from Whitewater Station collected in 1908 (California Natural Diversity Database occurrence 3), approximately 0.9 miles west of the survey area. The CVMSHCP reported moderate numbers of PSGS observed along transects in the Whitewater Floodplain Preserve in 1995 (CVAG 2016).

3 Methods

A field assessment was carried out over three days from August 18–20, 2020, by Phil Brylski, Ph.D., who holds a California Department of Fish Wildlife Scientific Collecting Permit that includes authorization to carry out presence/absence surveys for PSGS. Survey conditions included temperatures ranging from 80°F to 115°F and clear skies. The field-based assessment examined soil, vegetation, topography, and disturbance features to assess

the suitability of habitat for the PSGS in the survey area. The field survey involved walking throughout the survey area, noting plant cover, soil types, and slope/disturbance factors that influence PSGS habitat suitability. Potentially suitable habitat was identified based on the presence of relatively level sandy, floodplain, alluvial fan, or aeolian habitats with shrub cover such as mesquite (*Prosopis glandulosa* var. *torreyana*), creosote bush, and desert scrub plants, particularly with sandy hummocks at the bases of shrubs, which provide burrow sites and cover. Areas considered potentially suitable for PSGS were mapped by recording tracks on a Garmin GPS Map76CSx.

The literature review included available literature on the PSGS, including from the CVMSHCP (CVAG 2016), occurrence records from the California Natural Diversity Database (CDFW 2020), scientific literature, unpublished reports, and the U.S. Department of Agriculture online soil survey (NRCS 2020).

4 Results

Three PSGSs were detected in the course of the habitat assessment, two as visual observations in the northwestern corner of the survey area and one detected from an alarm call at close range in the southwestern part of the survey area. The locations of these detections are shown in Figure 2. Antelope ground squirrels were regularly observed during the survey. Other mammals observed include black-tailed jackrabbit (*Lepus californicus*), Audubon's cottontail (*Sylvilagus audubonii*), California ground squirrel (*Otospermophilus beecheyi*), wood rat (*Neotoma* spp.), coyote (*Canis latrans*), and one kangaroo rat (*Dipodomys* spp.).

Potentially Suitable Palm Springs Ground Squirrel Habitat and Unsuitable Habitat

The approximate 253.73-acre Gabrych Set-Aside Parcel contains native habitats on alluvial and floodplain habitats. The survey area contains a mix of rocky and sandy habitats with common shrubs such as creosote, white bursage, cheesebush, and desert willow. Much of the survey area is predominantly rocky. Areas with 50% or more rocks on the surface, or with incised rocky channels, are considered unsuitable for PSGS. Photos 1–3 in Attachment B show examples of habitats within the survey area considered unsuitable for the PSGS and Figure 3 depicts the photo locations.

Relatively flat, scrub habitats in the survey area that with more than 50% sands on the surface are considered potentially suitable for the PSGS. Eight patches of potentially suitable habitat for the PSGS were mapped, and are distributed across the survey area (Figure 2). Pictures of the sites are shown in Photos 4–17 and locations are depicted on Figure 3. The eight areas considered potentially suitable for PSGS comprise 40.94 acres² (16% of the survey area).

Impacts to Palm Springs Ground Squirrel Modeled Habitat

There is a total of 30.24 acres of MSHCP modeled habitat for Palm Springs ground squirrel within the project boundary that overlaps the Whitewater Floodplain Conservation Area identified under the CVMSHCP (CVAG 2016; Figure 2). The proposed project would result in a total impact of 2.07 acres of MSHCP modeled habitat (Other Conserved Habitat) for Palm Springs ground squirrel, specifically 0.09 acre of permanent impacts and 1.98 acres

² Of the 40.94 acres of mapped suitable PSGS habitat, 36.98 acres occur within the Whitewater Floodplain Conservation Area and 3.96 acres occur outside of the Whitewater Floodplain Conservation Area.

Mr. Michael Hughes

Subject: *Palm Springs Ground Squirrel Habitat Assessment of the Gabrych Set-Aside Parcel for the Mountain View Power Partners Wind Repower Project, Riverside County, California*

of temporary impacts (Figure 2). MVPP has worked hard to minimize project construction disturbance, and the resulting temporary and permanent disturbance acreages for modeled ground squirrel habitat represent the minimum disturbances that preserve viable project economics. The CVMSHCP notes that the soils in the Modeled Habitats are gravelly, stony, or cobbly and therefore would likely support low numbers of ground squirrels (CVAG 2016). Photos 20 and 21 near proposed turbine 3, as shown within Figure Modeled Habitat B, show the stony substrate at this location. Photos 22 and 23 show that the soils at proposed turbine 4, as shown within Figure 2 Modeled Habitat B, are rocky, and have low habitat potential for PSGS.

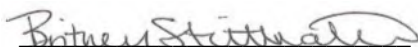
5 Conclusion

The approximate 253.73-acre Gabrych Set-Aside Parcel is located within the northwestern part of the PSGS's range. There are historical records from the vicinity of the survey area, and the Gabrych Set-Aside Parcel is within the Whitewater Floodplain Conservation Area, most of which is considered potential PSGS habitat (CVAG 2016). PSGS individuals were detected at three locations within the survey area during the field survey (Figure 2, which was carried out in August when PSGS typically start reducing above-ground activity (Brylski et al. 1997)).

The survey area contains a range of habitat suitability for PSGS, from unsuitable areas dominated by rocky and cobbly substrates to suitable habitats comprised of open creosote scrub and white bursage habitats on predominantly sandy (greater than 50%) to fully sandy substrates. Taken together, the data from the habitat assessment, historical records, and previous assessments indicate that the PSGS occupies the survey area. Surveys carried out in support of the CVMSHCP indicate that PSGS are most common in open sandy habitats, and most abundant in sandy mesquite hummock habitats in and around the open Willow Hole and Thousand Palms Conservation Areas east of the survey area (CVAG 2016). While the somewhat rocky and sandy creosote and white bursage scrub habitats that occur within the Gabrych Set-Aside Parcel are not high-quality habitats, they are likely occupied and contribute to conservation value for the species near the northwestern part of its range. In addition, the Gabrych Set-Aside Parcel contributes to the biological corridor and habitat linkages along the Whitewater River channel.

Should you have any questions regarding this report or require additional information, please do not hesitate to contact me at bstrittmater@dudek.com or 760.685.1231, or Wendy Worthey at wworthey@dudek.com or 619.890.2762.

Sincerely,



Britney Strittmater
Biologist

Att.: Attachment A, Figures
Attachment B, Site Photographs

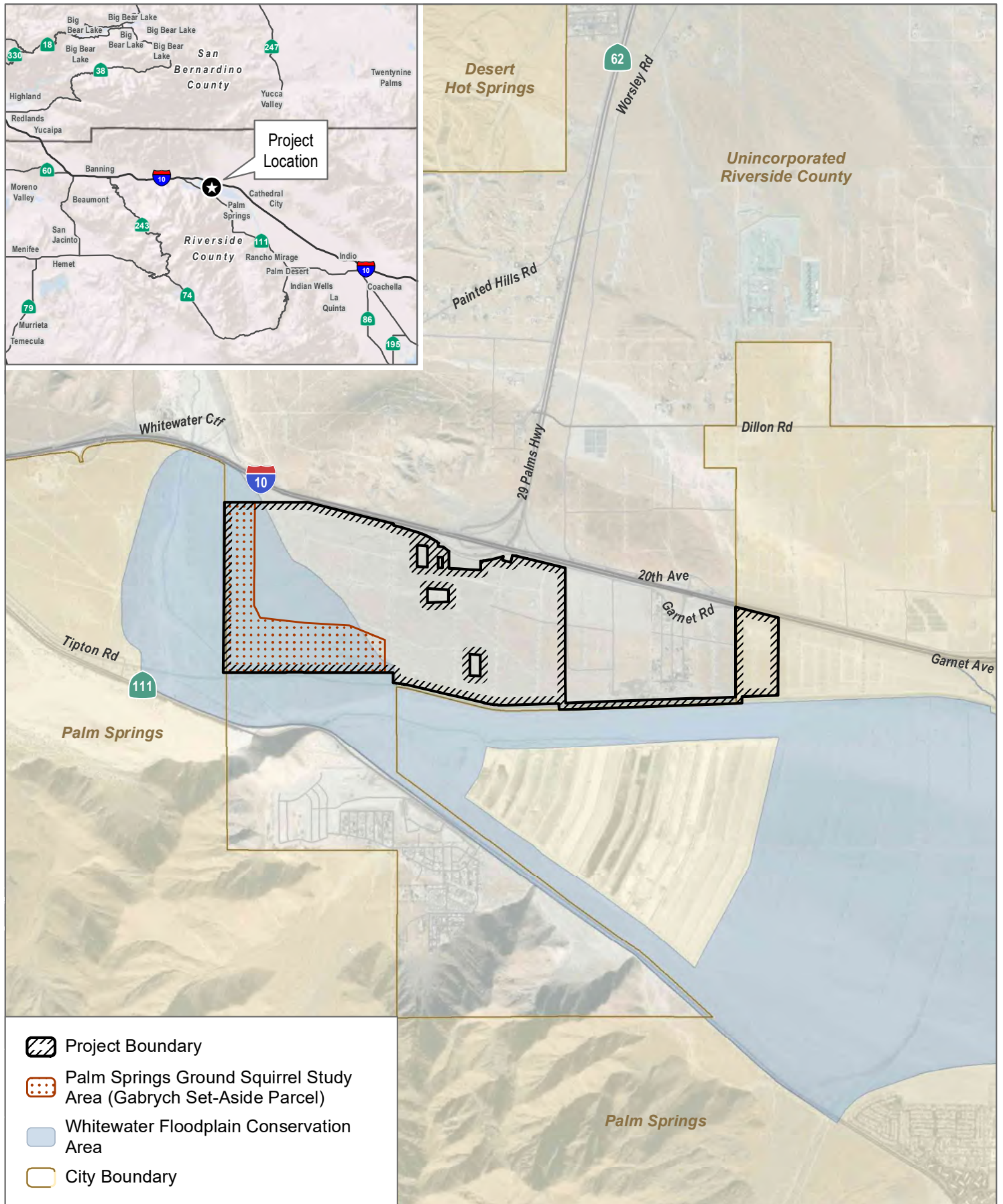
6 References

- Brylski, P. V., P. W. Collins, E. D. Pierson, W. E. Rainey, and T. E. Kucera. 1997. *Mammal Species of Special Concern in California*. Draft Final Report Prepared for the California Department of Fish and Game, Wildlife Management Division, Bird and Mammal Conservation Program, Sacramento, California. Contract FG3146WM.
- CDFW. 2020. "Special Animals List." California Natural Diversity Database. CDFW, Biogeographic Data Branch. August 2020. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline=1>.
- CVAG (Coachella Valley Association of Governments). 2016. *Coachella Valley Multiple Species Habit Conservation Plan*. As amended August 2016. http://www.cvmshcp.org/Plan_Documents_old.htm#plan.
- NRCS (Natural Resources Conservation Service). 2020. Web Soil Survey, web application. USDA Natural Resources Conservation Service. <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>
- Ryan, R. M. 1968. *Mammals of Deep Canyon, Colorado Desert, California*. Palm Springs, California: The Desert Museum.
- Tetra Tech Inc. 2020. *Biological Resources Technical Report for Mountain View Power Partners Wind Repower Project*. Prepared for AES



Attachment A

Figures

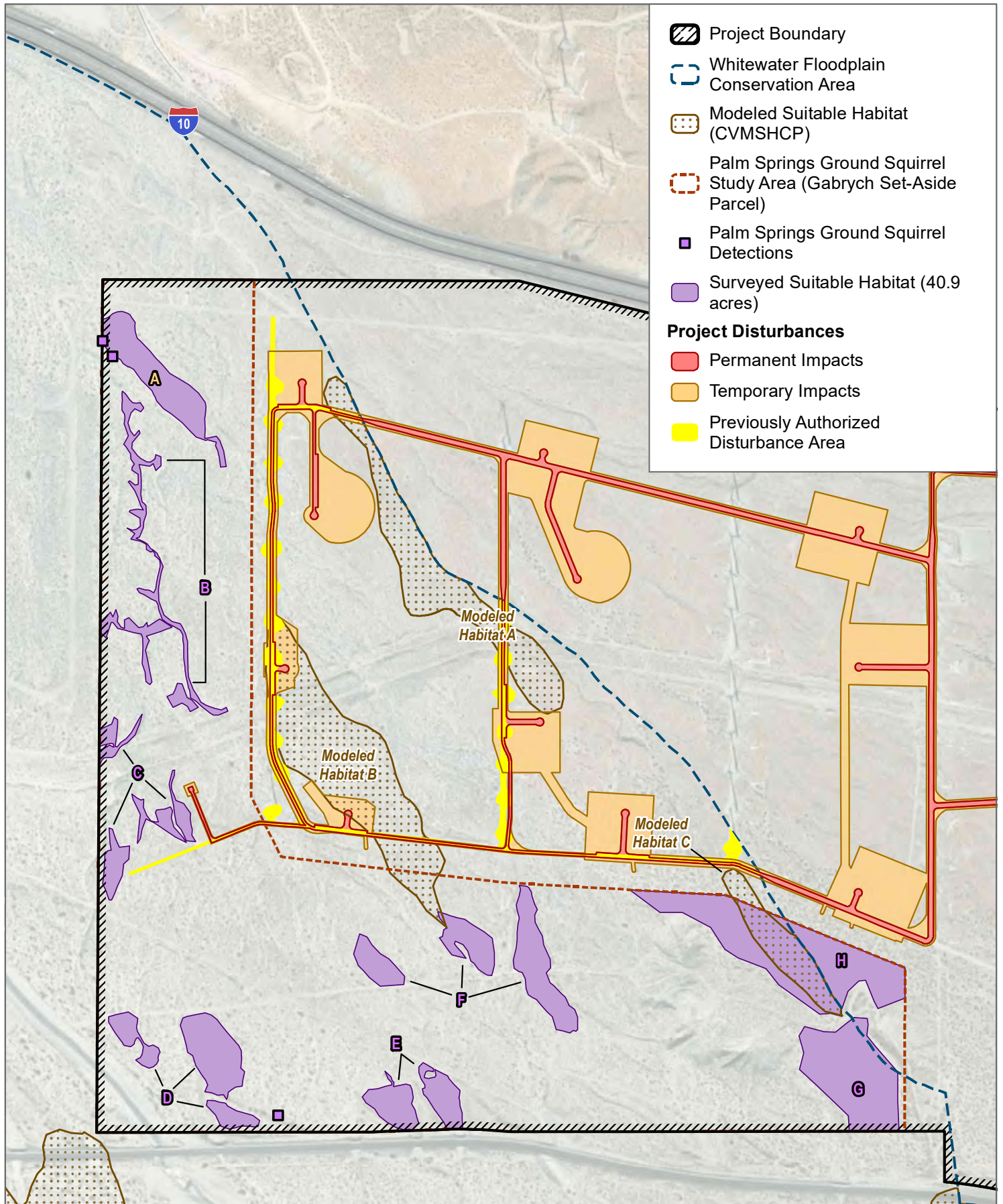


SOURCE: Esri and Digital Globe Aerials, OpenStreetMap 2019

FIGURE 1

Project Location

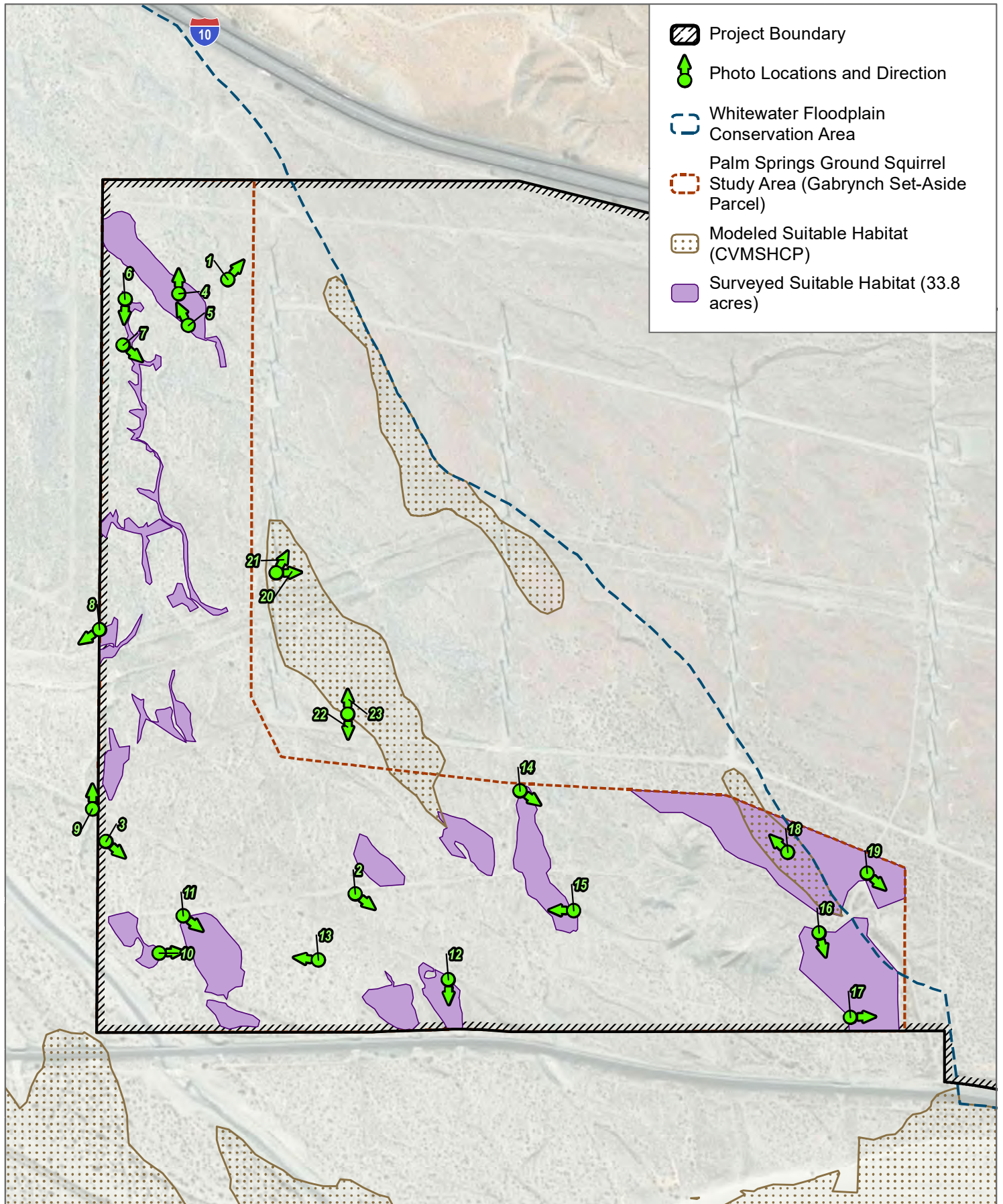
Mountain View Power Partners (MVPP) Proposed Wind Energy Repower



SOURCE: Esri and Digital Globe Aerials, Open Street Map 2019

FIGURE 2

Coachella Valley Round-Tailed Ground Squirrel Potentially Suitable Habitat



SOURCE: Esri and Digital Globe Aerials, OpenStreetMap 2019

FIGURE 3

Photo Locations

Mountain View Power Partners (MVPP) Proposed Wind Energy Repower



Attachment B

Site Photographs



Photo 1. Unsuitable Palm Springs ground squirrel (PSGS) habitat in northern part of Gabrych parcel, looking northeast.



Photo 2. Unsuitable PSGS habitat in southern part of Gabrych parcel, looking south.

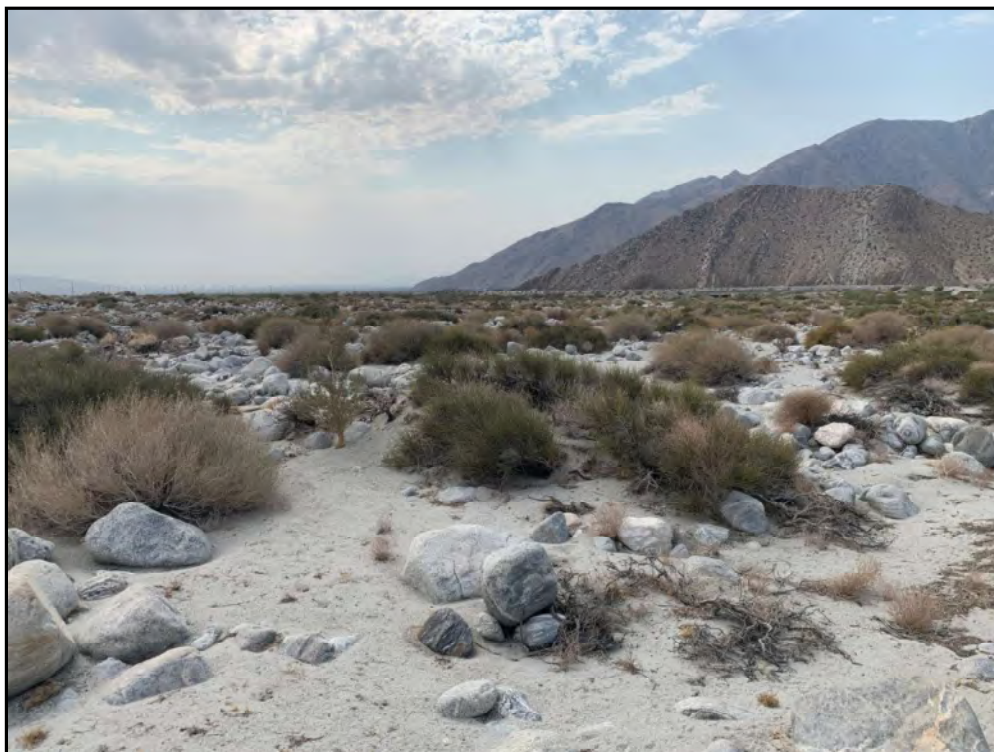


Photo 3. Unsuitable PSGS habitat in southwestern part of Gabrych parcel, looking south.



Photo 4. Potentially suitable PSGS habitat in Area A.



Photo 5. Potentially suitable PSGS habitat in Area A.



Photo 6. Potentially suitable PSGS habitat in Area B.



Photo 7. Potentially suitable PSGS habitat in Area B.



Photo 8. Potentially suitable PSGS habitat in Area C.

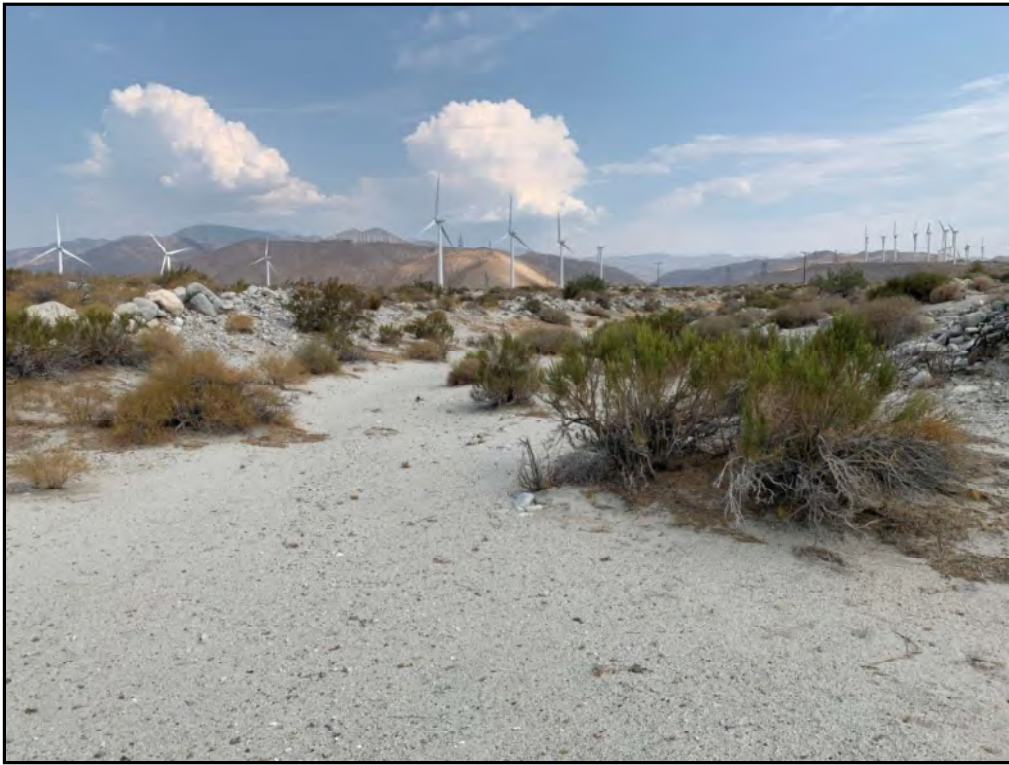


Photo 9. Potentially suitable PSGS habitat in Area C.



Photo 10. Potentially suitable PSGS habitat in Area D.



Photo 11. Potentially suitable PSGS habitat in Area D.



Photo 12. Potentially suitable PSGS habitat in Area E.



Photo 13. Potentially suitable PSGS habitat in Area E.



Photo 14. Potentially suitable PSGS habitat in Area F.



Photo 15. Potentially suitable PSGS habitat in Area F.



Photo 16. Potentially suitable PSGS habitat in Area G.



Photo 17. Potentially suitable PSGS habitat in Area G.



Photo 18. Modeled PSGS habitat in eastern Gabrych parcel.



Photo 19. Modeled PSGS habitat in eastern Gabrych parcel.



Photo 20. Access route of proposed turbine TTB3 in Modeled PSGS Habitat.



Photo 21. Location of proposed turbine TTB3 in Modeled PSGS Habitat.



Photo 22. Access route of proposed turbine TTB4 in PSGS Modeled Habitat.



Photo 23. Location of proposed turbine TTB3 in Modeled PSGS Habitat.

Appendix D

Mountain View Wind Repower Project Bird and Bat Conservation Strategy

Mountain View Wind Repower Project

Bird and Bat Conservation Strategy

Prepared for:

Mountain View Power Partners, LLC

690 N. Studebaker Road
Long Beach, CA 90803

Prepared by:



17885 Von Karman #500
Irvine, CA 92614

October 2020

This page intentionally left blank

Table of Contents

1.0	Introduction	1
1.1	Background and Purpose.....	1
1.2	Objectives	2
2.0	Regional Setting and Project Description	2
2.1	Regional Setting	2
2.2	Project Description.....	5
3.0	Regulatory Framework.....	9
3.1	Endangered Species Act	9
3.2	Bald and Golden Eagle Protection Act.....	9
3.3	Migratory Bird Treaty Act	9
3.4	California Regulations.....	10
3.5	Coachella Valley Multiple Species Habitat Conservation Plan.....	11
4.0	Avian and Bat Resources: Tiers 1-3.....	11
4.1	Existing Biological Resource Data.....	12
4.2	Project Data Summary	17
4.2.1	General Biological Assessment	17
4.2.2	Critical Issues Analysis.....	17
4.2.3	Biological Resources Surveys	17
4.2.4	Small Bird and Large Bird Surveys.....	18
4.3	Regional Data Summary	19
4.3.1	Avian Use within the San Gorgonio Wind Resource Area.....	19
4.3.2	Avian Use at Coachella Flats.....	19
4.3.3	Eagle Use at Coachella Flats	20
4.3.4	Avian and Eagle Use at Smoke Tree.....	20
4.3.5	Avian Use at Dillon Wind Energy Facility.....	21
4.3.6	Acoustic Bat Monitoring at Dillon Wind Energy Facility.....	22
4.3.7	Eagle Nest Surveys at Painted Hills.....	22
5.0	Avian and Bat Fatality Monitoring Data: Tier 4.....	25
5.1	Avian Fatality Monitoring Data Summary	25
5.1.1	San Gorgonio Wind Resource Area	25

5.1.2	Dillon Wind Energy Facility.....	26
5.1.3	Mountain View IV Wind Energy Project	26
5.2	Bat Fatality Monitoring Data Summary	27
5.2.1	San Gorgonio Wind Resource Area	27
5.2.2	Dillon Wind Energy Facility.....	27
5.2.3	Mountain View IV Wind Energy Project	28
6.0	Risk Assessment.....	28
6.1	Avian Collision.....	28
6.1.1	Golden Eagle	29
6.2	Bat Collision.....	30
7.0	Avoidance and Minimization.....	31
7.1	Repower Site Selection	31
7.2	Design Measures.....	32
7.3	Construction Measures.....	32
7.4	Operation Measures	34
8.0	Post-Construction Fatality Monitoring: Tier 4.....	34
8.1	Baseline Fatality Monitoring for Birds and Bats	34
8.2	Long Term Monitoring.....	35
9.0	Adaptive Management	35
10.0	Contacts and Key Resources.....	36
11.0	References.....	37

List of Tables

Table 1. Comparison of Turbine Specifications at the Project..... 5

Table 2. Avian- and Bat-Related Studies Conducted at the Project and at Regional Sites..... 13

Table 3. Project Contact List 37

Table 4. Regulatory Agency Contact List 37

List of Figures

Figure 1. Project Vicinity 3

Figure 2. Project Location 7

Figure 3. Regional Projects 15

Figure 4. Known Golden Eagle Nests..... 23

List of Appendices

Appendix A. Wind Energy Guidelines Tiers 1-3 Questions and Answers

Appendix B. Bird and Bat Species of Concern with Known or Potential Occurrence at the Project

Appendix C. Wildlife Incident Reporting Form

Appendix D. Post-Construction Avian and Bat Fatality Monitoring Mountain View Power Partners
Wind Project

This page intentionally left blank

1.0 Introduction

Mountain View Power Partners, LLC (MVPP) is planning to repower a wind energy facility in Riverside County, California, referred to as the Mountain View Wind Project (Project). The repowering will result in the removal of 104 of the existing 111 600-kilowatt (kW) Mitsubishi Turbines and the installation of 16 3-megawatt (MW) or larger turbines. The seven 600 kW turbines left in place will remain operational.

MVPP is committed to repowering and operating the Project in an environmentally responsible manner to minimize impacts to natural resources, including bird and bat species. As part of their due diligence, MVPP has prepared this Bird and Bat Conservation Strategy (BBCS) to assess potential impacts to birds and bats from the construction and operation of the repowered Project, and to act as a framework for identifying and implementing actions to avoid such impacts.

This BBCS is considered a living document that will be updated as needed, to allow the incorporation of Project-specific information on risk, monitoring, and adaptive management as it becomes available. The methods outlined in this report will be evaluated prior to implementing the BBCS, and if more current, accepted methods have been introduced since the drafting of this report, these methods will be incorporated, as warranted.

1.1 Background and Purpose

Potential impacts to birds and bats may result from the construction and operation of wind energy facilities. Interactions with wind turbines and the associated infrastructure, such as energy transmission, distribution, and substations may result in fatalities or indirect impacts that may include displacement or habitat loss. MVPP has developed this BBCS to address these potential impacts.

The BBCS outlines various processes that MVPP has employed or will employ to:

1. Comply with all state and federal laws and regulations for avian and bat conservation that are applicable to the Project;
2. Ensure that potential impacts to avian and bat resources are identified, quantified, and assessed; and
3. Avoid, minimize, or mitigate potential impacts consistent with the recommendations in the California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development (CEC & CDFG 2007), Land-based Wind Energy Guidelines (WEG; USFWS 2012) and Eagle Conservation Plan Guidance (ECPG; USFWS 2013).

This BBCS has been voluntarily prepared as a good faith effort to proactively address potential impacts to birds and bats that may result from the repowering of the Project.

1.2 Objectives

This BBCS has been developed to meet the following objectives:

1. Document and describe the scope of the Project and the biological survey work that has been completed at the Project and elsewhere in the region.
2. Provide an assessment of risks to avian and bat resources posed by the Project.
3. Consistent with recommendations in the WEG and ECPG, provide a description of the avoidance and minimization measures that have been taken during the siting and design of the Project.
4. Describe post-construction monitoring efforts that will be implemented at the Project to quantify impacts to birds and bats, as well as the methods for reporting the results of monitoring.
5. Outline the adaptive management framework that MVPP is committed to over the life of the Project.
6. Provide an educational and practical reference for MVPP employees and contractors to facilitate the implementation of measures that will avoid or minimize potential negative impacts to avian and bat species at the Project.

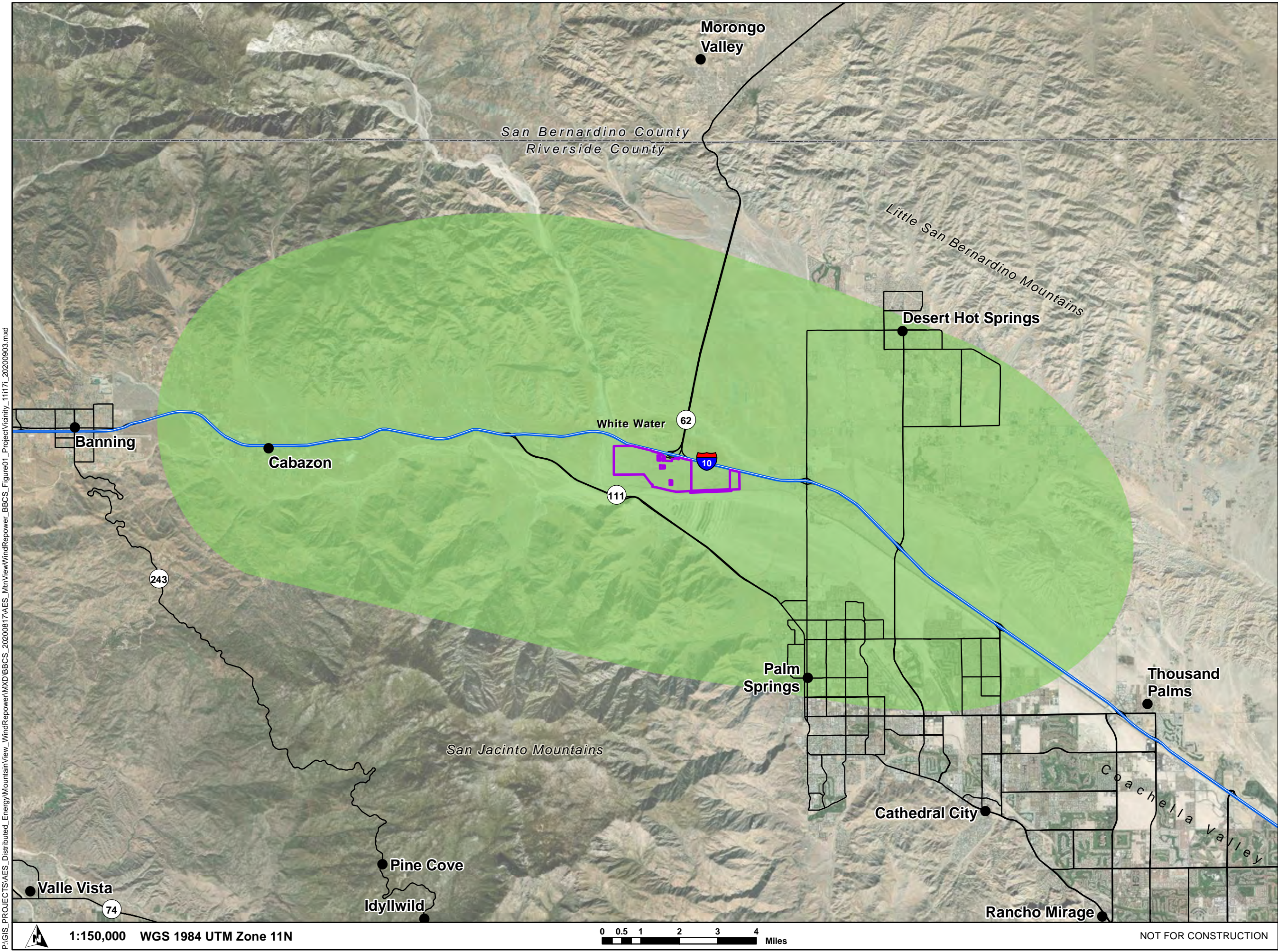
2.0 Regional Setting and Project Description

2.1 Regional Setting

The Project is located within the San Geronio Wind Resource Area (SGWRA; Figure 1) and Riverside County's San Geronio Pass Wind Energy Policy Area. The SGWRA maintains wind speeds that support economically viable wind energy projects, and is one of the oldest and largest wind energy development areas in the world (Weller and Baldwin 2012). The Project is located within the Coachella Valley, a long, broad valley trending approximately 45 miles northwest to southeast between the San Bernardino Mountains and the Salton Sea. The Coachella Valley is surrounded by the Santa Rosa and San Jacinto mountain ranges to the southwest, and the Little San Bernardino Mountains to the northeast (Figure 1).

In terms of ecoregions, the Project is located at the northern extent of the Colorado Desert, within the Sonoran Basin and Range Ecoregion (USEPA 2013). The Project is sparsely vegetated by desert scrub communities typical of the Mojave and Sonoran Deserts. The plant community within the Project includes creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), and indigo bush (*Psoralea arborescens*; WEST 2020a).

P:\GIS\PROJECTS\AES_Distributed_Energy\Mountain View_WindRepower\MXD\BBCS_20200817\AES_MtnViewWindRepower_BBOS_Figure01_ProjectVicinity_11171_20200903.mxd



Mountain View Wind Repower Project

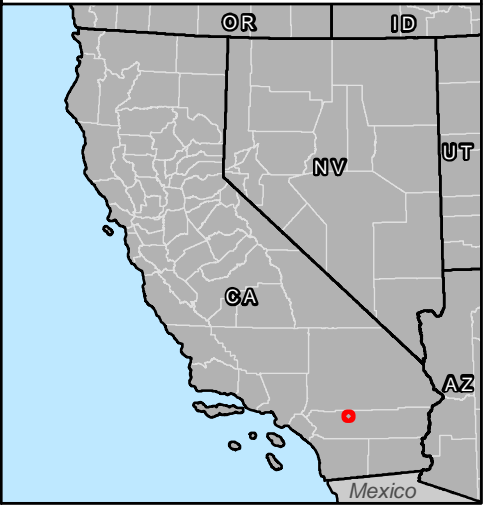
**Figure 1
Project Vicinity**

RIVERSIDE COUNTY, CALIFORNIA

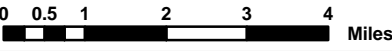
- Project Area (8/5/2020)
- City/Town
- Interstate Highway
- Secondary Road
- County Boundary
- San Gorgonio Wind Resource Area



Reference Map



1:150,000 WGS 1984 UTM Zone 11N



NOT FOR CONSTRUCTION

This page intentionally left blank

2.2 Project Description

The Mountain View I and II Wind Energy Projects (66.6 megawatts [MW]) came online in 2001. Repowering of the Project will involve the decommissioning and removal of the majority of the older and smaller, existing wind turbines followed by the installation of new, larger turbines (Table 1). One-hundred and four of the 111 existing Mitsubishi 600-kilowatt (kW) wind turbines will be replaced with 13 Vestas V117-4.2 MW and three Vestas V117-3.6 MW wind turbines (Figure 2). Seven existing Mitsubishi wind turbines will remain as part of the repower. Specifically, six of these wind turbines are located on Bureau of Land Management (BLM) parcel # 668-310-038 (ROW Grant CACA-42139), and one wind turbine is located on privately owned parcel # 669-020-008 (Figure 2). MVPP is planning to upgrade the existing seven wind turbines with new gearboxes, bearings, and generators to improve electrical generation efficiency. MVPP also will be installing new underground fiber optic cables to each of these existing wind turbines to improve communications and data reporting efficiencies. All ground disturbing activities associated with the upgrade and fiber optic cable replacement will occur within the existing disturbed road right-of-way (ROW) such that no additional areas of ground disturbance will occur as part of these updates.

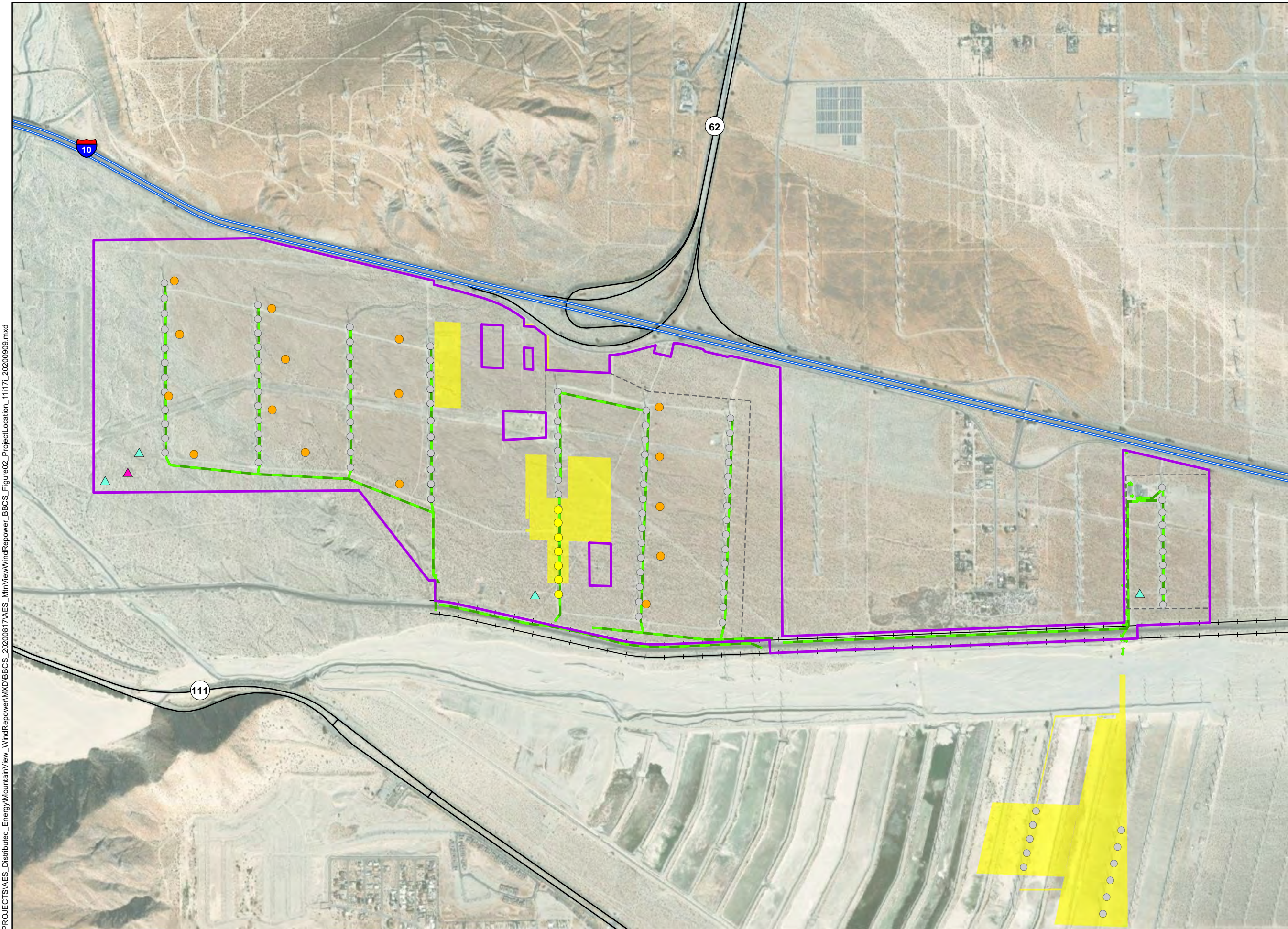
Table 1. Comparison of Turbine Specifications at the Project

Turbine Specifications	New¹	Removed²
Number of turbines	up to 16	104
Hub height	up to 91.5 meters	up to 60 meters
Rotor diameter	117 meters	up to 45 meters
Maximum blade tip height	up to 150 meters	up to 82.5 meters
1. Values derived from Vestas 4.2 MW turbine specifications to provide maximum values 2. Values derived from the turbine specifications of the Mitsubishi 600 kW with the 82.5 m hub height to provide maximum values		

New infrastructure to be built or maintained as part of the installation of the 16 larger turbines includes temporary and permanent roads outside of the existing road system footprint, and underground collection lines to collect energy from the new larger turbines. The Project will involve construction of one new meteorological tower and crane pad areas for individual turbines to accommodate cranes and heavy equipment needed for installation, a laydown / staging area for use during the decommissioning of existing turbines and the construction of the new turbines (approximately 17 acres), and temporarily widening and improving portions of the existing internal road system. The repowered, 23-turbine Project will have a nameplate capacity of 70.9 MW. MVPP anticipates that the repowered Project will achieve commercial operation by March 31, 2022.

This page intentionally left blank

P:\GIS\PROJECTS\AES_Distributed_Energy\Mountain View_WindRepower\MXD\BBCS_20200817\AES_MtnViewWindRepower_BBOS_Figure02_ProjectLocation_111171_20200909.mxd



Mountain View Wind Repower Project

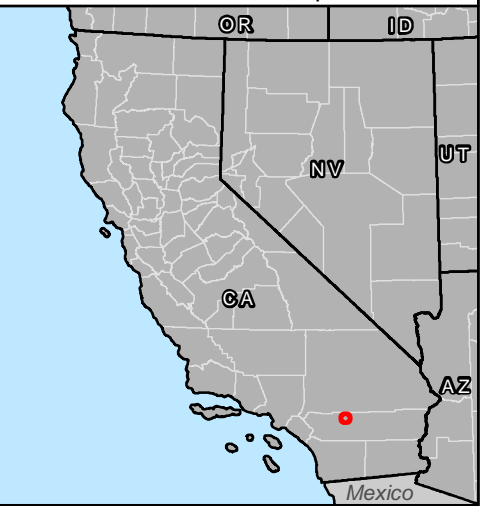
Figure 2
Project Location

RIVERSIDE COUNTY, CALIFORNIA

- Project Area
- Existing Turbine to be Decommissioned
- Existing Turbine to be Upgraded
- Existing MET Tower to be Removed
- Proposed New Turbine
- Proposed New MET Tower
- Existing Collection Line
- Fence
- Railroad Right-of-Way
- Interstate Highway
- Secondary Road
- Bureau of Land Management (BLM)



Reference Map



1:17,000 WGS 1984 UTM Zone 11N

0 0.25 0.5 1 1.5 2 Miles

NOT FOR CONSTRUCTION

This page intentionally left blank

3.0 Regulatory Framework

This section describes the environmental regulations pertaining to protection of birds and bats in proximity to the Project. The relevant federal and state laws and regulations include the federal Endangered Species Act (ESA), the Bald and Golden Eagle Protection Act (BGEPA), the Migratory Bird Treaty Act (MBTA), and the California Endangered Species Act (CESA).

3.1 Endangered Species Act

The federal ESA directs USFWS to identify and protect threatened and endangered species and their habitats, and to provide a means to conserve their ecosystems. Among its other provisions, the ESA requires USFWS to assess civil and criminal penalties for violations of the ESA or its regulations. Section 9 of the ESA prohibits take of federally listed species without prior approval pursuant to either Section 7(a)(2) or Section 10 of the ESA. Take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct” 16 U.S.C. 1532. The term “harm” includes significant habitat alteration which kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering, 50 CFR 17.3.

3.2 Bald and Golden Eagle Protection Act

Under authority of the BGEPA, 16 U.S.C. 668–668d, bald eagles and golden eagles are afforded legal protection. The BGEPA prohibits the take, possession, sale, purchase, offer of sale, purchase or barter, transport, export or import, at any time or in any manner of any bald or golden eagle, alive or dead, or any part, nest, or egg thereof, 16 U.S.C. 668. The BGEPA also defines take to include “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb,” 16 U.S.C. 668c, and includes criminal and civil penalties for violating the statute. See 16 U.S.C. 668. The term “disturb” is defined as agitating or bothering an eagle to a degree that causes, or is likely to cause, injury to an eagle, or either a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior, 50 CFR 22.3.

3.3 Migratory Bird Treaty Act

The MBTA implements the United States’ obligations under four treaties for the protection of migratory birds. The MBTA is administered by the USFWS, which maintains a list of all species protected by the MBTA (50 CFR 10.13). This list includes over 1,000 species of migratory birds, including eagles and other raptors, waterfowl, shorebirds, seabirds, wading birds, and passerines.

The MBTA makes it unlawful “by any means or in any manner, to pursue, hunt, take, capture, kill ... possess, offer for sale, sell ... purchase ... ship, export, import ...transport or cause to be transported... any migratory bird, any part, nest, or eggs of any such bird ...” except as otherwise permitted under the regulations. (16 U.S.C. 703). The word “take” is defined by regulation as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound,

kill, trap, capture, or collect” (50 CFR 10.12). The definition of “take” does not include the broader terms of “harass” or “harm” that have been found to prohibit incidental takes under the ESA. Federal District Courts have split on the question of whether the MBTA prohibits incidental take.

3.4 California Regulations

The California Endangered Species Act, administered by the California Department of Fish and Wildlife (CDFW), was established to protect native California wildlife and plants that are in danger of becoming extinct throughout all, or a portion, of their range. Section 2080 of the Fish and Game Code prohibits “take” of any species determined by the Fish and Game Commission to be threatened or endangered. In Section 86 of the Fish and Game Code, “take” is defined as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Unlike its federal counterpart, CESA “take” prohibition applies also to any species that is a candidate for state listing pursuant to Fish and Game Code Section 2085. Section 2081(b) and (c) of the CESA allows CDFW to issue an incidental take permit for a state endangered, threatened, or candidate species provided the following criteria are met: 1) the take is incidental to otherwise lawful activities; 2) impacts of the authorized take are minimized and fully mitigated; and 3) the issuance of the permit will not jeopardize the continued existence of a state-listed species.

In addition to state endangered, threatened, or candidate species, CDFW has designated certain vertebrate species as Species of Special Concern (SSC) because of declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as SSC is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long-term viability. Not all SSC have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a “Threatened” or “Endangered” species under the CESA and/or ESA. The CDFW list of SSC is available at:

<https://www.wildlife.ca.gov/Conservation/SSC>.

California Fish and Game Code Sections 3511, 4700, 5050 and 5515 designate 37 species of wildlife as Fully Protected in California. The classification of Fully Protected provides additional protection to those animals that are rare or face possible extinction. Most Fully Protected Species have also been listed as threatened or endangered species under CESA. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

California Fish and Game Code Section 3503 provides regulatory protection to resident and migratory birds and all birds of prey in the State of California, including the prohibition of the taking of nests and eggs, unless otherwise provided for by the Code. Specifically, these sections of the Code make it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code.

3.5 Coachella Valley Multiple Species Habitat Conservation Plan

The Project is located within the planning boundaries of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). The CVMSHCP is a comprehensive, multi-jurisdictional habitat conservation plan focusing on conservation of species and their associated habitats in the Coachella Valley region of Riverside County. A Biological Resources Technical Report, including a CVMSHCP Consistency Analysis chapter will be prepared for the Project to ensure compliance with the California Environmental Quality Act (CEQA) and to determine conservation measures that apply to the Project (*Dudek In Preparation*). The CVMSHCP covers 27 sensitive plant and wildlife species (Covered Species) as well as 27 natural communities. Covered Species include both listed and non-listed species that are adequately conserved by the CVMSHCP. The CVMSHCP provides take coverage for Covered Species. Covered Activities include new ground disturbance associated with repowering or development of new wind energy facilities, including replacing existing wind turbines with new turbines. The CVMSHCP also states that if old turbines are removed and the former impact area is restored to a natural condition, an equal new area may be disturbed without counting toward the calculation of net disturbance. It does not, however, provide take authorization for wind energy turbine operation.

Approximately 387 acres in the western portion of the project site are located within the CVMSHCP Whitewater Floodplain Conservation Area. This Conservation Area provides Core Habitat for the Coachella Valley milkvetch, Coachella Valley giant sand treader cricket, Coachella Valley fringe-toed lizard, Coachella Valley round-tailed ground squirrel (also referred to as the Palm Springs ground squirrel), and Palm Springs pocket mouse. In addition, this conservation area serves as a sand transport corridor for movement of sand from the mountains to various conservation areas on the valley floor. The County of Riverside, which has jurisdiction over the subject property, is one of the CVMSHCP's local Permittees. Pursuant to the CVMSHCP, projects under local Permittees' jurisdiction that could result in disturbance to habitat, natural communities, Biological Corridors, or Essential Ecological Processes are required to complete a Joint Project Review (JPR) process with the County and the Coachella Valley Conservation Commission (CVCC). The project applicant initiated the JPR process, pursuant to Section 6.6.1.1 of the CVMSHCP.

4.0 Avian and Bat Resources: Tiers 1-3

The WEG prescribe a tiered system to evaluate and address potential impacts of greenfield site wind energy developments on wildlife species of concern. The pre-construction tiers (Tiers 1 – 3) provide a recommended approach to identify, avoid, and minimize risks to wildlife. Tier 1 is a landscape-scale screening process for site selection. Tier 2 is a site characterization process that focuses on site-specific natural resource information to evaluate potential risks to sensitive (i.e., species of concern) or protected natural resources. Tier 3 is a field-based evaluation of species occurrence, the results of which are used to assess risk and potentially inform avoidance and minimization measures adopted by a project that address species of concern. The WEG present a distinct set of questions to be addressed at each Tier. The questions for Tiers 1 - 2 should be

considered in the preliminary site evaluation and characterization stage to help determine whether a potential site should be evaluated further in the development process. The WEG's Tier 3 questions are designed to further evaluate whether a proposed project should proceed to construction and operation based on a review of data from nearby existing wind energy sites and site-specific studies.

Although the WEG specifically focus on greenfield projects rather than repowering existing operational wind projects, guidance within the WEG provides a framework for risk assessment that can be adopted by repower projects. This BBBS uses that framework to assess risk to species. Where applicable, the specific Tier 1-3 questions are addressed in Appendix A. For the purposes of this BBBS, species of concern are defined as those species that have the potential to occur in the Project Area and that are federally or state-listed species, candidates for listing, or species proposed for listing, as well as state fully protected species, state SSC, CVMSHCP Covered Species, and species of concern indicated in the WEG (USFWS 2012, USFWS 2020a, CDFW 2020, CVAG 2007). A list of bird and bat species of concern with the potential to occur within the Project is provided in Appendix B.

4.1 Existing Biological Resource Data

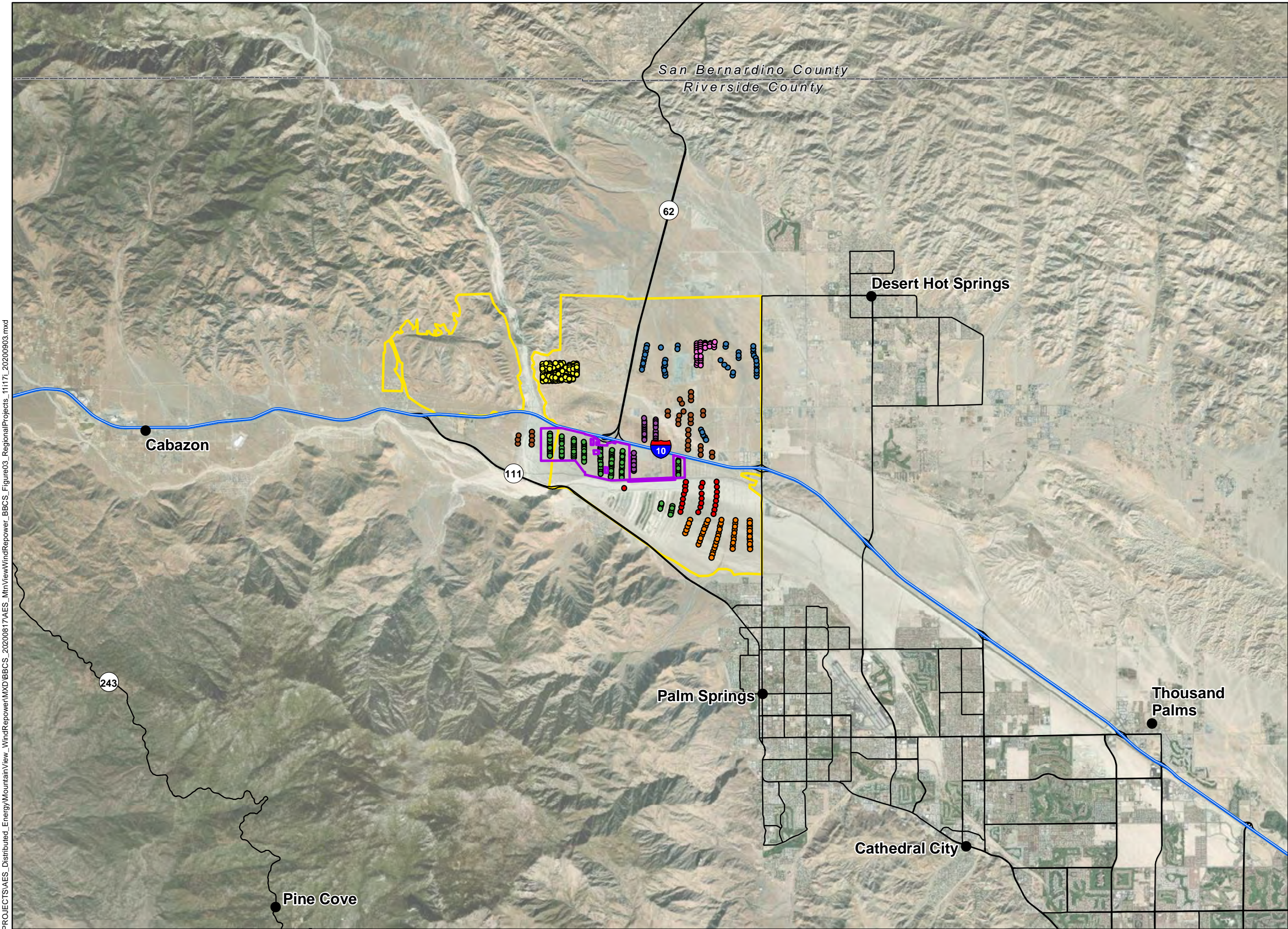
Greenfield development within areas where no prior evaluation, biological resource surveys, or monitoring have been performed warrant rigorous efforts to identify the potential impacts to natural resources. For repower developments, such as the proposed Project, there are opportunities to use data from nearby operational wind energy facilities as well as Project-specific data to predict potential impacts, thus reducing the need for, or extent of, site-specific surveys and monitoring. Biological resource data for the SGWRA, including publicly available fatality monitoring data, are available to provide biological context for repowering wind projects in the SGWRA. Biological resource data for the Project were compiled from several wind energy facilities with similar site characteristics in the vicinity (within 2 miles) of the Project and conducted over the past 20 years. A list of study sites, survey types, survey dates, and report citations are included in Table 2, and the location of the pre- and post-construction study sites in relation to the Project are presented in Figure 3. Results from these studies' data sources are summarized below.

Table 2. Avian- and Bat-Related Studies Conducted at the Project and at Regional Sites

Study Type	Study Site	Study Date Range	Citation
Project			
Biological Assessment	Mountain View I & II	April – June 2000	NRA 2000
Critical Issues Analysis	Mountain View I & II	January 2020	Tetra Tech 2020a
Biological Resources Technical Report	Mountain View I & II	June 2020	Tetra Tech 2020b
Avian Risk Assessment and Survey Report	Mountain View I & II	October 2017 – October 2018	WEST 2020a
Regional Reports			
<i>Pre-construction Survey Reports</i>			
Bird Utilization Counts and Carcass Searches	San Geronio Wind Resource Area	March 1997 – May 1998 (Phase I); August 1999 – August 2000 (Phase II)	Anderson et al. 2005
Avian Use Surveys	Coachella Flats	April 2014 – May 2015	Tetra Tech 2018a
Eagle Use Surveys	Coachella Flats	April 2014 – May 2015	Tetra Tech 2018b
Avian Survey and Eagle Risk Assessment	Smoke Tree	September 2013 – May 2014, June – August 2015	Tetra Tech 2015
Avian Use Surveys	Dillon	March – July 2006	Amalong and Mudry 2007
Golden Eagle Nest Survey	Painted Hills	March 2011 (Occupancy) and June 2011 (Productivity)	WRI 2012
Avian Use Assessment	Painted Hills IV	1983 – 2010	CH2M Hill 2011
Acoustic Bat Monitoring	Dillon	October 2007 – March 2009	Weller and Baldwin 2012
<i>Post-Construction Fatality Monitoring Survey Reports</i>			
Avian and Bat Fatality Surveys	Dillon	March 2008 – March 2009	WEST 2009
Avian and Bat Fatality Surveys	Mountain View IV	March 2012 – March 2013	WEST 2013
Bird Utilization Counts and Carcass Searches	San Geronio Wind Resource Area	March 1997 – May 1998 (Phase I) and August 1999 – August 2000 (Phase II)	Anderson et al. 2005

This page intentionally left blank

P:\GIS\PROJECTS\AES_Distributed_Energy\Mountain View_WindRepower\MXD\BBCS_20200817\AES_MtnViewWindRepower_BBOS_Figure03_RegionalProjects_111171_20200903.mxd



Mountain View Wind Repower Project

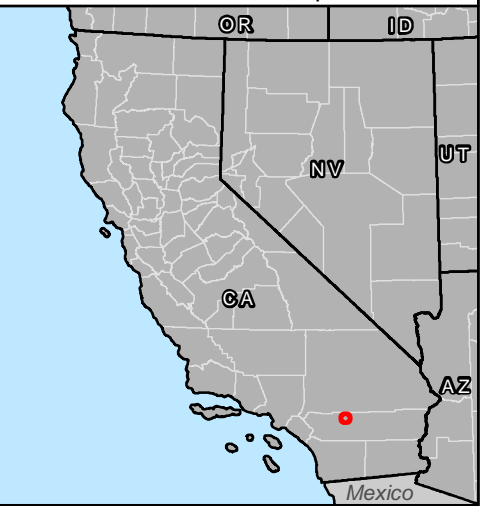
**Figure 3
Regional Projects**

RIVERSIDE COUNTY, CALIFORNIA

- Project Area (8/5/2020)
- Projects Surveyed Within the San Geronio Wind Resource Area by Anderson et al. 2005
- City/Town
- Interstate Highway
- Secondary Road
- Existing Turbines**
 - Coachella Flats
 - Dillon
 - Mountain View I & II
 - Mountain View III
 - Mountain View IV
 - Painted Hills
 - Palm Springs (repower)
 - Smoke Tree (Decommissioned 2017)



Reference Map



1:132,000 WGS 1984 UTM Zone 11N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

This page intentionally left blank

4.2 Project Data Summary

Given the large volume of existing information on the impacts of wind energy on habitat and wildlife in the SGWRA, including sites within several miles of the Project, site-specific Tier 3 surveys were limited to avian use surveys and eagle use surveys.

4.2.1 General Biological Assessment

A general biological assessment was conducted for the Alexander Wind Energy Facility (NRA 2000). Surveys were conducted on parcels on which the Mountain View I and II Wind Energy Projects were eventually developed. Field surveys were conducted April 11-13, April 25-27, and June 27-29, 2000. Sensitive resources observed on site during field surveys included desert tortoise (old sign and burrows), burrowing owl (two burrows and two burrowing owls), black-tailed gnatcatcher (one individual), loggerhead shrike (one individual), and Palm Springs pocket mouse (four individuals; NRA 2000). Previous reports also indicated the presence of LeConte's thrasher. Habitat for Coachella Valley fringe-toed lizard or Coachella Valley milkvetch was not found within the Alexander Wind Energy Facility Project Area (NRA 2000).

4.2.2 Critical Issues Analysis

A Critical Issues Analysis (CIA) was prepared in January 2020 to describe the existing environmental resources of the Project Area, and to identify the regulatory requirements, issues, constraints, and limitations as they relate to the Project (Tetra Tech 2020a). Habitat at the Project Area was determined to be highly disturbed due to past and current wind energy development and operations. Of the 21 special-status birds and bats considered in the CIA, five birds including golden eagle, prairie falcon, burrowing owl, LeConte's thrasher, and loggerhead shrike were considered to have moderate to high potential to occur in the Project Area. To identify the potential presence of federally and state-listed wildlife and plant species and potential impacts from the proposed Project, a general plant and wildlife survey was recommended (Section 4.3.2) in addition to surveys required by the CVMSHCP (desert tortoise protocol-level surveys, burrowing owl focused surveys, LeConte's thrasher nest surveys, and triple-ribbed milk-vetch surveys).

4.2.3 Biological Resources Surveys

Based on the list of special-status species with potential to occur within the Project Area as identified in the CIA (Tetra Tech 2020a), biological surveys were conducted in spring 2020 to confirm and update the list of special-status species and other natural resources that could occur in the Project Area (Tetra Tech 2020b).

During the combined desert tortoise/rare plant survey conducted in early May and the rare plant survey conducted in late May, biologists recorded plant and animal species observed on-site. Species of concern or associated features observed or detected during the survey, including LeConte's thrasher, burrowing owl and any potential burrowing owl burrows, were documented on

datasheets and mapped with GPS units. Data on burrow occupancy, burrowing owl behavior, and, if necessary, nest status was documented during each burrow check. If occupation of a potential burrow could not be determined at the time it was observed, or more information was needed on an occupied burrow (e.g., nesting status), then a qualified biologist with experience identifying and surveying for burrowing owl performed additional burrow checks in June. The purpose of these burrow checks was to gain additional information on burrowing owl use of the Project Area in order to provide enough detail to support an impacts analysis for CEQA. The biologist observed each previously identified burrow location from a distance to not disrupt the burrowing owls occupying the burrow.

Five occupied burrowing owl burrows, and up to 15 individual burrowing owls, were detected during the surveys. Other sensitive birds observed during the surveys included two loggerhead shrike fledglings, and one golden eagle carcass. The golden eagle fatality was likely due to a turbine strike. The fatality was reported to USFWS by MVPP.

4.2.4 Small Bird and Large Bird Surveys

Small bird and large bird (including eagles) surveys were performed at the Project to enable assessment of potential changes in risk to avian species due to the proposed Project repowering. The surveys were conducted from October 2017 – October 2018 (WEST 2020a). The Avian Risk Assessment and Survey Report was revised in summer 2020 to reflect changes in the final Project layout (the elimination of Large Bird Survey Points 15 and 16) that influenced the survey and risk assessment results. The report summarizes the survey results from the larger original Project Area, as well as survey results based on only those data collected in the final, smaller Project Area selected for the repower (i.e., excludes surveys performed at Large Bird Survey Points 15 and 16, and Small Bird Survey Points 17, 18, and 19). Repowering existing turbines in these areas was no longer considered due to project constraints and the high avian use observed in these areas, particularly on the berms of the Coachella Valley Water District (CVWD) percolation ponds.

Fixed-point avian use surveys were conducted throughout the original Project Area to evaluate spatial and temporal patterns in avian use, with added emphasis on use by eagles. Surveys were conducted approximately weekly at four points for large birds and at 15 points for small birds. Each small bird survey was conducted for 10 minutes within a 100-meter radius plot, while large bird surveys were conducted for 60 minutes and included an 800-meter radius plot. A total of 202 large bird surveys (202 hours) and 727 small bird surveys (121.2 hours) were conducted during 51 visits.

The bird species observed in the Project Area were typical of those commonly found in similar habitat types within this region of California. Avian use within the final Project Area was generally consistent with expectations, consisting of relatively common species in relatively low abundance. The Project's diurnal raptor use was comparable to that reported for other facilities in southern California (WEST 2020a).

Three golden eagles and three bald eagles were observed during the study. The three bald eagles were all observed from Survey Point 16, and one of the golden eagles also was observed from Survey Point 16. Of the two other golden eagles, one was observed from Survey Point 1 within the main portion of the Project Area, and one was recorded incidentally flying over Highway 111, outside of the Project Area. When including data from all large bird survey points, bald eagles were documented within the 800-meter survey plots flying at heights of 200 meters or less above ground level (AGL) for a total of 18 eagle minutes, while golden eagles were documented within the 800-meter survey plots at heights of 200 meters or less AGL for a total of four eagle minutes. However, with the removal of data from Survey Points 15 and 16, due to changes in the layout of new and repowered turbines, eagle minutes were reduced to zero for bald eagles and one for golden eagles, out of 202 hours of large bird survey effort. Assuming eagle use is positively correlated to risk, this reduction in eagle minutes observed in the Project Area for the repower should result in lower risk to eagles compared to that posed by the original Project Area (refer to Section 6.1 below).

No federally threatened, endangered, or candidate bird species were documented during the study; however, seven species of concern were recorded during surveys or incidentally. This included one state-endangered species (bald eagle), one state-threatened species (Swainson's hawk), one state fully protected species (golden eagle), and four California SSC (American white pelican, northern harrier, burrowing owl, and loggerhead shrike). However, a number of these species were recorded outside of the Project Area, again, resulting in lower risk assuming that use is positively correlated to risk.

4.3 Regional Data Summary

4.3.1 Avian Use within the San Geronio Wind Resource Area

An avian use memo prepared by CH2M Hill analyzed multiple surveys conducted at various wind energy facilities within the SGWRA. Projects that were designed to avoid impacts to avian species constituted of those which sited wind turbines away from open water and riparian vegetation and used tubular monopole tower designs that eliminate perching opportunities (CH2M Hill 2011). The memo found that the studies within the SGWRA documented relatively low numbers of avian species, including few observations of raptors, and CH2M Hill estimated low bird strike and raptor fatality rates. CH2M Hill concluded that avian studies indicate that wind facilities in the SGWRA appear to be well-sited with regard to minimizing potential impacts to avian populations.

4.3.2 Avian Use at Coachella Flats

Avian use surveys were conducted at the Coachella Flats Project April 24, 2014 through May 19, 2015 to determine spatial and temporal patterns of bird use (Tetra Tech 2018a). The Coachella Flats Project is southeast of the Project Area, within 0.5 miles (Figure 3). The survey protocol was designed to be responsive to the level of effort recommended in the WEG. Surveys were conducted at 20 point-count locations distributed throughout Coachella Flats. The surveys were conducted from 15 minutes prior to sunrise to four hours after sunrise. A 100-meter survey radius was used,

with each survey lasting 10 minutes at each point. Point-count locations were surveyed approximately biweekly (every other week). Survey frequency was reduced to once per month during the summer (June 1 through August 31). The encounter rate, which is the rate at which a species flies at a height within the rotor swept area, was calculated to evaluate risk of collisions.

Overall mean use and species diversity were low. Most of the species detected during the surveys were those typically associated with arid open lands or heavily disturbed habitats. There were a few species typically associated with water or wetlands (e.g., double-crested cormorant, killdeer, and California gull). The CVWD percolation ponds, immediately west of the Coachella Flats Project, draw birds associated with water or wetlands as was noted during the Project's avian surveys and at the Mountain View IV Wind Energy Project (WEST 2013). The double-crested cormorant was the species with the highest encounter rate (> 1.0 birds flying at RSA height/20 minutes) suggesting the potential for risk of turbine collisions. Double-crested cormorants have been detected as fatalities at other wind projects in California including at the High Winds facility (Kerlinger et al. 2006) and within the Altamont Pass Wind Resource Area (ICF International 2012). However, only one individual fatality was observed in each study. Therefore, while there is a potential risk of fatalities of double-crested cormorants to occur at the Coachella Flats Project, the risk is considered to be minimal. The only raptors observed during the surveys were two individual American kestrels, indicating a low risk of impacts to raptors in general at the Coachella Flats Project. No federally or state-listed threatened or endangered species were observed during the surveys. Only one SSC species, the loggerhead shrike, was observed during avian use surveys.

4.3.3 Eagle Use at Coachella Flats

Eagle use surveys were performed at the Coachella Flats Project from April 16, 2014 to May 19, 2015 to identify potential eagle impacts associated with the proposed repowering (including construction and operation) of the operational wind energy facility (Tetra Tech 2018b). Surveys were performed weekly except for the summer season (June 1 – August 31) when surveys were performed monthly. Four eagle use survey points (800-meter radius) were established covering approximately 50 percent of the Coachella Flats Project plus a 1-kilometer buffer. Each eagle use survey lasted 60 minutes at each point.

No eagles were observed during the 189 hours of eagle use surveys. Overall mean eagle use was 0.00 eagle minutes per hour. During the yearlong survey effort, 19 individual surveys could not be completed because points were inaccessible at the time of the survey. Based on the level of survey effort and lack of eagle observations, the results of this study suggest the Coachella Flats Project has a low risk to eagles.

Only one SSC species, the loggerhead shrike, was observed during eagle use surveys.

4.3.4 Avian and Eagle Use at Smoke Tree

Avian use and eagle use surveys were performed at the Smoke Tree Wind Project from September 5, 2013 to May 21, 2014 (fall through spring) to identify potential avian impacts associated with the

proposed repowering (including construction and operation) of the operational wind energy facility (Tetra Tech 2015). The Smoke Tree Wind Project is approximately 2.0 miles to the north of the Project Area (Figure 3). The proposed repowering was eventually abandoned, and the existing turbines were decommissioned in 2017. No turbines currently exist at the Smoke Tree Wind Project. Additional monthly eagle use surveys were completed June 29 through August 18, 2015 to collect eagle use during the summer season. Fixed-point use surveys (800-meter radius) were conducted at two points covering 35.5 percent of the Smoke Tree Wind Project plus a 1-kilometer buffer. Each avian use survey was conducted for a period of 30 minutes whereas eagle use surveys were conducted for a period of 60 minutes. Eagle surveys were conducted concurrently with avian use surveys.

A total of 281 birds from 28 species and three species groups were observed during the general avian use surveys. Overall mean bird use was 3.90 birds/30 minutes and ranged from 1.90 birds/30 minutes in fall to 9.94 birds/30 minutes in spring. Six non-raptor species were observed flying at the anticipated heights of the repowering turbines' rotor swept areas (RSA): barn swallow, cliff swallow, tree swallow, common raven, house finch, and loggerhead shrike. Each of these species has been detected as a fatality at a wind project. Although collision risk was likely to be low given the low use and encounter rates, mortality of these species could have occurred at the Smoke Tree Wind Project. Fatalities of these species at the Smoke Tree Wind Project were not likely to have population-level impacts.

Raptor mean use at the Smoke Tree Wind Project was 0.19 birds/30 minutes. The raptors observed during the surveys were American kestrels, red-tailed hawk, northern harrier, prairie falcon, and golden eagle. Turbine-related fatalities of each of these raptor species were expected to be infrequent based on low use and encounter rates. Furthermore, fatalities of these species at the Smoke Tree Wind Project were not likely to have population-level impacts.

One golden eagle was observed during the 77 hours of monitoring during the eagle use surveys for a total of 1 eagle minute. Overall mean eagle use was 0.01 eagle minutes per hour. Tetra Tech used the USFWS-recommended Bayesian Collision Risk Model (CRM; USFWS 2013) to predict the annual rate of golden eagle fatalities expected for the Smoke Tree Wind Project using the eagle minutes recorded during the eagle use survey. The Smoke Tree Wind Project's predicted take of 0.0183 golden eagles per year was below the USFWS's take permit issuance threshold of 0.03 eagles per year. No federally or state-threatened or endangered species were detected during the surveys. One state fully protected species (golden eagle, also protected by BGEPA) and four state SSC (loggerhead shrike, northern harrier, yellow warbler, and burrowing owl) were observed during or incidental to surveys.

4.3.5 Avian Use at Dillon Wind Energy Facility

General avian use surveys were conducted at the Dillon Wind Energy Facility (March – July 2006; breeding season) to determine spatial and temporal patterns of bird use at the Dillon Wind Energy Facility (Amalong and Mudry 2007). The Project is approximately 1 mile southwest from the Dillon Wind Energy Facility.

Surveys were conducted at three point-count locations distributed throughout the Dillon Wind Energy Facility. An 800-meter survey radius was used, with each survey lasting 30 minutes at each point. Point-count locations were surveyed March 23-24, April 18, June 1, and July 24. Twelve species were documented over the course of the surveys with white-crowned sparrow and Lincoln's sparrow being the most observed species. Three SSC species were observed during the surveys: burrowing owl, loggerhead shrike, and LeConte's thrasher.

4.3.6 Acoustic Bat Monitoring at Dillon Wind Energy Facility

Post-construction acoustic bat monitoring was conducted at the Dillon Wind Energy Facility from October 25, 2007 through March 31, 2009 (Weller and Baldwin 2012).

Twenty-eight bat detector microphones (ANABAT II) were attached to meteorological towers and temporary towers at different heights (2, 22, and 52 meters). Bat activity was recorded over 518 nights for a total of 6,976 detector-nights; a mean of 13.5 operating detectors per night. Bat species were not identified in the study, but indices of activity for low-frequency echolocating bats were two to 10 times greater than that of high frequency echolocating bats during all seasons, suggesting higher relative abundance of species such as Mexican free-tailed bat and hoary bat. Seasonal patterns of bat activity were similar between low- and high-frequency echolocating bats with the highest activity recorded during spring and fall periods. The highest seasonal level of total bat activity (high- and low-frequency) occurred during the spring of 2008 (0.70 bat passes/detector-night), which is low compared to available results from other wind-energy facilities in California and across the US (Weller and Baldwin 2012).

4.3.7 Eagle Nest Surveys at Painted Hills

Golden eagle nest surveys were conducted within a 10-mile buffer of the Painted Hills Project in 2011 (WRI 2012). The Project is approximately 1 mile south of Painted Hills (Figure 3). The initial Phase 1 occupancy survey was conducted on March 31, 2011 and the Phase 2 productivity survey was conducted on June 11, 2011, at least 30 days after the initial survey as recommended by the USFWS (Pagel et al. 2010, Gould and Schmidt 2011). A Hughes-500 helicopter was used to complete the surveys. Surveyors concentrated on any area with suitable golden eagle nesting habitat with possible nesting substrate that included cliffs and large transmission towers within the survey area.

Six golden eagle nests, comprising approximately three territories, were documented during the surveys (Figure 4). One of the territories was located in the Little San Bernardino Mountains and the other two were located in the San Jacinto Mountains (Figure 4). One of the territories in the San Jacinto Mountains produced two young (Y243GESN-3; Figure 4). Individuals of other species observed incidentally during the nest surveys included American kestrel, common raven, great horned owl, peregrine falcon, prairie falcon, red-tailed hawk, Swainson's hawk, turkey vulture, and unidentified falcon.

Mountain View Wind Repower Project

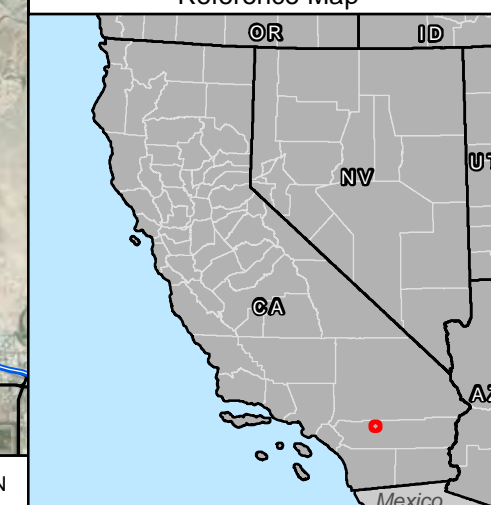
Figure 4
Known Golden Eagle Nests

RIVERSIDE COUNTY, CALIFORNIA

- Project Area (8/5/2020)
- Existing Turbine to be Upgraded
- Proposed New Turbine
- 2-mile Project Footprint Buffer
- Interstate Highway
- Secondary Road
- Golden Eagle Nest Surveys (WRI 2012)
 - 2011 Golden Eagle Nest
 - Approximate Survey Buffer (10 miles from Painted Hills)



Reference Map



P:\GIS\PROJECTS\AES_Distributed_Energy\MountainView_WindRepower\MXD\BIBCS_20200817\AES_MinViewWindRepower_BBBS_Figure04_GOEANests_11171_20200904.mxd



1:170,000 WGS 1984 UTM Zone 11N

0 2.5 5 10 15 20 Miles

NOT FOR CONSTRUCTION

This page intentionally left blank

5.0 Avian and Bat Fatality Monitoring Data: Tier 4

No systematic post-construction fatality monitoring has been conducted at the Project. Available information on incidental detections is presented in Section 6.1.

Fatality monitoring efforts at nearby wind energy facilities (Figure 3) have consistently shown low levels of avian (including raptor) and bat mortality, as well as uniformity in the species composition of those fatalities. Reports from these studies have concluded that no significant levels of avian and bat mortality have been documented (Anderson et al. 2005, WEST 2009, WEST 2013).

5.1 Avian Fatality Monitoring Data Summary

The American Wind Wildlife Institute Information Center database summarizes bird fatality rates (birds per MW per year) and fatality incident (individual fatalities) data from wind energy facilities across the U.S. (AWWI 2019). It is the most comprehensive database of post-construction data from U.S. wind projects, incorporating both publicly available and contributed data. The Southwest Avifaunal Biome, represented by 6 studies where the Project is situated, had a median fatality estimate of 1.37 birds per MW per year (AWWI 2019). Species most commonly detected as fatalities in these studies included California scrub-jay and Wilson's warbler.

Approximately 281 species of birds have been reported as collision fatalities during studies at U.S. wind projects (AWWI 2019). Avian fatality rates from most studies range from 4.79 to 6.02 birds per MW per year for all species combined (AWWI 2019). Three avian fatality studies for which data are publicly available were conducted at wind energy facilities in the immediate vicinity (within 2 miles; Figure 3) of the Project. The findings from these studies are described below. Given their similar landscape and close proximity, mortality at the Project is expected to be consistent with the low levels of estimated mortality observed at these other nearby projects.

5.1.1 San Geronio Wind Resource Area

Anderson et al. (2005) completed an assessment of avian risk for projects in the SGWRA area based on the results of post-construction fatality monitoring during two phases (Phase I was from March 1997 to May 1998 and Phase II was from August 1999 to August 2000). This study was not designed specifically to provide standardized estimates of avian fatalities. Fatality rates were reported as carcasses/survey and were based on 90-day search intervals both of which are non-standard metrics for assessing estimated fatality rates. Similarly, the impact of scavenging was not assessed. This study identified low estimated annual fatality rates for birds and identified species groups commonly identified as fatalities in this area of California. The study examined four habitat-based areas: Water, Low Elevation, Medium Elevation, and High Elevation. Water area had the highest bird fatality rate (0.080 carcasses/survey), followed by Low Elevation (0.040) and Medium Elevation (0.020) areas. No fatalities were observed at the High Elevation area. The results suggest that low elevation and the presence of water present greater collision risk to birds. Waterbirds

comprised the majority of fatalities, ranging from 29–33 percent during the two different phases of surveys. Waterbird species detected as fatalities included American coot, mallard, unidentified gull, snow goose, sora, and cinnamon teal. Nineteen percent of fatalities were passerines including black phoebe, Western meadowlark, and Brewer’s blackbird. Approximately 13 percent were raptors including barn owl, red-tailed hawk, American kestrel, great horned owl, golden eagle, and burrowing owl. Avian species of concern recorded as fatalities during the surveys included one golden eagle (protected by BGEPA and a fully protected species) and one burrowing owl (SSC). In addition to the reported golden eagle fatality, another golden eagle (immature) was found wounded and later euthanized.

5.1.2 Dillon Wind Energy Facility

Fatality monitoring was conducted at the Dillon Wind Energy Facility from March 26, 2008 through March 26, 2009 (WEST 2009). Square search plots (200 x 200 meters) were established on search turbines and searched using 6-10 meter transect spacing. Eight turbines were searched weekly during spring and summer (March 26 – August 31), 15 turbines were searched weekly during fall (September 1 – October 31), and 15 turbines were searched every 2 weeks in winter (November 1 – March 26; WEST 2009). Based upon the results of the searcher efficiency trials, searcher efficiency for small birds was 72 percent and 95.5 percent for large birds. Based upon results of the carcass persistence trials, mean carcasses persistence for small birds was 17.39 days and 46.78 days for large birds.

The estimated number of all bird fatalities was 4.71 fatalities per MW per year. The most common bird species found were Wilson’s warbler and black-headed grosbeak. The majority of bird fatalities were found during the months of April and May. Avian species of concern recorded as fatalities included one loggerhead shrike (SSC) and one black-tailed gnatcatcher (CVMSHCP Covered Species). No eagles were found as a fatality during the year-long fatality monitoring surveys.

5.1.3 Mountain View IV Wind Energy Project

Fatality monitoring was conducted at the Mountain View IV Wind Energy Project from March 27, 2012 – March 22, 2013 (WEST 2013). Search plots with a 120-meter radius were established at search turbines. Fourteen turbines were searched every other week for one year (26 survey periods). Based upon the results of the searcher efficiency trials, searcher efficiency for small birds was 81.0 percent and 96.4 percent for large birds. Based upon results of the carcass persistence trials, mean carcasses persistence for small birds was 4.44 days and 14.97 days for large birds.

The estimated annual bird mortality rate was 1.63 birds per MW per year (WEST 2013). The most common species detected as fatalities was American coot. The proportion of bird carcasses composed of species typically associated with water (American coot, brown pelican, great blue heron) indicated the CVWD percolation ponds, just northwest of the Mountain View IV Project, likely drew these species to the project’s vicinity (WEST 2013). The only avian species of concern

recorded as a fatality was one burrowing owl (SSC). No eagles were found as a fatality during the year-long fatality monitoring surveys.

5.2 Bat Fatality Monitoring Data Summary

The American Wind Wildlife Institute Information Center database summarizes bat fatality rates (bats per MW per year) and fatality incident (individual fatalities) data from wind energy facilities across the U.S (AWWI 2018). It is the most comprehensive database of post-construction fatality data from U.S. wind projects, incorporating both publicly available and contributed data. The Pacific Southwest Region, represented by 27 studies, where the Project is situated, had fatality estimates that ranged from 0.0–5.2 bats per MW per year and a median of 1.4 bats per MW per year (AWWI 2018). Species most commonly detected as fatalities in these studies included Mexican free-tailed bat and hoary bat. In California specifically, bat fatality estimates have ranged from 0.24–3.92 bats per MW per year (WEST 2013).

5.2.1 San Geronio Wind Resource Area

Anderson et al. (2005) completed an assessment of avian risk for projects in the SGWRA area based on the results of post-construction fatality monitoring during two phases (Phase I was from March 1997 to May 1998 and Phase II was from August 1999 to August 2000). This study was specifically designed to study avian fatalities, not bat fatalities. During the two-year SGWRA study, only two bat fatalities representing two species, Mexican free-tailed bat and hoary bat were found (no fatality rates provided; Anderson et al. 2005; Figure 3).

5.2.2 Dillon Wind Energy Facility

Fatality monitoring was conducted at the Dillon Wind Energy Facility from March 26, 2008 through March 26, 2009 (WEST 2009). Square search plots (200 x 200 meters) were established on search turbines and searched using 6-10 meter transect spacing. Eight turbines were searched weekly during spring and summer (March 26 – August 31), 15 turbines were searched weekly during fall (September 1 – October 31), and 15 turbines were searched every 2 weeks in winter (November 1 – March 26; WEST 2009). Small birds and bats were combined to create the estimate for bat searcher efficiency and carcass persistence. Based upon the results of the bias trials, searcher efficiency for small birds/bats was 72 percent and small birds/bats persisted for 17.39 days.

The estimated number of bat fatalities at the Dillon Wind Energy Facility was 2.17 fatalities per MW per year (WEST 2009). The most common bat species found were Mexican free-tailed bat (n=10), unidentified bat (n=3), western yellow bat (n=3), and hoary bat (n=2), big brown bat (n=1), pocketed free-tailed bat (n=1), and unidentified free-tailed bat (n=1; WEST 2009). The pocketed free-tailed bat and the western yellow bat are species of concern (Appendix B). The majority of bat fatalities were found during late-summer and fall (August – October).

5.2.3 Mountain View IV Wind Energy Project

Fatality monitoring was conducted at the Mountain View IV Wind Energy Project from March 27, 2012 – March 22, 2013 (WEST 2013). Search plots with a 120-meter radius were established at search turbines. Fourteen turbines were searched every other week for one year (26 survey periods). Small birds were used as surrogates for bats in searcher efficiency and carcass persistence trials. Based upon the results of the bias trials for small birds, searcher efficiency for bats was 81 percent and carcass persistence averaged 4.44 days.

The estimated bat mortality rate at the Mountain View IV Wind Energy Project was 0.97 bats per MW per year, on the low end of the range of rates observed at other California projects (WEST 2013). Bat species found during surveys (searches and incidentally) included Mexican free-tailed bat (n=5), big brown bat (n=2), and unidentified bat (n=1; WEST 2013). The majority of bat fatalities were found during late-summer and fall (July – September).

6.0 Risk Assessment

One of the primary objectives of this document is to provide an assessment of risk to birds and bats posed by the Project. The Project involves repowering of an operational wind project; therefore, risks associated with construction and operation of the Project are assessed relative to current conditions at the existing facility. Based on the proposed layout and activities at the Project and a review of existing habitat, Project-related risks associated with construction and operation are largely limited to collision of birds and bats with wind turbines. Electrocution risk is expected to be negligible because any new electrified components will be buried. All existing overhead collector lines will be reviewed for compliance with Avian Power Line Interaction Committee (APLIC) recommendations (APLIC 2012). The level of anthropogenic disturbance from operations and maintenance activities is expected to be less than current conditions due to advances in technology that decrease the frequency with which turbines need to be repaired, and reductions by an order of magnitude in the number of turbines to maintain. Therefore, only collision risk at the Project is assessed further in this BBCS. As described above, the results of pre- and post-construction studies at surrounding wind projects, regional studies, and meta-analyses were used to characterize the potential for collision risk to avian and bat species at the Project.

6.1 Avian Collision

Based on publicly available reports from nearby wind projects, regional studies, and meta-analyses, avian fatality rates at the Project are expected to be low. Publicly available regional studies within 2-miles of the Project and at the Project generally show low mean avian use (Tetra Tech 2018a, Amalong and Mudry 2007, CH2M Hill 2011, WEST 2020a). Based on the similar location within the Coachella Valley and land cover, it is expected that fatality rates at the Project will be similar to other wind energy projects within the San Gorgonio Wind Resource Area. Specifically, the avian fatality rates expected at the Project will likely be comparable to the estimated fatality rates at the

Mountain View IV Wind Energy Project (1.63 birds per MW per year; 90 percent confidence interval: 0.96 – 2.43; WEST 2013) and Dillon Wind Energy Facility (4.71 birds per MW per year; 90 percent confidence interval: 3.22 – 6.99; WEST 2009). These facilities are expected to be the most predictive of fatality rates at the Project because are situated in similar habitat, and likely share the same avian community present at the Project. The proposed turbines for the Project have higher hub heights and longer turbine blades than these two facilities. However, there is limited evidence of a direct relationship of avian fatality rates with turbine size (e.g., Loss et al. 2013, Erickson et al. 2014). Studies from other repower projects in California and elsewhere have consistently demonstrated a reduction in avian fatality rates per MW compared to the original wind projects (Brown et al. 2013, Hjernquist 2014 as cited in Rydell et al. 2017). For example, the number of raptor fatalities on a per MW basis appears to be declining substantially (67 – 96 percent depending on the species) at the Altamont Pass Wind Resource Area as a result of replacing smaller, low-capacity turbines with taller, higher-capacity turbines (Smallwood and Karas 2009, ICF International 2016). The fatality rate for all bird species combined was 78 percent lower after repowering of Vasco Winds, one of the facilities within the Altamont Pass Wind Resource Area (Brown et al. 2013). Because the Project will result in a large reduction in the number of older-generation turbines ($n = 104$), with 11 of these located in an area of high avian use (WEST 2020a), avian collision risk per MW is expected to be similar to that of the existing project, despite the slight increase (3.7 percent) in the total rotor swept area. Because the overall risk of collision is anticipated to be low and likely a reduction compared to current fatality rates per MW, it is unlikely that collisions with turbines at the Project would result in population-level impacts to even the highest risk species (Section 5.1.1).

Based on the data available for the region, the turbine specifications, and design incorporated into the repowering of the Project, it is reasonable to assume that the Project would not contribute to significant adverse impacts to any avian species potentially present in the area. Moreover, the Project may provide a beneficial impact by reducing the existing avian collision risk per MW. Additional information specific to assessing risk to golden eagles is provided below given that it is a species of concern with high probability of occurrence at the Project (Appendix B), and it has been found as a fatality previously in the Project Area (Section 5.1.1).

6.1.1 Golden Eagle

Publicly available data from regional avian and eagle use studies (San Geronio Wind Resource Area, Coachella Flats, Smoke Tree, and Dillon) and for the Project indicate that golden and bald eagles occur in the vicinity but with relatively low occurrence (Tetra Tech 2018b, WEST 2020a). As previously discussed, golden eagles nest in the mountainous terrain surrounding the Project Area. All of the nests within these three territories are over 4.5 miles from the Project. While nest surveys conducted up to 10-miles from the Project have not been completed, on April 21, 2020, the USFWS sent a memorandum providing a technical update to the ECPG eagle nest survey protocol (USFWS 2020b). The memo states that the USFWS' recommended survey buffer of 10 miles for wind projects is rescinded and replaced with a recommendation to survey the project footprint plus a 2-

mile radius. There were no nests documented within 2-miles of the Project (Figure 4). Activity at the nearest known nests has not been checked since 2011 but golden eagles are long-lived raptors that maintain nesting territories that may be occupied for a century or longer (Palmer 1988). Nest persistence extends long past life spans of individual eagles, such that long-term occupancy reflects serial reoccupation of nesting territories by successive individuals (Millsap et al. 2015). The Project is unlikely to result in a direct impact to any active golden eagle nests given their distance from the Project (in excess of 4 miles). To assess collision risk for golden eagles specifically, the USFWS CRM was used to predict take of golden eagles. Two approaches were used, one using a priors-only model, and one using site-specific eagle use data collected at the Project from October 2017 through October 2018 (WEST 2020a). Additionally, the model was run using the 111 existing turbines as well as the repowered/upgraded turbines. These last two models enabled quantification of the impact of repowering on golden eagle collision risk. The level of predicted take resulting from the CRM varied widely depending on model inputs (priors-only vs site-specific data); however, because the repowered Project represents only a small (3.7 percent) increase in total rotor-swept area relative to the existing Project, the difference in predicted take of golden eagles as a result of repowering is small, ranging from 0.001 eagles per year when using site-specific data, up to 0.045 eagles per year when using the priors-only model. This equates to a predicted increase of fewer than two eagles over a 30-year period for the repowered Project relative to the existing Project, regardless of which inputs are used in the CRM (WEST 2020a). Furthermore, when considered relative to the increased nameplate capacity of the repowered Project, there is no change in the predicted take on a per MW basis, even using the priors-only take predictions.

To date, two golden eagle fatalities have been documented incidentally at the Project over its approximately 19 years of operations (WEST 2020a). Other eagle fatalities have been discovered at wind energy projects within the San Geronio Wind Resource Area (Lovich 2015). Eagle carcasses tend to persist longer and are relatively easy to find compared to other smaller bird and bat species (Hallingstad et al. 2018). Furthermore, many, if not most golden eagle fatalities are documented incidentally and reported by personnel on-site (Pagel et al. 2013), which is the case with the two golden eagle fatalities reported at the Project. While there is some probability that additional eagle fatalities may have occurred over the life of the existing Project, it seems unlikely that the number would be in excess of two per year, given that only two have been found in the past 19 years. In fact, assuming that site personnel have an overall probability of detecting eagle fatalities of 0.12 or higher (readily achievable given turbine specs, sparse vegetation allowing for good visibility, and monthly visits by site personnel to each turbine pad and access road), the Evidence of Absence (EoA) statistical estimator (Dalthorp et al. 2014) would suggest mortality rates of less than one per year are reasonable.

6.2 Bat Collision

Based upon bat acoustic data results at a nearby regional project (Dillon) and the similarity of habitats of the Dillon Wind Energy Facility and the Project, bat use within the Project is expected to be similar to that observed at Dillon. Bat fatality rates at the Project are also expected to be low and within the range of those documented at nearby wind projects. Specifically, the bat fatality rates

expected at the Project will likely be comparable to the estimated fatality rates at the Mountain View IV (0.97 bats per MW per year; 90 percent confidence interval: 0.28 – 1.89) and Dillon (2.17 bats per MW per year; 90 percent confidence interval: 1.37 – 3.41) wind projects. There is potential for the taller turbines at the Project to increase bat collision risk relative to Mountain View IV and Dillon. A study by Barclay et al. (2007) detected a positive relationship of bat fatality rate with turbine hub height (range: 24 – 94 meters), but no effect of rotor diameter (range: 15 – 80 meters) or rotor swept area (range: 167 – 5,027 square meters). Zimmerling and Francis (2016) investigated the effect of total turbine height (range: 117 – 136 meters) on bat fatality rate and detected no relationship. The equivocal nature of these findings leads to uncertainty in how the reduction in number of turbines but increase in hub heights, rotor diameters, and total rotor swept area (3.7 percent greater) may affect bat fatality rates at the Project.

The results of fatality monitoring at Mountain View IV and Dillon suggest the bat species that are expected to have the highest collision risk at the Project are the Mexican free-tailed bat, western yellow bat, and hoary bat. Because of lack of population size information for these bat species, there is uncertainty in the likelihood of population-level impacts caused by the Project (e.g., Frick et al. 2017). Additionally, Mexican free-tailed bat, hoary bat, big brown bat, western yellow bat, and pocketed free-tailed bat (western yellow bat and pocketed free-tailed bat are state SSC and hoary bat is a species of concern under the WEG [Appendix B]) have been documented as fatalities at wind energy facilities near the Project (Anderson et al. 2005, WEST 2009, WEST 2013). However, based on the relatively low levels of bat mortality observed at nearby projects and for the Pacific Southwest Region in general (0-5.2 bats per MW per year; AWWI 20108), significant Project-related impacts to bat populations are not anticipated.

7.0 Avoidance and Minimization

This section identifies impact avoidance and minimization measures derived from MVPP's best management practices. These measures represent MVPP's commitments to date, and those that will be incorporated over the life of the Project to reduce impacts to bird and bat species. In addition to implementing these avoidance and minimization measures, the Project either will sell or donate a parcel of approximately 230 acres to the Coachella Valley Conservation Commission for use as a conservation easement to significantly offset both temporary and permanent disturbance impacts potentially posed by the Project.

7.1 Repower Site Selection

The Project was selected for the following reasons:

- The Project is currently highly disturbed due to the presence of the existing Mountain View I & II wind energy developments, allowing for an infill/repower development.
- The Project occurs on lands zoned as Wind Energy by Riverside County, which is zoned specifically for wind energy developments.

- The Project occurs within the SGWRA, which is one of the original and best wind resource areas within the United States.
- The Project is located adjacent to a primary transportation route, and a network of roads is present throughout the site, reducing the need for new road construction.

7.2 Design Measures

- MVPP opted to not repower turbines on the CVWD percolation ponds due to high eagle use; the existing turbines will be decommissioned and the area abandoned.
- The existing road network will be used to the extent feasible, reducing the need for additional road construction and new ground disturbance.
- The Project's temporary and permanent disturbance areas have been sited to avoid all Waters of the United States and minimize disturbance to sensitive species identified within the Whitewater Floodplain Conservation Area.
- The Project will utilize the existing overhead electrical collection system infrastructure; thus, no new disturbance will be required for this segment of the collection system. All other new electrical collection lines will be buried underground.
- Any new permanent meteorological tower installed at the Project will be un-guyed.
- MVPP will coordinate with the Federal Aviation Administration (FAA) to minimize the number of new wind turbines and meteorological towers that require lighting.
- Existing lighting at substations and other operations and maintenance facilities will continue to be at the minimum required for safety and security needs (i.e., directional, hooded and/or shielded, low-intensity, low-sodium lights equipped with motion sensors).
- The Project will maximize the power generation per turbine in order to reduce the number of turbines needed to achieve maximum energy production.

7.3 Construction Measures

- During construction-related activities, contractors will comply with the mitigation and minimization measures contained in the CVMSHCP.
- Vehicle speeds will be limited to 25 mile-per-hour (mph) to avoid wildlife collisions. Construction vehicles will be restricted to pre-designated access routes.
- Appropriate erosion control methods will be used during construction to eliminate or minimize runoff and avoid impacts to hydrology.
- Rocks unearthed during excavation will be used during construction or removed from the site rather than left in piles near the turbines. Such rock piles create habitat for small mammals that are prey for many raptor species. Additionally, parts and equipment that may

be used as cover for prey will not be stored at the base of wind turbines while a turbine is operational and spinning.

- Gravel will be placed at least 5 feet around each turbine foundation to discourage small mammals and reptiles from burrowing under or near turbine bases.
- An environmental consulting firm will be retained as an on-call service provider throughout construction of the Project to ensure compliance with environmental construction measures (e.g., Spill Prevention, Control, and Countermeasures Plan).
- Prior to any grading or other ground-disturbing activities, a qualified biologist will complete pre-construction surveys within ground-disturbance areas for all special-status wildlife and plant species with potential to occur in the Project.
- To ensure compliance with California Fish and Game Code, and to avoid potential impacts to nesting birds, to the extent feasible, vegetation removal activities will be conducted outside the general avian breeding season (January 15 through August 31) with the understanding that depending on temperature and climatic conditions, nesting may sometimes occur outside of the typical breeding season.
- If construction and vegetation trimming/removal activities are undertaken during the avian breeding season (generally January 15 through August 31), surveys for nesting birds will be conducted by a qualified biologist who will consult with appropriate resource agencies to establish adequate construction buffers around nests until the young have fledged.
- Sensitive resources (e.g., nests) identified during pre-construction surveys will be flagged and all site personnel will be notified of their presence and the necessary avoidance buffers will be established.
- If an injured or dead federally or state-protected species is encountered during construction, all work within the immediate vicinity will stop and the on-call biologist and appropriate agencies will be notified before construction is allowed to proceed (Appendix B).
- Employees and contractors will be instructed to look under vehicles and equipment for the presence of wildlife before movement of vehicle or equipment.
- All employees and contractors working on the Project will be required to participate in the Wildlife Incident Reporting Program (WIRP). The WIRP will include training for identifying and responding to encounters with sensitive biological resources, including but not limited to golden eagles (reporting form included in Appendix C).
- All power lines will be constructed in accordance with the most current APLIC Suggested Practices (APLIC 2006, APLIC 2012) to protect birds from electrocution and collision.
- Wildfire potential will be minimized by implementing safety measures in accordance with the applicable requirements of the California Fire Code (California Code of Regulations, Title 24, Chapter 4, Emergency Planning and Preparedness).

- Outdoor lighting during construction will be minimized to the extent practicable. The Project will reduce outdoor lighting impacts by ensuring that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the Project, vicinity, and nighttime sky is minimized.
- The construction area will be kept free of trash to prevent attraction of prey and predators.

7.4 Operation Measures

- Speed limits of 25 miles per hour will be enforced along all access roads.
- Noise impact minimization measures will be implemented at the Project during operation: alarms, equipment, and Operations and Maintenance (O&M) activities will be evaluated to be as quiet as practicable without interfering with worker safety and effectiveness.
- Outdoor lighting will be limited to that necessary for Project safety and security. All internal turbine nacelle and tower lighting will be extinguished when unoccupied.
- The potential for wildfire will be minimized by implementing safety measures in accordance with the requirements of the California Fire Code (California Code of Regulations, Title 24, Chapter 4, Emergency Planning and Preparedness).
- The Project Area will be kept free of trash to prevent attracting prey and predators, including removing any road-killed animals and carcasses. Nuisance animals such as coyotes will be brought to the attention of CDFW for control or relocation.
- Similar to the construction measures, all employees and contractors working on the Project will be required to participate in the WIRP.

8.0 Post-Construction Fatality Monitoring: Tier 4

The primary objective of fatality monitoring will be to estimate bird and bat mortality at the Project. Estimated annual fatality rates will be calculated to determine whether the estimated rates are lower, similar to, or higher than reported at nearby projects, and whether it differs from the level anticipated based on the risk assessment (Section 6).

8.1 Baseline Fatality Monitoring for Birds and Bats

Baseline fatality monitoring consists of short-term, intensive surveys involving standardized carcass searches and bias trials for searcher efficiency and carcass removal conducted by trained biologists. A fatality monitoring study plan for the Project is presented in Appendix D (WEST 2020b).

The fatality monitoring study will be conducted by a qualified third party consultant with the goals of:

- Conducting and presenting results of bias correction trials;

- Providing estimated annual fatality rates for birds and bats at the Project using the most up-to-date estimation tools available at the time of monitoring (for example, GenEst [Simonis et al. 2018]);
- Estimating fatality rates for species of concern (as minimum sample size criteria allow; Simonis et al. 2018); and
- Estimating fatality rates for eagles (Evidence of Absence; Dalthorp et al. 2014).

MVPP will develop an annual report on avian and bat fatalities at the Project for each year of baseline monitoring. The report will include a summary of the number and type of fatalities, estimated annual fatality rates including the results of bias correction and detection probability, and a summary of adaptive management actions that have been or may be undertaken should the need to study or mitigate effects on wildlife be deemed necessary (see Section 9.0). MVPP will provide the annual reports to USFWS and CDFW within three months of completion of the monitoring year. Eagle-specific analyses and results will not be completed until the second year of surveys have been concluded.

8.2 Long Term Monitoring

In addition to the systematic baseline monitoring mentioned above, MVPP will implement their WIRP for reporting downed wildlife encountered by site O&M personnel while conducting general turbine or transmission line maintenance activities and while driving Project roads. The program will be in place for the operational life of the Project. The purpose of the program is to standardize the actions taken by site personnel in responding to avian and bat fatalities encountered at the Project, and to fulfill the obligation of reporting such incidents. This program will be managed by MVPP's Environmental Project Manager or other supervisory personnel. If a dead or injured bird or bat (including any cluster of bones and feathers) is discovered, it will be documented on the Wildlife Incident Reporting Form (Appendix C) and subsequently entered into a database. For any fatalities or injuries to federally or state-listed threatened or endangered species and/or eagle species (Appendix B), the findings will be reported to USFWS and/or CDFW within 24 hours of positive identification. Training for the program will be conducted on site by the Environmental Project Manager or other supervisory personnel employed by MVPP.

Similar to the baseline monitoring, MVPP will provide an annual report on avian and bat fatalities detected under the WIRP. The annual reports of long-term monitoring will be limited to a summary of the number and type of fatalities, and any adaptive management actions that have been or may be undertaken (see Section 9.0). MVPP will provide the annual results of these efforts to USFWS and CDFW following each completed year of long-term monitoring.

9.0 Adaptive Management

Within the WEG, the USFWS defines adaptive management as “an iterative decision process that promotes flexible decision-making that can be adjusted in the face of uncertainties as outcomes

from management actions and other events become better understood”. Comprehensively applying the tiered approach embodies the adaptive management process (USFWS 2012). The WEG further note that adaptive management at most wind energy facilities is unlikely to be needed if they are sited in accordance with the tiered approach. However, because impacts of repower projects are not well understood, an adaptive approach for the conservation of wildlife potentially impacted by the Project is incorporated into this BBCS.

Section 4 of this BBCS describes the approach used to study existing wildlife conditions and predict Project impacts. Based on Project siting (existing region of high-intensity wind energy development and on a previously developed site) and the results of regional pre- and post-construction wildlife studies, no significant adverse impacts are anticipated from the Project. Mortality is expected to fall within the overall range of other facilities in the SGWRA. The results of the baseline fatality monitoring study (Section 8.1) will determine whether this initial assessment was correct and whether adaptive management measures should be considered to further avoid, minimize, or compensate for any unanticipated and significant impacts of the Project to birds and bats.

Thresholds for considering an adaptive response include:

- Unexpected mortality of an eagle or a species listed as endangered or threatened under the federal ESA and/or CESA; or
- Unexpected significant levels of mortality of unlisted species of birds or bats. Significance will be determined by qualified biologists and will be based on the latest information available, including the most recent data on species’ population sizes and trends and current meta-analyses of wind energy impacts on birds and bats.

If impacts are determined to be higher than anticipated, an assessment of why impacts are occurring will be conducted to aid in developing appropriate avoidance, minimization, or mitigation measures. MVPP will work collaboratively with agencies to address potential additional measures to be considered to support regional conservation of birds and bats and to comply with legal requirements for the operation of the Project.

As appropriate, MVPP will periodically review and update the BBCS to ensure the document is consistent and up-to-date with the most current information collected at the Project, as well as with the state-of-the-science and regulatory requirements.

10.0 Contacts and Key Resources

In order to facilitate communication between contacts and key resources, MVPP will follow communication protocols in which all Project personnel will have been trained. If Project personnel identify a federally or state-listed threatened or endangered species and/or eagle species as a fatality or an injury, the Site Manager will immediately be notified (Table 3). The Site Manager will then initiate contact with the appropriate regulatory agency within 24 hours of positive identification of the fatality (Table 4).

Table 3. Project Contact List

Title/Position	Contact	Phone Number / Email
Site Manager	Don Gray	571-278-0326 don.gray@aes.com
Maintenance Supervisor	Jesse Lopez	760-668-0312 jesse.lopez@aes.com
Maintenance Supervisor	Vincent Lesko	760-218-2225 vincent.lesko@aes.com,
Environmental Project Manager	Jacob Cole Rich,	760-880-7095 Jacob.crich@aes.com

Table 4. Regulatory Agency Contact List

Agency/Organization	Contact¹	Phone Number
U.S. Fish and Wildlife Service, Migratory Birds	Tom Dietsch	(760) 431-9440, ext. 214
U.S. Fish and Wildlife Service, Palm Springs Office	Peter Sanzenbacher	(760) 322-2070
California Department of Fish and Wildlife, Inland Desert Region	Magdalena Rodriguez	(909) 844-2520
1. Current contacts as of August 2020		

11.0 References

Amalong, M. and D. Mudry. 2007. General Biological Resources Assessment: Dillon Wind Energy Conversion System, County of Riverside, California. Appendix E of the Final Environmental Impact Report prepared for Commercial WECS Permits 116 and 117.

AWWI (American Wind Wildlife Institute). 2018. AWWI Technical Report: A Summary of Bat Fatality Data in a Nationwide Database. Washington, DC. Available at www.awwi.org.

AWWI. 2019. AWWI Technical Report: A Summary of Bird Fatality Data in a Nationwide Database. Washington, DC. Available at www.awwi.org.

Anderson, R.L., J. Tom, N. Newmann, W.P. Erickson, M.D. Strickland, M. Bourassa, K.J. Bay, K.J. and J. Sernka. 2005. Avian Monitoring and Risk Assessment at the San Geronio Wind Resource Area.

APLIC (Avian Power Line Interaction Committee). 2006. Suggested Practices of Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, California.

- APLIC. 2012. Reducing Avian Collisions with Power Lines: The State of the Art in 2012.
http://www.aplic.org/uploads/files/11218/Reducing_Avian_Collisions_2012watermarkLR.pdf.
- Barclay, R.M.R., E.F. Baerwald, and J.C. Gruver. 2007. Variation in bat and bird fatalities at wind energy facilities: assessing the effects of rotor size and tower height. *Canadian Journal of Zoology* 85:381-387.
- Bat Conservation International. 2020. Species Profiles. Available at:
<http://www.batcon.org/resources/media-education/species-profiles> (cited in Appendices A, B).
- Brown, K., K.S. Smallwood, B. Karas. 2013. Final 2012-2013 Annual Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources. September 2013.
- Brylski, P.V., P.W. Collins, E.D. Pierson, W.E. Rainey, and T.E. Kucera. 1998. Terrestrial Mammal Species of Special Concern in California. Edited by Betsy C. Bolster. Report prepared for California Department of Fish and Game. May 1998.
- CDFW (California Department of Fish and Wildlife). 2020. California Natural Diversity Database (CNDDB) Rarefind 5. CDFW's Electronic database, Sacramento, California.
<https://www.wildlife.ca.gov/Data/CNDDB/>. Accessed August 13, 2020.
- CH2M Hill. 2011. Painted Hills IV Wind Energy Project, Avian Use. Prepared by Patti Murphy and David Phillips. May 31, 2011.
- CVAG (Coachella Valley Association of Governments). 2007. Final Recirculated Coachella Valley Multiple Species Habitat Conservation Plan. September 2007. Available online at:
http://www.cvmshcp.org/Plan_Documents_old.htm.
- Dalthorp, D.H., M.M.P. Huso, D. Dail, and J. Kenyon. 2014. Evidence of Absence Software. Corvallis, OR: USGS. ISBN. Available online at <http://pubs.usgs.gov/ds/0881/Dudek>. *In Preparation*. Biological Resources Technical Report.
- Erickson, W.P., M. Wolfe, K. Bay, D. Johnson, and J. Gehring. 2014. A Comprehensive Analysis of Small-Passerine Fatalities from Collision with Turbines at Wind Energy Facilities. *PLOS ONE* 9 (9) e107491.
- Frick, W.F., E.F. Baerwald, J.F. Pollock, R.M. Barclay, J.A. Szymanski, T.J. Weller, A.L. Russell, S.C. Loeb, R.A. Medellin, L.P. McGuire. 2017. Fatalities at wind turbines may threaten population viability of a migratory bat. *Biological Conservation* 209:172-7.
- Gould, R. and P.R. Schmidt. 2011. Draft Eagle Conservation Plan Guidance. January 2011. US Fish & Wildlife Service.
- Hallingstad E.C., P.A. Rabie, A.C. Telander, J.A. Roppe, and L.R. Nagy. 2018. Developing an efficient protocol for monitoring eagle fatalities at wind energy facilities. *PLoS ONE* 13(12): e0208700. <https://doi.org/10.1371/journal.pone.0208700>.

- ICF International. 2012. Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005–2010. November. M87. (ICF 00904.08.) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA.
- ICF International. 2016. Altamont Pass Wind Resource Area Bird Fatality Study, Monitoring Years 2005–2013. Final Report. Sacramento, California. Prepared for Alameda County Community Development Agency, Hayward, California.
- Kerlinger, P., R. Curry, L. Culp, A. Jain, C. Wilkerson, B. Fischer, and A. Hasch. 2006. Post-Construction Avian and Bat Fatality Monitoring for the High Winds Wind Power Project, Solano County, California: Two Year Report. Prepared for High Winds LLC, FPL Energy by Curry and Kerlinger, LLC. April 2006.
- Loss, S.R., T. Will, and P. Marra. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. *Biological Conservation* 168:201-209.
- Lovich, J.E. 2015. Golden eagle mortality at a wind-energy facility near Palm Springs, California. *Western Birds* 46:76-80.
- Millsap, B.A., Grubb, T.G. Murphy, R.K. Swem, T. and J.W. Watson. 2015. Conservation significance of alternative nests of Golden Eagles. *Global Ecology and Conservation* 3: 234–241.
- NRA (Natural Resources Assessment, Inc.). 2000. General Biological Assessment Alexander Wind Energy Facility, Right-of-Way Grant CA-42139 Riverside County, California. Prepared for SeaWest Windpower, Inc. Prepared by Natural Resources Assessment, Inc. December 13, 2000.
- Pagel, J.E., D.M. Whittington and G.T. Allen. 2010. Interim Golden Eagle technical guidance: Inventory and monitoring protocols; and other recommendations in support of golden Eagle management and permit issuance. Division of Migratory Bird Management, U.S. Fish and Wildlife Service.
- Pagel, J., K. Kritz, B. Millsap, R. Murphy, E. Kershner, and S. Covington, Scott. 2013. Bald Eagle and Golden Eagle Mortalities at Wind Energy Facilities in the Contiguous United States. *Journal of Raptor Research*. 47. 311-315. 10.3356/JRR-12-00019.1.
- Palmer, R.S. [Ed.]. 1988. Handbook of North American birds, Vol. 4. Diurnal Raptors (Part 1). Yale University Press, New Haven, CT U.S.A.
- Rydell, J., R. Ottvall, S. Pettersson., and M. Green. 2017. The Effects of Wind Power on Birds and Bats: An Updated Synthesis Report. Report by Lund University and University of Gothenburg. pp 132.
- Smallwood, K.S. and B. Karas. 2009. Avian and bat fatality rates at old-generation and repowered wind turbines in California. *Journal of Wildlife Management*. 73:1062-71.
- Simonis, J., Dalthorp, D., Huso, M., Mintz, J., Madsen, L., Rabie, P., and J. Studyvin. 2018. GenEst user guide—Software for a generalized estimator of mortality: U.S. Geological Survey Techniques and Methods, book 7, chap. C19, 72 p., <https://doi.org/10.3133/tm7C19>.

- Tetra Tech. 2015. 2013-2015 Avian Survey and Eagle Risk Assessment, Smoke Tree Wind Repower Project, Riverside County, California. Prepared for: New Dimension Energy company. September 2015.
- Tetra Tech (Tetra Tech, Inc.). 2018a. Coachella Flats Wind Repower Project, 2014-2015 Avian Report. January 2018.
- Tetra Tech. 2018b. Coachella Flats Wind Repower Project, 2014-2015 Eagle Use Report. January 2018.
- Tetra Tech. 2020a. Critical Issues Analysis for the Mountain View Wind Repower Project. Prepared for AES North American Development, LLC. January 2020.
- Tetra Tech, Inc. (Tetra Tech). 2020b. Biological Resources Technical Report for Mountain View I & II Wind Repower Project, Riverside County, CA. June 2020.
- USEPA (U.S. Environmental Protection Agency). 2013. Level III and IV ecoregions of the continental United States: Corvallis, Oregon, U.S. EPA, National Health and Environmental Effects Research Laboratory, map scale 1:3,000,000, <https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states>.
- USFWS (U.S. Fish and Wildlife Service). 2012. Land-Based Wind Energy Guidelines. Available online at https://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf.
- USFWS. 2013. Eagle Conservation Plan Guidance. Module 1—Land-based Wind Energy. Version 2. U.S. Fish and Wildlife Service, Division of Migratory Bird Management.
- USFWS. 2020a. Information for Planning and Conservation (IPaC). Website: <https://ecos.fws.gov/ipac/>. Accessed August 18, 2020.
- USFWS. 2020b. Memorandum: Eagle Surveys, From Assistant Director for Migratory Birds dated April 21, 2020. Available online at: <https://www.fws.gov/birds/management/managed-species/eagle-management.php>
- Weller, T.J. and J.A. Baldwin. 2012. Using echolocation monitoring to model bat occupancy and inform mitigations at wind energy facilities. *Journal of Wildlife Management* 76:619–631.
- WEST (Western EcoSystems Technology, Inc.). 2009. Avian and Bat Fatality Study at the Dillon Wind-energy Facility. Riverside County, California. Final Report. March 26, 2008 – March 26, 2009. June 3, 2009
- WEST. 2013. Post-Construction Avian and Bat Mortality Study at the Mountain View IV Wind Energy Project Riverside County, California. Final Mortality Report March 2012 – March 2013. Prepared for Mountain View Power Partners IV, LLC. September 6, 2013.
- WEST. 2020a. Avian Risk Assessment and Survey Report for the Mountain View Power Partners Wind Project, Riverside County, California. Revised Final Report. October 2017 – October 2018. Prepared for Mountain View Power Partners. August 4, 2020.

WEST. 2020b. Post-Construction Avian and Bat Fatality Monitoring, Mountain View Power Partners Wind Project, Riverside County, California. Prepared for Mountain View Power Partners, LLC. Prepared by Western EcoSystems Technology, Inc., Corvallis Oregon.

WRI (Wildlife Research Institute, Inc.). 2012. Golden Eagle Survey Report for the Painted Hills Project in Riverside County, California.

Zimmerling, J.R. and C.M. Francis. 2016. Bat mortality due to wind turbines in Canada. Journal of Wildlife Management 80:1360-1369.

This page intentionally left blank

Appendix A. Tiers 1-3 Questions and Answers

This page intentionally left blank

TIER 1-2 QUESTIONS

1. Are there species of concern present on the potential site(s), or is habitat (including designated critical habitat) present for these species?

Yes, several bird and bat species of concern are known to occur or have the potential to occur in the Project or surrounding area (see Appendix B). The bald eagle (protected by the Bald and Golden Eagle Protection Act, state Endangered), burrowing owl (state SSC and CVMSHCP Covered Species), golden eagle (protected by the Bald and Golden Eagle Protection Act, fully protected by the state of California[CFP]), loggerhead shrike (state SSC), pocketed free-tailed bat (state SSC), and western yellow bat (state SSC and CVMSHCP Covered Species) are considered to have a high probability for occurrence. The American white pelican (state SSC), black-tailed gnatcatcher (CVMSHCP Covered Species), LeConte's thrasher (state SSC and CVMSHCP Covered Species), northern harrier (state SSC), Swainson's hawk (state Threatened), big free-tailed bat (state SSC), pallid bat (state SSC), and Townsend's big-eared bat (state SSC) are all considered to have a moderate probability for occurrence. No federally designated critical habitat is present within the Project Area.

2. Does the landscape contain areas where development is precluded by law or areas designated as sensitive according to scientifically credible information? Examples of designated areas include, but are not limited to: federally designated critical habitat; high-priority conservation areas for non-government organizations (NGOs); or other local, state, regional, federal, tribal, or international categorizations.

The Project is within the planning boundaries of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). CVMSHCP Conservation Areas provide habitat and other ecological elements to ensure adequate conservation of Covered Species. A portion of the Project Area is located within the Whitewater Floodplain Conservation Area, as defined in the CVMSHCP. Participation in the CVMSHCP provides Take coverage for Covered Species, but does not provide Take authorization for wind energy turbine operation (BBCS Section 3.5).

3. Are there plant communities of concern present or likely to be present at the site(s)?

A large portion of the vegetation at the Project Area is disturbed due to existing wind energy development in the area. No special-status plants were found during rare plant surveys performed at the Project (Tetra Tech 2020b). Additionally, of the 15 special-status plant species considered, all were determined to have a low likelihood of occurrence (Tetra Tech 2020b). Federally designated Critical Habitat for the Coachella Valley milk-vetch, a federally endangered plant and Covered Species, occurs adjacent to the Project Area. However, the federally designated Critical Habitat for the Coachella Valley milk-vetch does not occur within the Project Area. Participation in the CVMSHCP provides Take coverage for Covered Species.

4. Are there known critical areas of wildlife congregation, including, but not limited to: maternity roosts, hibernacula, staging areas, winter ranges, nesting sites, migration stopovers or corridors, leks, or other areas of seasonal importance?

There is CVMSHCP-designated Other Conserved Habitat surrounding the Projects. Per CVMSHCP protocol, pre-construction surveys will be conducted to avoid impacts to CVMSHCP covered species (BBCS Section 7.3)

USFWS-designated critical habitat for Peninsular bighorn sheep occurs to the south of the Project Area. The Project would not affect the critical habitat. It is not clear whether Peninsular bighorn sheep ever use the Project Area especially given the existing high-density wind energy development but repowering of the Project is unlikely to reduce potentially suitable foraging habitat.

5. Are there large areas of intact habitat with the potential for fragmentation, with respect to species of habitat fragmentation concern needing large contiguous blocks of habitat?

No. The Project is sited in an area of existing wind energy development that has already led to a fragmented landscape. It is unlikely that populations of species with high fragmentation concern are present.

6. Which species of birds and bats, especially those known to be at risk by wind energy facilities, are likely to use the proposed site based on an assessment of site attributes?

Many species of birds and bats are likely to use the Project Area at some point during the year. Bird species of concern have been documented to occur in the Project Area This included one state-endangered species (bald eagle), one state-threatened species (Swainson's hawk), one state fully protected species (golden eagle), and four California SSC (American white pelican, northern harrier, burrowing owl, and loggerhead shrike; WEST 2020a; Appendix B). Based upon avian surveys and fatality searches at nearby facilities, burrowing owl, golden eagle, and loggerhead shrike occur at the Project Area and could potentially occur as fatalities (Anderson et al. 2005, WEST 2009, WEST 2013, WEST 2020a)

There are 17 species of bats with a low to high probability of occurrence at the Project, either as residents or during migration (BCI 2020). Based upon acoustic monitoring, hoary bat and Mexican free-tailed bats are likely to occur at the Project and potentially occur as fatalities (Weller and Baldwin 2012, Anderson et al. 2005, WEST 2009). Five state SSC bat species have a moderate to high likelihood of occurrence at the Project (Appendix B).

7. Is there a potential for significant adverse impacts to species of concern based on the answers to the questions above, and considering the design of the proposed project?

Based on the design of the Project, which is a repower project within an area of existing high-density wind energy development, the Project is expected to have minimal impacts to wildlife and habitats present at the site. Based on the known impacts to wildlife species, including species of

concern, documented at wind energy facilities in the surrounding area, no significant impacts to any wildlife or plant species are anticipated from the construction and operation of the Project.

TIER 3 QUESTIONS

1. Do field studies indicate that species of concern are present on or likely to use the proposed site?

Yes. Based on studies conducted in the immediate vicinity of the Project, a number of bird and bat species of concern are likely to occur at the Project. No federally threatened, endangered, or candidate bird or bat species have been documented during Project studies; however, three species considered sensitive at the state level were recorded during Project studies. This included one state-endangered species (bald eagle), one state-threatened species (Swainson's hawk), and one state fully protected species (golden eagle). Appendix B contains a full list of state and federal species of concern with known or potential occurrence at the Project.

2. Do field studies indicate the potential for significant adverse impacts on affected populations of species of habitat fragmentation concern?

No bird or bat species of habitat fragmentation concern have been identified in the vicinity of the Project. Due to the high degree of existing habitat fragmentation within the Project Area, no adverse impacts from Project development are anticipated. Furthermore, the Project will sell a parcel of approximately 230 acres to the Coachella Valley Conservation Commission to significantly offset both temporary and permanent disturbance impacts.

3. What is the distribution, relative abundance, behavior, and site use of species of concern identified in Tiers 1 or 2, and to what extent do these factors expose these species to risk from the proposed wind energy project?

Eight species of concern were documented during surveys at the Project – loggerhead shrike, American white pelican, northern harrier, burrowing owl, Swainson's hawk, bald eagle, and golden eagle (WEST 2020a, Tetra Tech 2020b). Additionally, LeConte's thrashers and black-tailed gnatcatchers.

Loggerhead shrikes are year-round residents in southern California. Thirty-one loggerhead shrikes were observed during surveys at the Project (WEST 2020a). One loggerhead shrike was found as a fatality during standardized carcass surveys at the Dillon Wind Energy Facility (WEST 2009).

American white pelicans occur in southern California during the non-breeding season. Five American white pelicans were observed during surveys at the Project (WEST 2020a).

Northern harriers occur in southern California during the non-breeding season. One northern harrier was observed during surveys at the Project (WEST 2020a).

Burrowing owls have the potential to occur at the Project throughout the year. Burrowing owls and their burrows have been observed at the Project (Tetra Tech 2020, WEST 2020a). Five burrowing owls were observed during two years of avian use surveys at nearby wind energy projects

(Anderson et al. 2005). Two burrowing owl fatalities (one at each study) were documented during post-construction monitoring conducted at surrounding facilities (Anderson et al. 2005 and WEST 2013).

Swainson's hawks occur in southern California during migration. One Swainson's hawk was observed during surveys at the Project (WEST 2020a).

Three bald eagles were observed nearby but outside of the final Project Area during avian use surveys (WEST 2020a). The Project is outside the species' breeding range, but low numbers of bald eagles occur in the area during the non-breeding season based on publicly available reports and Project-specific reports (see BBCS Section 4.1, Table 2).

Three golden eagles were observed incidentally or during year-round avian use surveys at the Project (WEST 2020a). Fourteen golden eagles were observed at nearby windfarms, all during the first year of studies (Anderson et al 2005). To date, two golden eagle fatalities have been observed at the Project since it began operations in 2001 (WEST 2020a). Additionally, one golden eagle carcass and one wounded golden eagle (later euthanized) have been observed at other projects in the San Geronio Wind Resource Area, based on publicly available reports (see BBCS Section 4.1, Table 2 for a list of report references). Golden eagles are year-round residents of the area and breed in the surrounding Little San Bernardino Mountains and San Jacinto Mountains (BBCS Figure 4). The presence of round-tailed ground squirrels may provide raptor foraging opportunities February through August when the squirrels are active (species hibernates September through January), but there is potential for golden eagles to occasionally forage within the Project during all seasons.

LeConte's thrashers are year-round residents in southern California. Eleven LeConte's thrashers were observed during two years of avian use surveys at nearby wind energy projects, and at the Medium elevation area LeConte's thrasher was the most abundant species in spring (Anderson et al. 2005).

Black-tailed gnatcatchers live year-round in semiarid and desert habitats. Three black-tailed gnatcatchers were observed during two years of avian use surveys at nearby wind energy projects (Anderson et al. 2005). Only one black-tailed gnatcatcher has been documented as a fatality in the SGWRA, based on publicly available reports (Table 2).

Two of the SSC bat species considered to have a high probability for occurrence, western yellow bat and pocketed free-tailed bat, have been documented as fatalities at nearby wind energy facilities (WEST 2009, WEST 2013). Additionally, hoary bat, a species of concern in the WEG and considered to have a high probability of occurrence in the Project Area, has been documented as a fatality at nearby wind energy facilities (Anderson et al. 2005, and WEST 2009).

4. What are the potential risks of adverse impacts of the proposed wind energy project to individuals and local populations of species of concern and their habitats? (In the case of rare or endangered species, what are the possible impacts to such species and their habitats?)

Estimated impacts to species of concern at wind projects in the vicinity of the Projects have been low. Due to the absence of high-quality, contiguous habitat for most avian and bat species in the region, negative impacts to habitat from the Project are not anticipated, and positive impacts to habitat may be realized through reclamation of areas occupied by the existing facilities. The Project will reduce the number of turbines from 111 to 23. The primary impact at the Projects is expected to be collision with turbine blades (BBCS Section 5). Based on publicly available reports from nearby facilities (Table 2), the only species of concern documented as fatalities at other facilities have been the following: one golden eagle (another wounded), two burrowing owls, one black-tailed gnatcatcher, one loggerhead shrike, three western yellow bats, and one pocketed free-tailed bat. At the Project, two golden eagle fatalities have been reported as incidental finds. In general, avian and bat fatality rates at the Project are expected to be low and within the range of those documented at surrounding wind energy facilities. Specifically, fatality rates of species of concern are expected to be sufficiently low that local populations will not be impacted.

5. How can developers mitigate identified significant adverse impacts?

As mentioned above, significant adverse impacts to avian and bat species resulting from the development of the Project are not anticipated. A number of measures will be implemented at the Project to avoid or minimize any potential adverse impacts associated with the Project during construction and operation (BBCS Section 7). Additionally, an adaptive management approach will be used at the Project to address any unanticipated and significant impacts documented during operations (BBCS Section 9).

6. Are there studies that should be initiated at this stage that would be continued in post-construction?

None have been identified at this time.

This page intentionally left blank

Appendix B. Bird and Bat Species of Concern with Known or Potential Occurrence at the Project

This page intentionally left blank

Appendix B. Bird and Bat Species of Concern with Known or Potential Occurrence at the Project ¹				
Species	Status ²	Habitat and Distribution	Activity Period	Occurrence Probability ³
Birds				
Bald eagle <i>Haliaeetus leucocephalus</i>	US: BGEPA CA: SE	Breeding areas are usually closely associated with aquatic habitats with forested shorelines or cliffs. Bald eagles are opportunistic foragers that prey primarily on fish but also feed on other aquatic and terrestrial vertebrates as well as on carrion. Wintering bald eagles often congregate at communal winter roost sites near open water where they switch to a more fish-based diet than during the breeding season.	Fall through Spring	High. Project is outside the species’ breeding range, but bald eagles may occur during the non-breeding season. Three individuals observed at the Project Area (WEST 2020a), two individuals observed during avian surveys at nearby wind projects (Anderson et al. 2005), and one nearby CNDDDB record. Occurrences are expected to be infrequent and limited to the non-breeding season.
Burrowing owl <i>Athene cunicularia</i>	CA: SSC CVMSHP: C	Occurs in open country in much of North America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often uses man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. They avoid thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent.	Year-round	High. Species and occupied burrows observed at the Project Area (Tetra Tech 2020b, WEST 2020a) and at a nearby wind project (Tetra Tech 2015). Two individuals also observed as fatalities at nearby wind projects (Anderson et al. 2005, WEST 2013). Occurrences are expected to be frequent during the breeding season.
Golden eagle <i>Aquila chrysaetos</i>	US: BGEPA CA: CFP	Generally found in open, arid country. Nesting primarily in rugged mountainous country.	Year-round	High. Three individuals observed at the Project Area during or incidental to avian surveys (WEST 2020a). Two individuals have been observed as fatalities at the Project Area (Tetra Tech 2020b). Two individuals observed during avian surveys at a nearby wind project (Tetra Tech 2015) and one individual was observed as a fatality and another injured (and later euthanized) at nearby projects (Anderson et al. 2005). Occurrences are expected to be infrequent year-round.
Loggerhead shrike <i>Lanius ludovicianus</i>	CA: SSC	Prefers open habitats with scattered small trees and with fences, utility lines, or other perches. Typically breeds in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground. The loggerhead shrike is known to forage over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs. Individuals like to perch on posts and utility lines and often use the edges of denser habitats.	Year-round	High. Suitable habitat is present, and species observed at Project Area (Tetra Tech 2020b, WEST 2020a). Also observed during avian surveys (Tetra Tech 2015) and as a fatality at nearby wind projects (WEST 2013). Occurrences are expected to be year-round.
American white pelican <i>Pelecanus erythrorhynchos</i>	CA: SSC	Often found near lakes, marshes, salt bays. In California, formerly bred in large numbers in Central Valley and Salton Sea but now nests only at large lakes in Klamath Basin. Feeding areas may be miles from nesting sites. Common spring and fall migrant at Salton Sea and Colorado River.	Fall through Spring	Moderate: Project Area is located outside of the species’ breeding range, but individuals may pass through the Project Area during migration. A total of 266 individuals observed at the Project Area during avian surveys or incidentally (WEST 2020a). Occurrences are expected to be infrequent and during the migration period.
Black-tailed gnatcatcher <i>Polioptila melanura</i>	CVMSHP: C	It is found in desert brush, dry washes, and mesquite bosques. This species nests primarily in wooded desert wash habitat, but also occurs sparingly in desert scrub habitat, especially in winter.	Year-round	Moderate. Suitable desert scrub habitat is present at the Project Area. Species observed at nearby projects during avian surveys (Anderson et al. 2005) and also as a fatality at a nearby wind project (WEST 2009). Occurrences are expected to be infrequent year-round.
LeConte’s thrasher <i>Toxostoma lecontei</i>	CA: SSC CVMSHCP: C	LeConte’s thrasher is a desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Often found in well-drained slopes or alluvial fans sparsely vegetated by saltbush and low-growing grasses. This species commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	Year-round	Moderate. Suitable habitat for this species is present at the Project Area and several nearby CNDDDB records. Occurrences are expected to be year-round.

Species	Status ²	Habitat and Distribution	Activity Period	Occurrence Probability ³
Northern harrier <i>Circus hudsonius</i>	CA: SSC	Northern Harriers breed and forage in a variety of open (treeless) habitats that provide adequate vegetative cover, an abundance of suitable prey, and scattered hunting, plucking, and lookout perches such as shrubs or fence posts. In California, such habitats include freshwater marshes, brackish and saltwater marshes, wet meadows, weedy borders of lakes, rivers and streams, annual and perennial grasslands, weed fields, ungrazed or lightly grazed pastures, croplands, sagebrush flats, and desert sinks. Most nests are found in undisturbed wetlands or grasslands dominated by thick vegetation, but cropland and fallow fields are also used for nesting, Undisturbed habitat is needed for nesting, but not for hunting.	Fall through Spring	Moderate: Project Area is located outside of the species’ breeding range, but individuals may pass through the Project Area during migration. One individual observed during avian surveys at the Project Area (WEST 2020a) as well as at a nearby wind project (Tetra Tech 2015). Additionally, there are two nearby CNDDDB records. Occurrences are expected to be infrequent and during the migration period.
Swainson’s hawk <i>Buteo swainsoni</i>	CA: ST	Swainson’s Hawks inhabit a wide variety of open habitats, ranging from prairie and shrub-steppe to desert and intensive agricultural systems. It is considered an uncommon breeding resident and migrant in California that winters in South America as far south as Argentina. The majority of known breeding territories in California are located in the Central Valley and Great Basin bioregions. Foraging habitat includes dry land and irrigated pasture, alfalfa, fallow fields, low-growing row or field crops, new orchards, and cereal grain crops as well as grasslands, Joshua tree woodlands, and other desert scrub habitats that support a suitable prey base. The diet of the Swainson’s hawk in California is varied, but mainly consists of small rodents called voles; however other small mammals, birds, and insects are also taken.	Migrant present March through August	Moderate: Project Area is located outside of the species’ breeding range, but individuals may infrequently pass through the Project Area during migration. One individual observed at the Project Area during avian surveys (WEST 2020a) and two nearby CNDDDB records. Occurrences are expected to be infrequent and during the migration period.
California black rail <i>Laterallus jamaicensis coturniculus</i>	CA: ST CVMSHCP: C	California black rail inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. This species needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat. In California, Occurs in the San Francisco Bay region, parts of the Central Valley and at the near the Colorado River along the southeastern border of the state.	Year-round	Low. Suitable habitat is not present at the Project Area, and this species has not been detected at the Project Area or other nearby wind projects during avian surveys. Additionally, there are no nearby CNDDDB records. Occurrences are expected to be rare.
Coastal California gnatcatcher <i>Polioptila californica</i>	US: FT CA: SSC	Coastal California gnatcatcher is closely aligned with coastal scrub vegetation but makes limited use of adjacent habitats outside of the breeding season. The species typically occurs in areas dominated by California sagebrush (<i>Artemisia californica</i>) and California buckwheat (<i>Eriogonum fasciculatum</i>). The species is restricted to elevations from sea level to approximately 2,000 feet.	Year-round	Low. Several nearby CNDDDB records, but the Project is outside of the species’ current range. Occurrences are expected to be rare.
Crissal thrasher <i>Toxostoma crissale</i>	CA: SSC CVMSHCP: C	Occupies a relatively large variety of desert riparian and scrub habitats from below sea level to over 6,000 feet. Prefers habitat with dense, low scrubby vegetation. In California, occurs all along the Colorado River, west through the Imperial and Coachella valleys to Palm Springs, and the east slope of the Providence Mountains.	Year-round	Low. Suitable nesting and foraging habitat are not present at the Project Area., but one nearby CNDDDB record. This species may infrequently pass through the Project Area. Occurrences are expected to be rare.
Gray vireo <i>Vireo vicinior</i>	CA: SSC CVMSHCP: C	Gray vireo inhabits arid, shrub-covered slopes in pinyon-juniper, juniper, and chamise-redshank chaparral habitats on foothills and mesas. In all parts of the Gray Vireo’s range, shrub cover that forms a continuous zone of twig growth from one to five feet above the ground is the common factor of habitat. This species typically occurs from 2,000 to 6,500 feet in elevation.	Migrant present March through July	Low. Project Area is located outside this species known elevation range and no suitable habitat at the Project Area. This species has not been detected at the Project Area or other nearby wind projects during avian surveys. Additionally, there are no nearby CNDDDB records. Occurrences are expected to be rare.
Least Bell’s vireo <i>Vireo bellii pusillus</i>	US: FE CA: SE	Migratory songbird that breeds within riparian areas, primarily in Southern California and northern Baja California. This species is a breeding riparian habitat obligate and prefers willow-dominated woodland or scrub that typically exists along streams and rivers. This species ranges from sea level in coastal areas to approximately 1,500 feet in the interior areas.	Migrant present March through September	Low. Suitable habitat not present at the Project Area. There are several nearby CNDDDB records and this species may infrequently pass through the Project Area. Occurrences are expected to be rare.

Species	Status ²	Habitat and Distribution	Activity Period	Occurrence Probability ³
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	US: FE CA: SE CVMSHCP: C	Occurs as a summer (breeding) migrant in moist thickets and riparian areas throughout California. Southwestern willow flycatcher nests in dense riparian habitats with perennial water.	Migrant present May through July	Low. Suitable habitat not present at the Project Area. There are several nearby CNDDDB records and this species may infrequently pass through the Project Area. Occurrences are expected to be rare.
Summer tanager <i>Piranga rubra</i>	CA: SSC CVMSHCP: C	Summer resident of desert riparian along lower Colorado River, and locally elsewhere in California deserts. This species prefers older, dense stands along streams. In California, the Summer Tanager breeds primarily in mature riparian woodland with an extensive canopy of Fremont Cottonwood (<i>Populus fremontii</i>).	Migrant present April through early October	Low. Suitable habitat not present at the Project Area. There are several nearby CNDDDB records and this species may infrequently pass through the Project Area. Occurrences are expected to be rare.
Yellow warbler <i>Setophaga petechia</i>	CA: SSC CVMSHCP: C	Yellow warblers generally occupy riparian vegetation in close proximity to water along streams and wet meadows. This species is often associated with willow and cottonwood trees in riparian areas.	Migrant present late March through early October	Low. Suitable habitat not present at the Project Area. There are several nearby CNDDDB records and this species was detected during avian surveys at nearby wind projects (Anderson et al, 2005, Tetra Tech 2015). Species may infrequently pass through the Project Area. Occurrences are expected to be rare.
Yellow-breasted chat <i>Icteria virens</i>	CA: SSC CVMSHCP: C	Yellow-breasted chat occupies early successional riparian habitats with a well-developed shrub layer and an open canopy. This species nests in dense riparian and shrub habitats.	Migrant present late March through September	Low. Suitable habitat not present at the Project Area. There are several nearby CNDDDB records and species may infrequently pass through the Project Area. Occurrences are expected to be rare.
Yuma Ridgeway's rail <i>Rallus obsoletus yumanensis</i>	US: FE CA: ST CVMSHCP: C	Yuma clapper rails are found in marsh habitat with cattails (<i>Typha</i> sp.) and California bulrush (<i>Schoenoplectus californicus</i>). This emergent vegetation averages greater than 6 feet (ft) tall. Water depth tends to be around 3.5 in. deep. It has a patchy distribution in salt marshes of the Pacific Coast, as well as inland around the salty waters of the Salton Sea, and freshwater marshes, along the lower Colorado River and its tributaries.	Year-round	Low. Suitable habitat is not present at the Project Area. No detections during avian surveys at the Project Area or other nearby wind projects, and no nearby CNDDDB records. Occurrences are expected to be rare.
Bats				
Pocketed free-tailed bat <i>Nyctinomops femorosaccus</i>	CA: SSC	Inhabits a variety of arid areas in Southern California including pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian. Roosts in rock crevices or slopes and cliffs.	Year-round	High. Suitable foraging habitat is present. Fatalities of this species known to occur at a nearby wind project (WEST 2009), and one nearby CNDDDB record. Occurrences are expected to be infrequent year-round.
Western yellow bat <i>Lasiurus xanthinus</i>	CA: SSC CVMSHCP: C	Found in desert regions of the southwestern United States. Yellow bats are found in a variety of habitats throughout their range. In California, this foliage-roosting species appears to roost exclusively in the skirts of palm trees. Capture sites are often associated with water features (e.g., stock tanks, ponds, streams, and rivers) in open grassy areas and scrub, as well as canyons and riparian habitats.	Year-round	High. Suitable foraging habitat is present. Fatalities of this species known to occur at a nearby wind project (WEST 2009), and three nearby CNDDDB records. Occurrences are expected to be infrequent and during the migration period.
Hoary bat <i>Lasiurus cinereus</i>	US: WEG	Found in deciduous and coniferous forests. Often forages in early evening along watercourses. Feeds primarily on moths. Roosts in trees, often at the edge of clearings.	Migration and wintering period (September to May)	High. Suitable foraging habitat is present. Fatalities of this species known to occur at a nearby wind projects (Anderson et al. 2005, WEST 2009), and one nearby by CNDDDB record. Occurrences are expected to be during the migration and wintering periods.
Big free-tailed bat <i>Nyctinomops macrotis</i>	CA: SSC	Typically lives in desert and arid grassland areas where rocky out-crops, canyons, or cliffs provide ideal roosts. Found in low-lying arid areas in Southern California.	Year-round	Moderate. Suitable foraging habitat is present. One nearby CNDDDB record. Occurrences are expected to be infrequent year-round.

Species	Status ²	Habitat and Distribution	Activity Period	Occurrence Probability ³
Pallid bat <i>Antrozous pallidus</i>	CA: SSC	Inhabits deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in shallow caves, crevices, rock outcrops, buildings, tree cavities, and bridges.	Year-round	Moderate. Suitable foraging habitat is present. Two nearby CNDDB records. Occurrences are expected to be infrequent year-round.
Townsend’s big- eared bat <i>Corynorhinus townsendii</i>	CA: SSC	Their most typical habitat is arid western desert scrub and pine forest regions. Found in a wide variety of habitats throughout California, but most common in mesic sites. Its distribution is strongly correlated with the availability of caves or cave-like roosting habitat. Roosts in caves, cliffs, rock ledges, abandoned mines and other man-made structures.	Year-round	Moderate. Suitable foraging habitat is present. Several nearby CNDDB records. Occurrences are expected to be infrequent year-round.
<div><div>1. Sources: BCI 2020, Brylski et al. 1998, CDFW 2020, Tetra Tech 2015, Tetra Tech 2020a, WEST 2009, WEST 2013, WEST 2020a, USFWS 2020</div><div>2. US: Federal Classifications: FE: Taxa Federally listed as Endangered. FT: Taxa Federally listed as Threatened. BGEPA: Taxa protected by Bald and Golden Eagle Protection Act. WEG: Species of Concern in the Land-Based Wind Energy Guidelines CA: State Classifications: SE: Taxa State-listed as Endangered. ST: Taxa State-listed as Threatened. SSC: California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations. CFP: California Fully Protected. Refers to animals protected from take under Fish and Game Code Sections 3511, 4700, 5050, and 5515. CVMSHCP Status: C: Taxa is a Coachella Valley Multiple Species Habitat Conservation Plan Covered Species.</div><div>3. Occurrence Probability: High–Suitable habitat present in Project Area and species known to occur at or near the Project; Moderate–species’ range overlaps with Project and species known to occur at or near the Project; Low–species’ range is near or overlaps Project.</div></div>				

Appendix C. Wildlife Incident Reporting Form

This page intentionally left blank

WILDLIFE INCIDENT REPORTING FORM

INCIDENT DETAILS

Date: _____ Time: _____ Observer/s: _____

Type of Incident: ☐ Injury ☐ Fatality

Carcass Condition: ☐ Intact Carcass ☐ Partial Carcass ☐ Feathers Only

Carcass ID* (date_carcass #): _____

(Take photos of - Birds: beak, legs, feathers, body. Bats: face and ears, tail and feet, body)

Photo numbers: _____

Suspected Cause of Fatality/Injury: _____

Carcass Condition Details or Behavior of Injured Animal: _____

LOCATION

Project Name _____

Nearest Turbine: _____ Distance from Turbine: _____ (m) Direction from Turbine: _____

Found: ☐ On Road ☐ Under Turbine ☐ Other _____

GPS Location (decimal degrees): Latitude: _____ Longitude: _____

Location Remarks: _____

IDENTIFICATION

☐ Large bird (>10") ☐ Small bird (≤ 10") ☐ Bat ☐ Unknown

Species: _____ Sex: _____ Age: _____

Color/Markings: _____

How Identified: ☐ Field Guide ☐ Expert Opinion

Identification Remarks: _____

_____ (Describe details of - **Birds**: beak size, color, and shape; leg size, color, and shape; feather color; body size. **Bats**: color of fur and wings; length of forearm if possible, tail attached or extending; ear color and shape)

ENVIRONMENTAL CONDITION

Weather (Check all that apply): ☐ Clear ☐ Fog ☐ Cloudy ☐ Rain ☐ Snow

Approximate Temperature: _____ (F°)

Wind: ☐ Calm ☐ Gusty ☐ Storm ☐ Violent Storm

Habitat: ☐ Bare Ground ☐ Shrubs ☐ Gravel road or pad

COMMENTS: _____

* Carcass ID = four-digit date, underscore, two digit number (e.g., 073117_01). Carcass IDs should be numbered sequentially each day, for each surveyor.

Please submit completed form and incident photos to the Site Manager.

This page intentionally left blank

Appendix D. Post-Construction Avian and Bat Fatality Monitoring Mountain View Power Partners Wind Project

This page intentionally left blank

Post-Construction Avian and Bat Fatality Monitoring Plan
Mountain View Power Partners Wind Project
Riverside County, California



Prepared for:

Mountain View Power Partners, LLC

690 North Studebaker Road
Long Beach, CA

Prepared by:

Western EcoSystems Technology, Inc.

2725 NW Walnut Boulevard
Corvallis, Oregon 97330

October 14, 2020



TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	POST-CONSTRUCTION FATALITY MONITORING	3
2.1	Fatality Surveys	3
2.1.1	Objectives	3
2.1.2	Standardized Carcass Searches for Bats and Small Birds	3
2.1.3	Standardized Carcass Searches for Eagles and Other Large Birds.....	6
2.1.4	Survey Schedule	6
2.1.5	Incidental Observations	7
2.2	Experimental Bias Trials	7
2.2.1	Searcher Efficiency Trials.....	7
2.2.2	Carcass Persistence Trials.....	8
2.3	Statistical Methods for Calculating Fatality Estimates.....	8
2.4	Disposition of Carcasses.....	9
2.5	Reporting	10
3.	REFERENCES	11

LIST OF FIGURES

Figure 1.	Project Boundary for the Mountain View Power Partners Wind Project in Riverside County, California.....	2
Figure 2.	Proposed fatality monitoring search plots for the Mountain View Power Partners Wind Project in Riverside County, California.....	5

1. INTRODUCTION

Mountain View Power Partners, LLC (MVPP) is planning to repower a wind energy facility in Riverside County, California, referred to as the Mountain View Wind Project (Project). The repowering will result in the removal of 104 of the existing 111 600-kilowatt (kW) Mitsubishi Turbines and the installation of 16 3-megawatt (MW) or larger turbines. The seven 600 kW turbines left in place will remain operational. MVPP voluntarily developed this Tier-4 post-construction fatality monitoring (PCFM) plan for the repowered Project, as recommended in the United States Fish and Wildlife Service's (USFWS) land-based wind energy guidelines (WEG). The PCFM will provide a means to monitor Project impacts and assess whether observed impacts are consistent with those predicted based on data gathered during Tier 1-3 studies (USFWS 2013) as presented in the Bird and Bat Conservation Strategy (BBCS; MVPP 2020).

The Project area consists of approximately 508 hectares (1,255 acres) of both public and privately owned lands located northwest of the city of Palm Springs on the south side of Interstate 10 in Riverside County, California (Figure 1). The Project area includes vegetation components of both the Mojave and Sonoran Deserts, including desert scrub communities dominated by creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), and indigo bush (*Psoralea arborescens*), all interspersed with significant amounts of bare ground. The region experiences very hot summers, mild winters, frequent gusty winds, and annual rainfall averaging less than 25 centimeters (10 inches) per year, occurring mostly in the winter.

The repowered Project will consist of 16 new turbines with a rotor diameter of 117 meters (m) and maximum tip height of 150 m, and seven turbines with a rotor diameter of 45 m and maximum tip height of 82.5 m. The seven smaller turbines are located in a single string located in the south-central portion of the Project, while the 16 new larger turbines will be dispersed throughout the remainder of the Project area (Figure 1).

Post-construction fatality monitoring will be conducted for two consecutive years at the Project, with surveys commencing after the repowering work is complete (early 2022 anticipated). The first year of monitoring will assess impacts to all birds and bats, while the second year of monitoring will focus on impacts to eagles specifically, unless results of the first year of study indicate a need for additional monitoring for other species.

The methods outlined in this plan will be evaluated prior to implementing the PCFM, and if more current, accepted methods have been introduced since the drafting of this PCFM Plan, these methods will be incorporated, as warranted.



Figure 1. Project Boundary for the Mountain View Power Partners Wind Project in Riverside County, California.

2. POST-CONSTRUCTION FATALITY MONITORING

This PCFM Plan has been developed to be consistent with the recommendations in various agency guidance documents (CEC and CDFG 2007; USFWS 2012, USFWS 2013). The protocol utilizes a design that emphasizes a higher level of certainty in the assessment of impacts on key species of interest, based on site-specific field surveys conducted prior to repowering; including raptors, waterfowl, and waterbirds, while also providing data to assess impacts to bats during the primary bat activity season. While data will be gathered on all small birds found during surveys, given the low use documented during site-specific surveys for small birds in general, as well as sensitive species (e.g., loggerhead shrike [*Lanius ludovicianus*] was the only small bird species of special status identified), less emphasis is placed on documenting precise estimates of small bird fatality rates. The results of the studies will be compared to impact predictions from the pre-permitting (Tier 1-3) studies as well as post-construction fatality estimates from other regional wind energy facilities. Study results will be provided in an annual report provided to MVPP and shared with agency personnel. Details of the proposed survey methods are presented below.

2.1 Fatality Surveys

2.1.1 Objectives

The primary objectives of the PCFM are threefold: 1) to estimate bat fatality rates at the Project during the peak period of bat activity (March-October); 2) estimate bird fatality rates throughout the year; and 3) collect data that can be used to update the USFWS Collision Risk Model (CRM) for predicting potential impacts to golden eagles.

The PCFM will include three primary study components: (1) standardized carcass searches, (2) searcher efficiency trials, and (3) carcass persistence trials. There are three scenarios under which casualties may be found at the Project: (1) within search plots during the standardized carcass searches, (2) within search plots while searchers are on site but not conducting a standardized search, and (3) by project personnel during other activities such as turbine maintenance. All casualties found on search plots, either by searchers or Project operations staff, will be recorded in accordance with the methods described below, and will be analyzed under the assumption that the fatality was caused by the Project.

2.1.2 Standardized Carcass Searches for Bats and Small Birds

The WEG do not specify a sample size for fatality searches, rather recommend that enough turbines be selected for monitoring, with the exception that projects of 10 or fewer turbines should include searches at all turbines (USFWS 2013). The California wind energy guidelines recommend PCFM include a sample of at least 30% of turbines (CEC and CDFG 2007). Given the size of the Project and its inclusion of two turbine sizes, this PCFM was designed to exceed minimum recommendations of the agencies and provide data for comparing results among turbine sizes.

To balance efficiency with the need for sufficient sample sizes, standardized carcass searches for bats and small birds will be conducted at six (38%) of the 16 new turbine locations and all seven of the existing smaller turbine locations. To ensure search plots were spread throughout the Project, proposed search plots associated with large turbines were randomly selected with the constraints that at least one turbine was selected from each string and that plots were not immediately adjacent to one another within a string (Figure 2). Searches for small birds and bats will be conducted within 60 m radius circular plots centered on each of the designated large turbines (Figure 2). Given the smaller size and tighter spacing of the seven small turbines, all seven smaller turbines will be included in a single search plot that is rectangular in shape and extends a minimum of 45 m from each turbine (Figure 2). Based on the turbine sizes and models presented in Hull and Muir (2010), these two plot sizes should capture approximately 95% of all bat fatalities and approximately 85% of all small bird fatalities.

Trained field technicians will systematically search each plot for avian and bat fatalities by walking parallel transects spaced approximately 6–10 m apart while scanning 3–5 m on either side of the transect for carcasses. Transect width may vary to address variations in vegetation thickness and/or topography (i.e., tighter spacing in dense/tall vegetation and wider spacing on roads/pads). The condition of carcasses found by searchers will be classified according to the following criteria:

- **Intact** – a carcass that is completely intact, is not badly decomposed, and shows no sign of being fed upon by a predator or scavenger
- **Scavenged** – an entire carcass that shows signs of scavenging or is heavily infested by insects, or portion(s) of a carcass in one location (e.g., wings)
- **Feather Spot** – 10 or more feathers (or two or more primary feathers) at one location indicating predation or scavenging

All bird and bat carcasses found during the standardized searches will be marked and recorded as casualties. A data sheet will be completed for each carcass to record species, sex and age (when identifiable), date and time collected, location (global positioning system coordinates), carcass condition, habitat type, cause of death, and any comments. All casualties will be photographed in the field and the location will be plotted on a detailed topographic map that shows the location of the carcass in relation to the nearest turbine and other facilities (e.g., overhead power lines). Unless clear evidence suggests otherwise, all casualties documented will be assumed to be facility related.

Casualties found by searchers outside the formal search plot will be treated in accordance with the protocol described above. These casualties will be classified as incidental discoveries. While these incidentally documented fatalities will be excluded from analysis, they will be accounted for via an area correction factor, which will extrapolate results beyond the formal plot boundaries based on carcass distributions presented in Hull and Muir (2010), or more recent / improved carcass distribution models, if available.

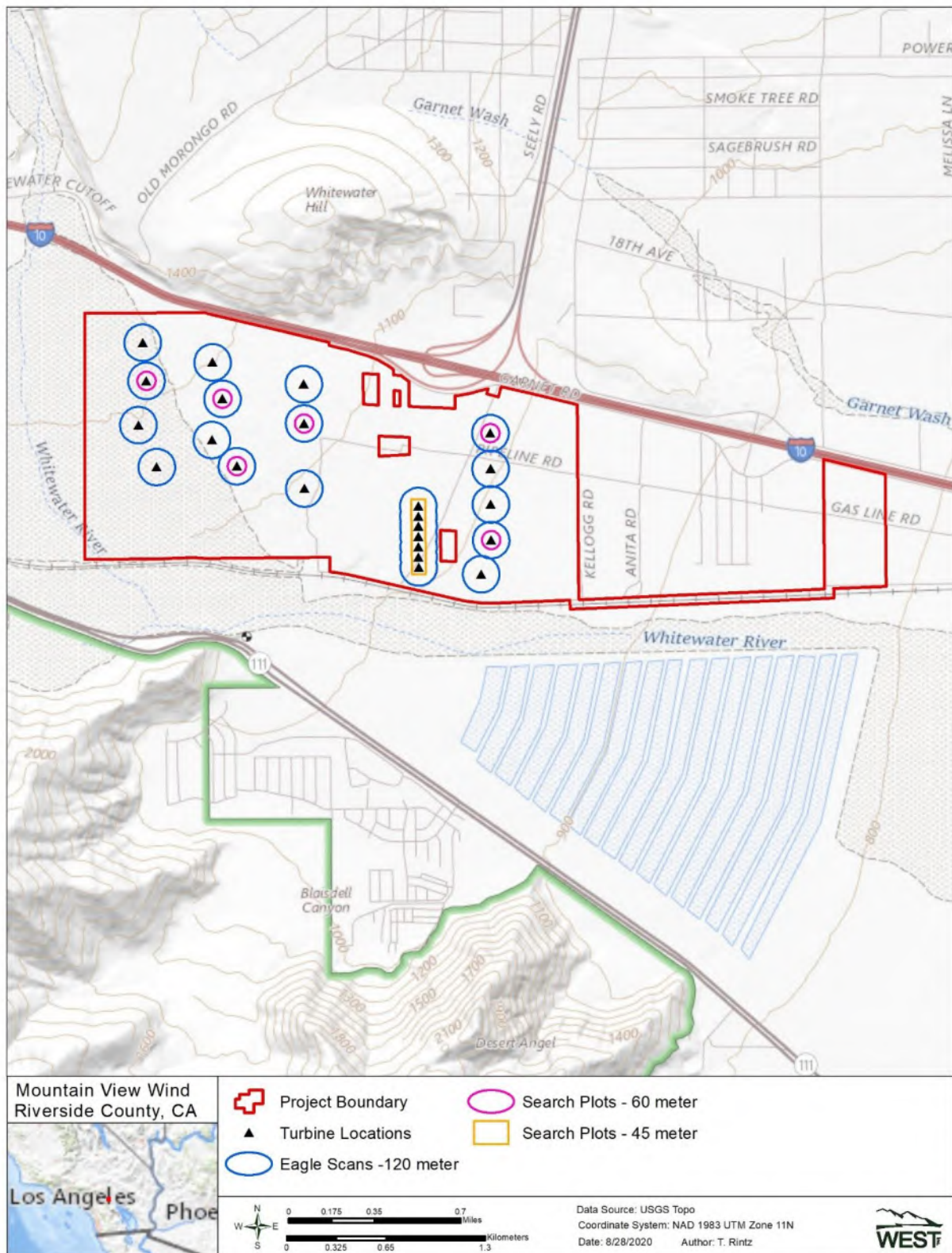


Figure 2. Proposed fatality monitoring search plots for the Mountain View Power Partners Wind Project in Riverside County, California.

2.1.3 Standardized Carcass Searches for Eagles and Other Large Birds

The objective of the proposed eagle / large bird fatality monitoring (EFM) study is to estimate the impact of the Project on eagles and other large birds by systematically searching turbines for large bird carcasses that may be attributed to collision with Project turbines.

Standardized carcass searches for eagles and other large birds will be conducted using the search and scan approach described by Hallingstad et al. (2018). This method will be used to search all 23 turbines at the Project. During the search and scan surveys, staff will search turbine access roads and pads while driving slowly (< 10 mph) and scanning the road and adjacent areas for carcasses. Upon arrival at each search turbine, the searcher will exit the vehicle and scan the surrounding terrain for carcasses. During each scan, the searcher will move around the base of the turbine and visually scan each of four quadrants (i.e., each of the four cardinal directions) out to 120 meters from the turbine base (Figure 2), aided by a range-finder and binoculars. The 120 m search distance is expected to provide coverage of the area where most (95% or more) of large bird carcasses are likely to fall based on the turbine sizes present at the Project (Hull and Muir 2010; Hallingstad et al. 2018). Hallingstad et al. (2018) found the search and scan methodology could achieve searcher efficiency rates in excess of 70% in relatively open and flat landscapes, both of which apply to the Project. However, to verify the effectiveness of the search and scan methodology at the Project, searcher efficiency trials will be conducted to estimate the searcher efficiency of searchers using a combination of decoys and/or other appropriate surrogates.

2.1.4 Survey Schedule

Standardized searches for small birds and bats will be conducted in the small bird and bat search plots for one full year. The initial search will be treated as a clearance search during analysis; therefore, an initial clearance search will be conducted in all plots. Once the initial clearance search is completed, standardized searches will be conducted weekly from March through October, a timeframe that encompasses the primary period of bat activity and documented mortality for the area, based on several past fatality monitoring and acoustic studies (Chatfield et al. 2009, Levenstein and Bay 2013, Weller and Baldwin 2012), and once every 14 days during the remainder of the year (November through February). A second year of surveys for bats and small birds will only be conducted if the results of the first-year study indicate a need for additional monitoring, as described in the BBCS.

Standardized searches for eagles and other large birds (i.e., search and scan surveys) will be conducted prior to conducting each bat and small bird survey (i.e., every 7 or 14 days) at each of the bat and small bird search plots, and once monthly at all other turbines during the first year of surveys. A second year of standardized searches for eagles will be conducted using the search and scan method, assuming bias trials indicate the method is working as anticipated. The second year of eagle-specific searches will be conducted at all turbines on a monthly basis, although a longer interval (e.g., 45 or 60 days) will be considered if raptor persistence trial data from year one indicate that a longer interval would provide sufficient data for analysis. Should a second year of bat and small bird surveys also be conducted, then the survey schedule would be similar to that in year one, again with consideration for a longer interval at the eagle-specific search plots.

2.1.5 Incidental Observations

Field technicians will document wildlife species of interest observed incidentally while conducting field surveys and travelling through the Project. For each incidental observation, technicians will record date, time, species, number of individuals, sex/age class (if identifiable), distance from observer, behavior, and habitat type. Incidental observations will focus on special status species. A summary of incidental observations will be included in the annual report.

2.2 Experimental Bias Trials

Searcher efficiency and carcass persistence trials will be conducted to estimate the probability that a carcass remains available and is detected by searchers. Searcher efficiency trials will be stratified such that data are available to estimate searcher efficiency for each survey type used (i.e., transects and scans). Carcass persistence trials data will be applicable to both survey types and will not have to be stratified by survey type.

2.2.1 Searcher Efficiency Trials

Searcher efficiency trials will be conducted to develop estimates of the proportion of carcasses detected by searchers. Trials will be conducted such that searcher efficiency can be estimated for both transect surveys (for bats and small birds) and search and scan methods (for eagles and other large birds). Searcher efficiency trials will be conducted throughout the year (all four seasons) to encompass variable field conditions that may affect carcass detection. Searcher efficiency sample sizes will target 20 trial carcasses per size class (large bird, small bird, and bat) per season. Each trial will consist of placing carcasses of appropriate size classes (small birds, bats, large birds/eagles) in search plots. Carcasses utilized for searcher efficiency trials will consist of birds and bats found during standardized carcass searches at the Project and left in place, and/or non-native or commercially available species. Large birds will be represented by species such as mallard (*Anas platyrhynchos*) and/or ring-necked pheasant (*Phasianus colchicus*), while small birds may include species such as house sparrow (*Passer domesticus*) and/or juvenile quail (*Coturnix sp.*). Brown mice may be used in lieu of bat carcasses, if necessary. Decoys covered in a shroud of feathers (Turkey Skinz ©), which are similar in size and coloration to golden eagles, will also be utilized in searcher efficiency trials, specifically as a surrogate for golden eagles.

Searcher efficiency trials will be conducted concurrent with fatality searches. Trial carcasses will be randomly placed within search plots prior to a scheduled carcass search. Searchers will not be told when or where trials are being conducted to minimize potential bias. Each trial carcass will be discreetly marked to distinguish it from an actual fatality. Carcasses will be dropped from waist height and allowed to land in a variety of postures. Searchers will record the location of each trial carcass found during standardized carcass searches. Immediately following completion of the search, the field staff that placed the trial carcasses will retrieve all carcasses not found by searchers to determine the number of carcasses that remained available for detection but were not found. Searcher efficiency trial data will be analyzed to develop estimates of detection bias by (1) carcass size, (2) season, and (3) survey type. The resulting data will be utilized to adjust annual estimates of bird and bat fatality rates for searcher detection bias.

2.2.2 Carcass Persistence Trials

The objective of carcass persistence trials is to estimate how long carcasses persist on the landscape and remain available for detection. Carcass persistence trials will be initiated when carcass search studies begin and will be conducted throughout the year to incorporate the effects of varying field conditions and scavenger densities across seasons. Carcass persistence sample sizes will target a minimum of 12 trial carcasses per size class per season. Trial carcasses will be discreetly marked and placed in the field. Carcasses used in persistence trials will be similar to those used for searcher efficiency trials. Raptor carcasses, depending on availability, will be used specifically to estimate carcass persistence for raptors. All trial carcasses will be handled with disposable gloves to minimize human scent on the carcasses. If raptor carcasses are unavailable, use of raptor persistence data from other regional projects should be considered, prior to falling back to exclusive use of carcass persistence based solely on commercially available gamebirds such as ducks and pheasants.

Observers conducting carcass searches will monitor small bird and bat persistence trial carcasses over a 30-day period. Carcasses will be checked every day for the first four days, and then on days 7, 10, 14, 18, 24, and 30, although this schedule may vary slightly depending on weather or other variables. At each visit, the observer will note the condition of the carcass (e.g., intact, scavenged, feather spot [i.e., more than 10 feathers], or absent [less than 10 feathers]). Persistence trial carcasses will be left at the location until the end of the 30-day trial or until the carcass is removed entirely by scavengers. After 30 days, any remaining evidence of the carcasses will be removed. Because raptors tend to persist longer than other species (e.g., pheasants and mallards) generally used as large bird surrogates (Hallingstad et al. 2018), raptor trial carcasses will be monitored over a longer 90-day trial period, following the scheduled noted above but with added checks approximately every 10 days after day 30. At the end of the 90-day period any evidence of raptor persistence trial carcasses that remain will be removed.

Carcass persistence trial data will be analyzed to develop separate estimates for large birds, small birds, bats, and raptors, and the results used to adjust estimates of bird and bat fatality rates for removal bias.

2.3 Statistical Methods for Calculating Fatality Estimates

Overall fatality estimates will be calculated for small birds, large birds, diurnal raptors, and bats. Estimates of facility-related fatalities will be based on:

- (1) Observed number of carcasses found during standardized searches during the monitoring period for which the cause of death was assumed facility-related;
- (2) Persistence rates, expressed as the estimated average probability a trial carcass is expected to remain in the study area and be available for detection by the searchers during persistence trials; and
- (3) Searcher efficiency, expressed as the proportion of trial carcasses found by searchers during searcher efficiency trials.

Fatality rates will be calculated using the most current and appropriate fatality estimator. The Generalized Estimator of Mortality (GenEst; Dalthorp et al. 2018) is the most recent addition to the suite of estimators available for estimating fatality rates and it is anticipated that GenEst will be used to calculate general fatality estimates for birds and bats. The GenEst software, available as an open source R-package, was developed through a collaborative effort led by US Geological Survey to specifically estimate the number of bird and bat fatalities at wind and solar energy facilities. GenEst estimates the size of an open population (bird and bat fatalities) when detection probabilities (searcher efficiency and carcass persistence) and search coverages are less than one. To obtain an overall estimate of mortality, each carcass included in the analysis will be adjusted for searcher efficiency, carcass persistence, and search area. Carcasses included in the fatality rate estimation will include those found within the search plots and with an estimated time of death within the study period. Fatality estimates will be calculated for all categories (small birds, large birds, diurnal raptors, and bats) by season using GenEst. Estimates and confidence intervals will be calculated using a parametric bootstrap (Manly 1997) for each individual category listed above, assuming more than five fatalities within each category are detected. When the number of carcasses found begins to approach zero, Horvitz-Thompson estimators, including GenEst, provide unreliable estimates (Korner-Nievergelt et al. 2011). If the number of carcasses found in a category (e.g. bats in summer) is five or fewer, raw counts will be provided at a minimum and point estimates may also be provided for discussion purposes. However, estimates based on a small number of detections will not include confidence intervals that imply the same level of precision as estimates based on more robust counts.

A separate analysis will be conducted for eagles specifically, using the Evidence of Absence (EoA) estimator of Dalthorp et al. (2014). The EoA analysis will be conducted after concluding the two years of eagle fatality surveys. The results of the EoA analysis will be used to update the USFWS' collision risk model (CRM; USFWS 2013) to predict Project specific impacts to eagles. The CRM is a Bayesian hierarchical model used to predict annual eagle fatalities and is built upon the assumption that higher site-specific eagle flight activity will translate to higher annual eagle mortality once the wind energy facility is operational. The CRM was used to assess potential impacts of the Project on eagles in 2020 (Thompson and Rintz 2020) using both the “priors only” model, as well as a model with updated estimates of eagle exposure based on site-specific eagle use data. The results of the two models varied substantially; however, given the CRM's Bayesian framework, the CRM can be further refined by updating the collision probability parameter of the model using site-specific fatality monitoring data. After completing the two years of eagle-specific fatality surveys, fatality estimates from the EoA analysis will be used to update the collision probability priors in the CRM, and an updated CRM will be run. Results of the updated CRM will be more heavily influenced by site-specific data, rather than the models' priors, resulting a more reliable prediction of the Project's potential impact on eagles.

2.4 Disposition of Carcasses

Unless MVPP obtains a Special Purpose Utility Permit (SPUT) from the USFWS to collect and handle carcasses of migratory birds, all bird carcasses found during the study will be left in place. Should an eagle carcass or carcass of any federal or state listed species be found, MVPP will notify the USFWS and California Department of Fish and Wildlife (CDFW) within 24 hours of its

discovery. If requested by the USFWS, carcasses of eagles or other listed species may be collected and stored on site until recovered by USFWS personnel, or further direction is provided. Bats may be collected under a state collection permit, assuming staff implementing the PCFM are covered under a Scientific Collection Permit issued by CDFW.

2.5 Reporting

An interim update in the form of a brief memorandum will be provided to MVPP following the completion of each quarter of fatality monitoring. The update will include avian and bat fatalities documented to date, as well as the status of experimental bias trials. An annual monitoring report will be submitted to MVPP within three months of completion of each year of monitoring. Once finalized, the annual report will be shared with appropriate agencies (e.g., USFWS, CDFW, Riverside County). The annual report will include the results of the study, as well as a discussion of the field and analysis methods. Reports will also include an appendix listing each individual fatality observed, identification number, species, date of discovery, location, and distance from turbine, direction from turbine, condition, and evidence of cause of death if possible, and additional notes or comments. This list will include all documented fatalities, even if the fatality is not believed to have been caused by the wind-energy facility. The reports will include results of the bias trials, including estimates of carcass persistence and searcher efficiency by size of carcass, and season. Observed and adjusted fatality rates and associated 90% confidence interval estimates will be reported for 1) small birds, 2) large birds, 3) diurnal raptors, and 5) bats. Eagle-specific analysis and results will not be completed until the second year of surveys have been concluded, at which time the two years of eagle-specific fatality monitoring data will be used to update the USFWS' CRM. The updated CRM results, along with results of monitoring for other birds and bats (if conducted for a second year), will be included in a final study report and shared with USFWS and CDFW. Data sheets in electronic form will be made available upon request. Maps will be provided showing the location of each fatality relative to project facilities.

3. REFERENCES

- California Energy Commission (CEC) and California Department of Fish and Game (CDFG). 2007. California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development. Commission Final Report. California Energy Commission, Renewables Committee, and Energy Facilities Siting Division, and California Department of Fish and Game, Resources Management and Policy Division. CEC-700-2007-008-CMF.
- Chatfield, A., W. Erickson, and K. Bay. 2009. Avian and Bat Fatality Study at the Dillon Wind-energy Facility. Riverside County, California. Final Report. March 26, 2008 – March 26, 2009. Prepared for Iberdrola Renewables, Portland, Oregon. Prepared by Western EcoSystems Technology, Inc., (WEST), Cheyenne, Wyoming.
- Dalthorp, D. H., M. M. P. Huso, D. Dail, and J. Kenyon. 2014. Evidence of Absence Software. Corvallis, OR: USGS. ISBN. Available online at <http://pubs.usgs.gov/ds/0881/>
- Dalthorp, D.H., Madsen, L., Huso, M.M., Rabie, P., Wolpert, R., Studyvin, J., Simonis, J., Mintz, J.M., 2018, GenEst statistical models—A generalized estimator of mortality: U.S. Geological Survey Techniques and Methods, v. 7, no. A2, p. 13, <https://doi.org/10.3133/tm7A2>.
- Hallingstad, E.C., P.A. Rabie, A.C. Telander, J.A. Roppe, and L.R. Nagy. 2018. Developing an Efficient Protocol for Monitoring Eagle Fatalities at Wind Energy Facilities. PLoS ONE 13(12): e0208700. <https://doi.org/10.1371/journal.pone.0208700>
- Hull, C.L. and S. Muir. 2010. Search Areas for Monitoring Bird and Bat Carcasses at Wind farms Using a Monte Carlo Model. Australasian J of Environ Manage. 2016; 17: 77–87.
- Korner_Nievergelt, F., P. Korner-Nievergelt, O. Behr, I. Niemann, R. Brinkmann, B. Hellriegel. 2011. A New Method to Determine Bird and Bat Fatality at Wind Energy Turbines from Carcass Searches. Wildlife Biology 17:350-363 (2011). Doi: 10.2981/10-121.
- Levenstein, K., and K. Bay. 2013. Avian and Bat Mortality Monitoring at the Mountain View IV Wind Energy Project, Riverside County, California. Final Mortality Report: March 2012 – March, 2013. Prepared for Mountain View Power Partners IV, LLC, San Diego, California. Prepared by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming.
- Manly, B.F.J. 1997. Randomization, Bootstrap, and Monte Carlo Methods in Biology. 2nd Edition. Chapman and Hall, London.
- Thompson, J., and T. Rintz. 2020. Avian Risk Assessment and Survey Report for the Mountain View Power Partners Wind Project, Riverside County, California. Final Report: October 2017 – October 2018. Prepared for Mountain View Power Partners, Long Beach, California. Prepared by Western EcoSystems Technology, Inc. (WEST), Corvallis, Oregon. August 4, 2020.
- US Fish and Wildlife Service (USFWS). 2012. Land-Based Wind Energy Guidelines. March 23, 2012. 82 pp. Available online: http://www.fws.gov/cno/pdf/Energy/2012_Wind_Energy_Guidelines_final.pdf

US Fish and Wildlife Service (USFWS). 2013. Eagle Conservation Plan Guidance: Module 1 - Land-Based Wind Energy, Version 2. US Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management. April 2013. 103 pp. + frontmatter.

Available online:

<https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>

US Geological Survey (USGS). 2018. USGS Topographic Maps. Accessed January 17, 2018.

Information online: <https://nationalmap.gov/ustopo/index.html>

Weller, T.J. and J.A. Baldwin. 2012. Using echolocation monitoring to model bat occupancy and inform mitigations at wind energy facilities. *Journal of Wildlife Management*, 76, 619–631.

Appendix E

Final Joint Project Review for CVCC 20-005 for the
Mountain View Wind Repower Project

COACHELLA VALLEY CONSERVATION COMMISSION



Cathedral City ◦ Coachella ◦ Desert Hot Springs ◦ Indian Wells ◦ Indio ◦ La Quinta ◦ Palm Desert
◦ Palm Springs ◦ Rancho Mirage ◦ County of Riverside ◦ Coachella Valley Water District ◦ Imperial Irrigation District

22 January ~~2020~~ 2021

Don Copeland
Contract Biologist
Riverside County Planning
4080 Lemon St, 12th Floor
Riverside, CA 92501
951.955.6441

RE: Final Joint Project Review for CVCC 20-005 Mountain View Power Partners Wind Repower Project

Dear Mr. Copeland:

The Coachella Valley Conservation Commission (CVCC) has completed its Joint Project Review (JPR) as required by section 6.6.1.1 of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) for the wind repower project proposed by Mountain View Power Partners.

The project is located within the Whitewater Floodplain Conservation Area and proposes to replace 104 existing wind turbine generators with 16 newer, more efficient models. The project will impact Core Habitat for Palm Springs pocket mouse, Other Conserved Habitat for LeConte's thrasher, as well as fluvial sand transport corridors and biological corridors. The listed Conservation Area also contains recorded burrowing owl locations. A portion of land totaling approximately 248 acres will be donated to CVCC to offset these impacts.

A draft JPR was submitted to the US Fish and Wildlife Service, California Department of Fish and Wildlife, and the project applicant on 13 November 2020. Agency comments, and any response, are summarized in the JPR and included in full as an Appendix.

This JPR has found the project as proposed consistent with the CVMSHCP if conditioned on the required Avoidance and Minimization Measures and applicable Land Use Adjacency guidelines as described in the Plan documents, as well as the completed donation of the conservation land. Following the donation, CVCC recommends waiving the entire Local Development Mitigation Fee for the Project.

If you have any questions, please do not hesitate to contact me at psatin@cvag.org, or 760.346.1127.

Sincerely,

COACHELLA VALLEY CONSERVATION COMMISSION



Cathedral City ◦ Coachella ◦ Desert Hot Springs ◦ Indian Wells ◦ Indio ◦ La Quinta ◦ Palm Desert
◦ Palm Springs ◦ Rancho Mirage ◦ County of Riverside ◦ Coachella Valley Water District ◦ Imperial Irrigation District

Peter Satin
Regional Planner

CC: Jacob Skaggs, CDFW
Carly Beck, CDFW
Heather Pert, CDFW
Alicia Thomas, USFWS
Jenness McBride, USFWS
Eric Pendergraft, Mountain View Power Partners

Attachments:

JPR 20-005: Mountain View Power Partners

Appendix A: Applicant consistency analysis

Appendix B: Agency comments

Appendix C: Avoidance, Minimization, and Mitigation Measures and Land Use Adjacency
Guidelines

JPR Application

Coachella Valley Conservation Commission Joint Project Review (JPR)

Submitted 22 January 2021



Project Information

Applicant/Project Name	Mountain View Power Partners Wind Repower Project
CVCC ID	20-005
Permittee(s)	County of Riverside
APN (Acreage)	522-070-027 (609.45 acres)
Conservation Area	Whitewater Floodplain Conservation Area
Conservation Area Disturbance Acreage	17.50 Acres

Project Summary

The proposed Mountain View Power Partners (MVPP) Wind Repower Project (Project) involves the removal of 104 existing older-model wind turbine generators (WTG), the erection of 16 newer-model WTGs, and associated infrastructure required for implementation and maintenance. It is located in the northwestern portion of the Coachella Valley (Figure 1). The portion of the Project subject to the Coachella Valley Multiple Species Habitat Conservation Plan (Plan) is situated within unincorporated Riverside County (County) and overlaps 375.00 acres of the Whitewater Floodplain Conservation Area (WWFP).

MVPP has provided a consistency analysis, which also contains a detailed project scope. This is included as Appendix A. All acreages listed in this review were independently verified by Coachella Valley Conservation Commission (CVCC) staff.

Proposed Disturbance

Of the 16 new WTGs, 6 will be located within the WWFP, and will require ground disturbance both to access the installation site and to install the units themselves. Additionally, a meteorological tower to monitor wind characteristics is proposed within the WWFP and will require ground disturbance to access and install.

Using impact data provided by MVPP and controlling for acreage previously considered disturbed (Figure 2), CVCC staff determined that the Project would result in 17.50¹ acres of disturbance within the WWFP. The applicant proposes to offset this disturbance with the subdivision and donation to CVCC a 247.75-acre parcel within the Project footprint, which would conserve modeled habitat for a number of impacted Conservation Objectives. The applicant would reserve an easement for the meteorological tower over this donated parcel, limited mostly to land previously disturbed.

Impacts to Habitat, Natural Communities, and Essential Ecological Functions are described in the following section.

¹ Acreages are all rounded to the nearest quarter-acre.

Mountain View Power Partners Wind Repower Project

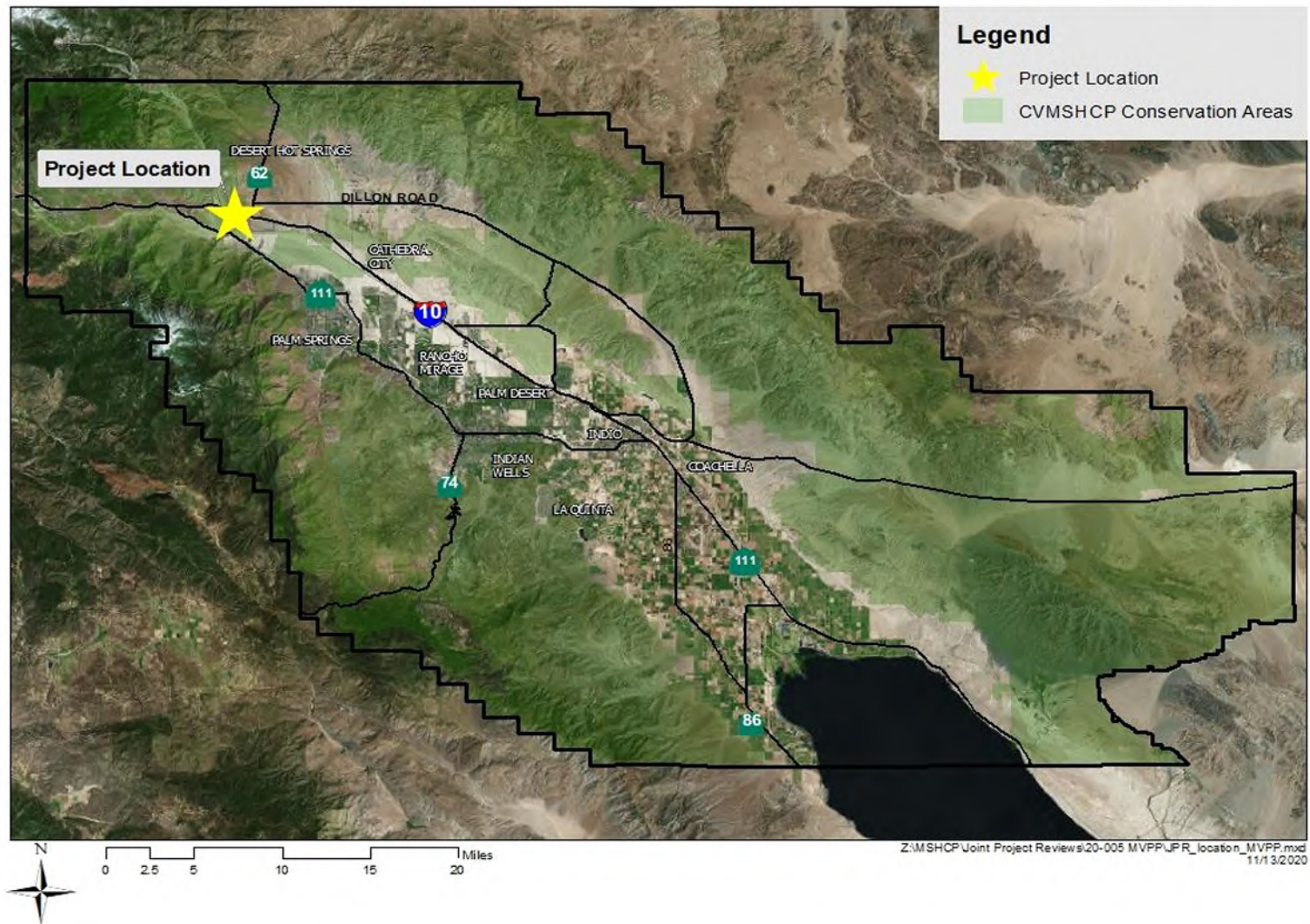


Figure 1: Project location for the Mountain View Power Partners Wind Repower Project in the northwestern portion of the Coachella Valley.

Mountain View Power Partners-Existing Disturbance

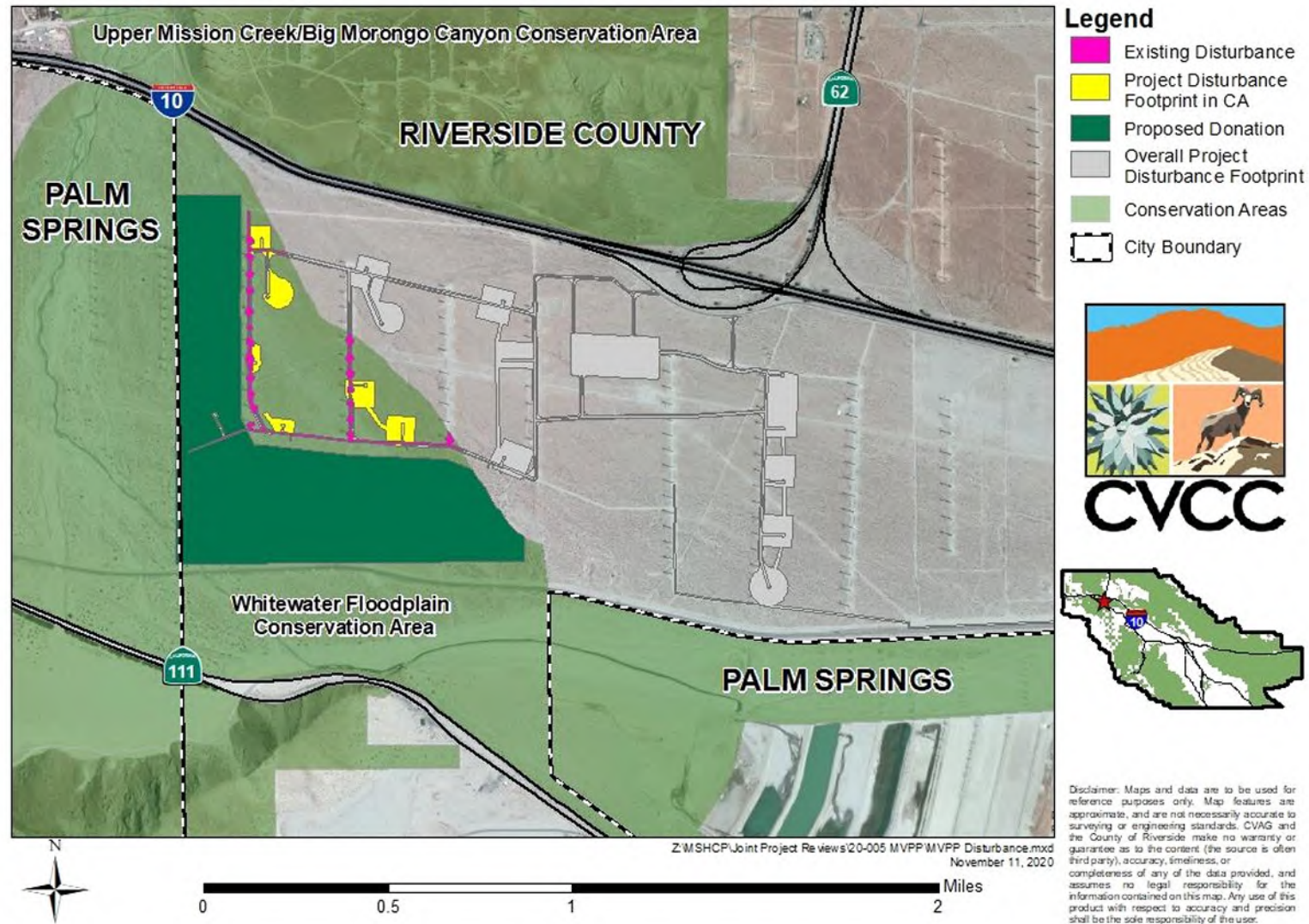


Figure 2: Existing and projected disturbance within the Conservation Area.

Conservation Objectives Assessment

The WWFP contains Core Habitat for Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, Coachella Valley fringe-toed lizard, Coachella Valley round-tailed ground squirrel, and the Palm Springs pocket mouse. It contains Other Conserved Habitat for many of the above species, as well as triple-ribbed milkvetch, desert tortoise, Le Conte's thrasher, and the Coachella Valley Jerusalem cricket, although the latter has not been confirmed based on limited surveys. The Conservation Area also contains numerous Natural Communities, including active, ephemeral, stabilized shielded, and stabilized and partially stabilized sand fields; Sonoran creosote bush scrub; and Sonoran mixed woody and succulent scrub. It provides fluvial sand transport and serves as a Biological Corridor. Quantified Conservation Objectives can be viewed in section 4.3.6 of the Plan; these objectives pertain generally to the conservation of Core Habitat and Other Conserved Habitat, the conservation of extant Natural Communities, and the maintenance of Biological Corridors and Linkages, with specific targets for each jurisdiction within the Conservation Area. This Conservation Area lists the protection of occupied burrowing owl burrows as an additional general Conservation Objective. Conservation Objective metrics relevant to this Project are identified in Table 1.

Findings

The proposed Project is projected to impact 17.50 acres of Core Habitat for Palm Springs pocket mouse, 17.50 acres of Other Conserved Habitat for Le Conte's thrasher, and 17.50 acres of fluvial and aeolian sand transport and Biological Corridors (Table 1, Figures 3 and 4).

The majority of the disturbance projected will be offset by the parcel planned for donation by the applicant. Discounting the easement area for the meteorological tower, the donation parcel will conserve 246.50 acres of Core Habitat for Palm Springs pocket mouse, 247.50 acres of Other Conserved Habitat for Le Conte's thrasher, and 247.50 acres of sand transport and biological corridors (Table 1, Figures 3 and 4). Surveys of the proposed donation also identified occupied round-tailed ground squirrel habitat, but since this acreage is outside modeled habitat accepted by the Plan, it has not been counted towards conservation goals.

The setback waiver requested by the applicant will exempt them from a County ordinance requiring WTGs be placed 500 feet or more from adjacent parcels. This ordinance is primarily intended to prevent upstream WTGs from impeding wind flow downstream, as well as create a safety buffer between individual WTGs and any improvements on neighboring properties. Waiving this setback requirement is not expected to have any adverse effects on the Conservation Objectives, nor is it expected to create an unsafe environment given the undeveloped nature of the donation parcel.

Rough Step Analysis

The rough step analysis is used to determine whether a proposed disturbance would have an outsized negative impact on the availability of conservation land within a given Conservation Area for a specific Conservation Objective. It is meant to ensure that the potential conservation opportunities remain in "rough step" with the projected development. A positive rough step calculation indicates a surplus of allowable disturbance acreage for a particular Conservation Objective, while a negative rough step calculation signifies that the target habitat is being overdeveloped by the resulting acreage. In such an instance, the planned disturbance would be outside the parameters of the Plan and conservation actions must take place prior to the authorization of additional habitat disturbance.

Assuming the portion of the property proposed for conservation is permanently protected, the rough step analysis for the Project yields a positive balance for each of the impacted Conservation Objectives within the WWFP (Table 1). Note that the draft JPR submitted to state and federal wildlife agencies for comment erroneously aggregated Core Habitat and Other Conserved Habitat for the Coachella Valley round-tailed ground squirrel. This resulted in a negative balance when calculating rough step for Core Habitat for ground squirrel, However, Other Conserved Habitat is not a Conservation Objective for the permittee in this Conservation Area and has been discounted from the final rough step calculation presented here.

Table 1: Conservation and take authorization for Whitewater Floodplain Conservation Area in unincorporated Riverside County.

Conservation Objective	Total Acres of Proposed Disturbance ¹	Acres of Disturbance Authorized by Plan ²	Proposed Disturbance as a Percentage of Authorized Disturbance	Rough Step (If project is approved as submitted) ³	Acres Conserved by Project ⁴	Acres to be Conserved by Plan ⁵
Conserve Core Habitat for CV milkvetch	0.00	6	0.00%	0.50	0.00	58
Conserve Core Habitat for CV giant sandtreader cricket	0.00	6	0.00%	0.50	0.00	57
Conserve Core Habitat for CV fringe-toed lizard	0.00	6	0.00%	0.50	0.00	57
Conserve Other Cons. Habitat for Le Conte's thrasher	17.50	53	33.02%	20.00	247.50	480
Conserve Core Habitat for CV round-tailed ground squirrel	0.00	11	0.00%	1.00	0.00	100
Conserve Core Habitat for Palm Springs pocket mouse	17.50	53	33.02%	20.00	246.50	477
Conserve ephemeral desert sand fields	0.00	6	0.00%	0.50	0.00	52
Conserve stabilized & partially stabilized desert sand fields	0.00	1	0.00%	0.00	0.00	4
Conserve fluvial & aeolian sand transport	17.50	53	33.02%	19.75	247.50	481
Conserve Biological Corridors	17.50	53	33.02%	20.25	247.50	475

¹Disturbance caused by the Project after subtracting existing disturbance, rounded to the nearest quarter-acre.

²Maximum amount of disturbance allowed by the Plan for the project area.

³Rough step is calculated based on all development and conservation from 1996 to today according to CVCC records. See Plan section 6.5.

⁴Acres of land within Conservation Area conserved by applicant, rounded to the nearest quarter-acre.

⁵Target conservation acres as proposed by the Plan.

Agency Comment

A draft version of this JPR was submitted to the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) on 13 November 2020 for comment. Their feedback is summarized here and included in full in Appendix B. These comments reflect an earlier draft containing a miscalculation for the rough step analysis that has been corrected in this version; agency comments regarding the previously miscalculated value are included as a matter of record.

CDFW requested that the meteorological tower easement area be discounted from the total conservation acreage of the donation parcel and inquired whether a setback waiver requested by

the applicant would have an effect on the rough step calculation. CDFW also requested details of any potential solution to bring the Project into compliance with rough step parameters.

USFWS requested clarification on the setback waiver as well as any notification of progress towards addressing rough step non-compliance. They further requested that the applicant continue to coordinate with the appropriate federal agencies to assess the impact of next-generation WTGs on bat and avian species.

This feedback, where appropriate, has been incorporated into the current JPR.

Conclusion

The Project as proposed is in compliance with Plan Conservation Objectives for the WWFP relating to the conservation of Core Habitat for Coachella Valley milkvetch, Coachella Valley giant sand treader cricket, Coachella Valley fringe-toed lizard, Coachella Valley round-tailed ground squirrel, and Palms Springs pocket mouse; the conservation of Other Conserved Habitat for Le Conte's thrasher; and the conservation of sand fields, sand transport corridors, and Biological Corridors. The total disturbance footprint is within authorized limits and rough step parameters, assuming the portion of the property proposed for donation is permanently conserved through acquisition by CVCC. The parcel intended for donation will greatly benefit the permittee's progress towards meeting their conservation obligation under the Plan.

To be consistent with the CVMSHCP, the Project approval shall be conditioned on the implementation of the appropriate Avoidance, Minimization, and Mitigation measures (AMMs) as detailed in section 4.4 of the Plan documentation and included here in Appendix C. Special attention should be paid to AMMs for burrowing owl, LeConte's thrasher, Palm Springs pocket mouse, and fluvial sand transport. CVCC recommends that approval also be conditioned upon the implementation of the Plan's Land Use Adjacency Guidelines discussed in section 4.5 and included in Appendix C as well. CVCC encourages the applicant to monitor and control for any invasive species that may arise in disturbed soils, including stinknet. Finally, CVCC recommends that the Project be conditioned to require the permanent conservation of the 247-acre portion of the property proposed for donation to maintain the Project's rough step compliance.

Consistent with Riverside County Ordinance No. 875, "An applicant for a proposed Development Project may apply for Credit to reduce the amount of the Fee required to be paid prior to approval of the Development Project." The ordinance requires that, "Any Credit granted and the amount of the Fee to be paid shall be included as a condition of approval for the Development Project." Contingent on donation of the conservation land and meeting all other conditions of Ordinance 875, and given the appraised cost of the land exceeds the cost of the fee, CVCC recommends the applicant be granted a credit for the entirety of the Local Development Mitigation Fee that would otherwise be charged to this Project.

CVCC is coordinating with the applicant and County of Riverside in separate actions to enact the transfer of the donation parcel, granting of meteorological tower easement, and issuance of setback waiver.

Mountain View Power Partners-Species

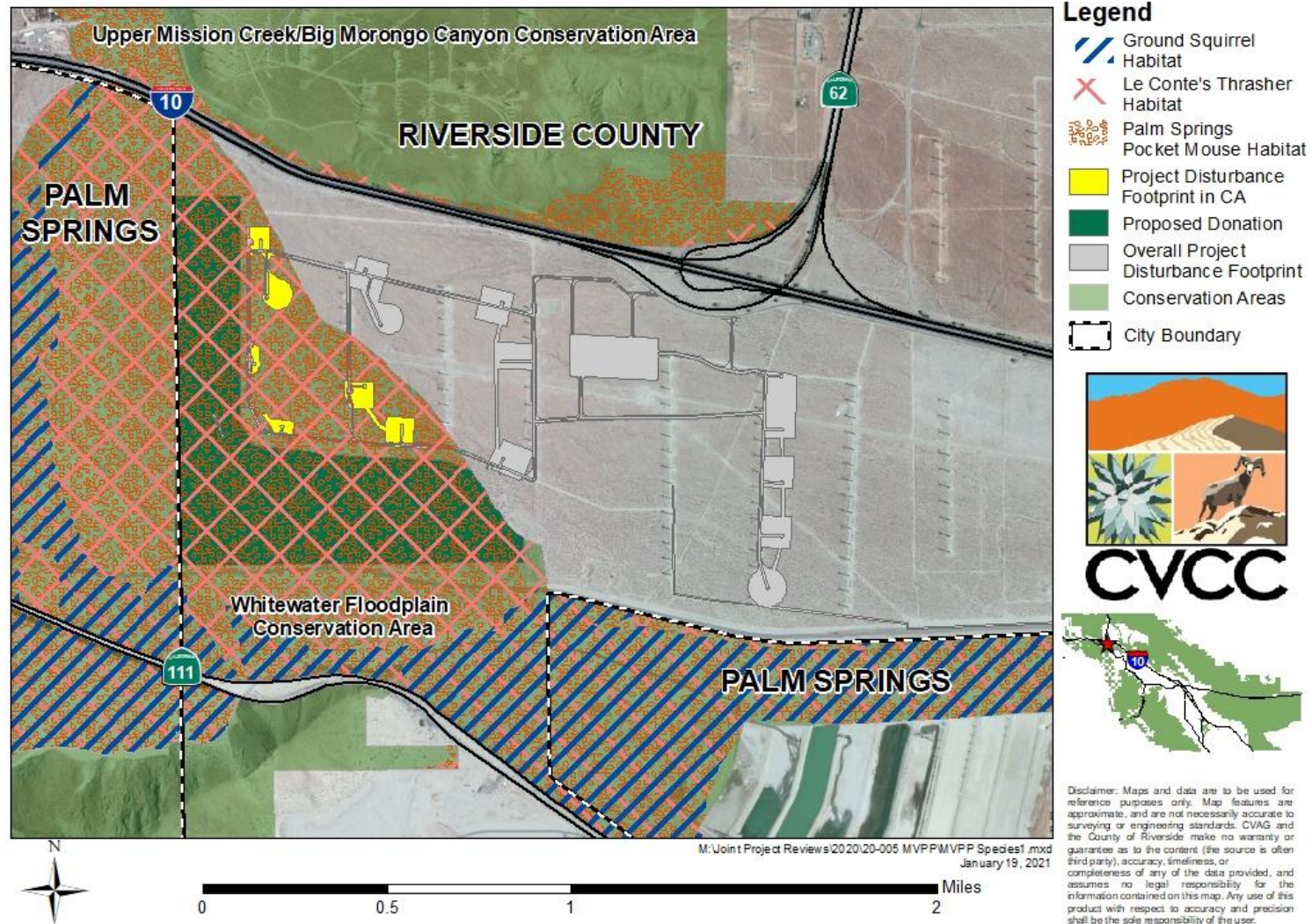


Figure 3: The Project will impact Core Habitat for Palm Springs pocket mouse, as well as Other Conserved Habitat for Le Conte's thrasher.

Mountain View Power Partners-Sand Transport & Biological Corridors

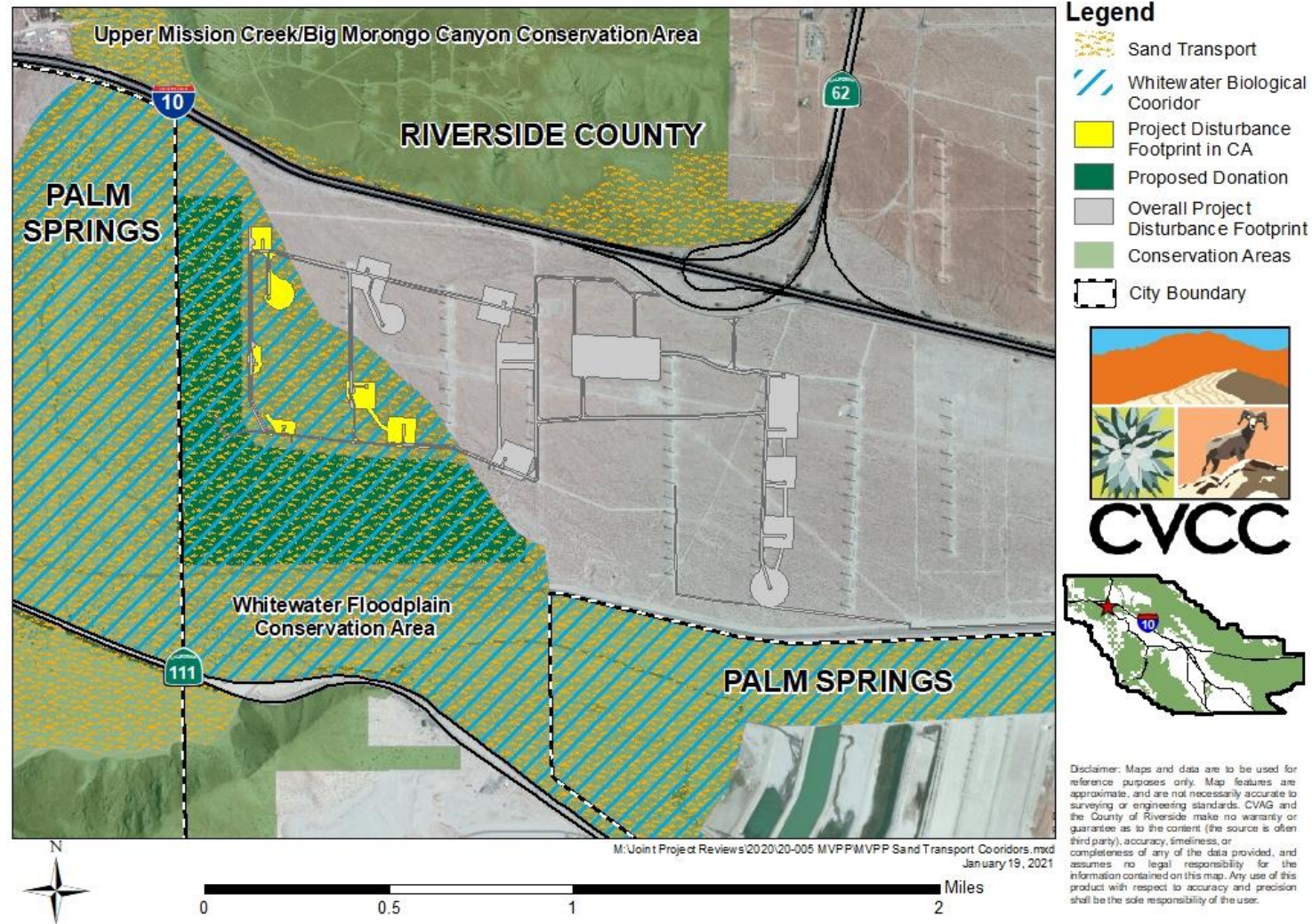


Figure 4: Biological Corridors and sand transport pathways will be impacted by the Project.

PDB200107**PAR200041****Received 10/7/2020****MEMORANDUM**

To: Katie Barrows, Coachella Valley Association of Governments
Oscar Vizcarra, Coachella Valley Association of Governments
Ken Baez, County of Riverside
Jay Olivas, County of Riverside

From: Dudek

Subject: Mountain View Power Partners Wind Repower Project
Coachella Valley Multiple Species Habitat Conservation Plan
Joint Project Review – Consistency Analysis

Date: October 7, 2020

cc: Michael Hughes, PE GC, AES
Charlie Karustis, Yavi Services

Attachment(s):

- Attachment 1: Figures 1 – 3
- Attachment 2: Biological Resources Technical Report¹ for Mountain View Power Partners Wind Repower Project, Riverside County, CA (Tetra Tech 2020).
- Attachment 3: Palm Springs Ground Squirrel Habitat Assessment of the Gabrych Set-Aside Parcel for the Mountain View Power Partners Wind Repower Project, Riverside County, California (Dudek 2020)
- Attachment 4: Mapbook – Species Models

The proposed Mountain View Power Partners (MVPP) Wind Repower Project (project or proposed project) is located within unincorporated Riverside County (County), Bureau of Land Management (BLM), and City of Palm Springs (City) jurisdictions, in a region situated in the northwestern portion of the Coachella Valley. The proposed project would repower and combine the existing Mountain View I & II wind farms through removal of 104 existing wind turbine generators (WTG), leaving 7 existing turbines in place, and installing 16 new, higher-capacity WTGs. Project components include the following: WTGs (including turbine pad, safety features, and transformer contained within WTG unit), the electrical collection system, access roads, temporary laydown yards, and parking. The existing Mountwind substation will be utilized for the proposed project.

The proposed project is within the boundary of the Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP), implemented by the Coachella Valley Association of Governments (CVAG), specifically the Coachella Valley Conservation Commission (CVCC) and the Permittees, one of which is the County of Riverside (County). A portion of the project, approximately 383.4 acres, overlaps the Whitewater Floodplain Conservation Area (WFCA) of the MSHCP within the County's jurisdiction (Figure 1; figures are provided in Attachment 1). Of the 383.4 acres overlapping the WFCA, the proposed project is donating 253.73 acres (hereafter referred to as the Gabrych Set-aside Parcel) to the CVCC to offset 18.9 acres¹ of impacts (permanent and temporary) within the WFCA. Of the proposed 253.73-acre donation to CVCC, 247 acres occur within the WFCA and 6.74 acres occur outside of the WFCA.

¹ The proposed project would result in a total of 26.1-acre of impacts (permanent and temporary) within the WFCA; however, this total includes previously authorized disturbance prior to implementation of the MSHCP. After deducting previously authorized

The purpose of this Memorandum (Memo) is to present the potential project impacts within the WFCAs and determine the project's consistency with the MSHCP. To solicit input in advance of the formal JPR submittal, a Pre-Joint Project Review (JPR) meeting was held on September 28, 2020, with the County, CVCC, the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS), the latter two entities collectively referred to as the "Wildlife Agencies."

1 Project Description

The proposed project would repower the existing wind farms with 16 new, Vestas 3.6 and 4.2 megawatt (MW) WTGs while removing 104 existing Mitsubishi 600 kW WTGs; 7 existing Mitsubishi 600 kW WTGs would remain as part of the repower project. The seven existing WTGs would be upgraded with new gearboxes and generators to improve electrical generation efficiency.

Six of the existing WTGs are located on BLM-owned land, and one existing WTG to remain is located on privately-owned land. Currently, two BLM right-of-way (ROW) grants cover 17 of the existing 111 WTGs: CACA-42139 and CACA-15562-A. MVPP will remove all 11 of the existing WTGs covered by ROW Grant CACA-15562-A by March 31, 2022 and terminate this ROW grant. These turbines are located on the Coachella Valley Water District (CVWD) groundwater infiltration ponds. Decommissioning requirements for these WTGs are covered by the ROW grant, and as such, removal of these 11 WTGs are not included as part of the proposed project.

ROW Grant CACA-42139 covers 6 of the 7 existing WTGs that will remain as part of the repower project. MVPP has submitted a SF-299 Form to the BLM requesting to extend the term of ROW Grant CACA-42139 for 30 years to April 21, 2057 as well as a request to replace the existing fiber optic cable system with new fiber optic cable, all within the footprint of the existing, disturbed access road. MVPP also is requesting to modify decommissioning language in the extended ROW grant that would limit the removal of WTG foundations to that portion of the foundation above the ground surface only and that the BLM allow the remaining portions of the WTG foundations below the ground surface to remain in place. All the existing WTGs possess pier foundations that extend a minimum of 25 feet below the ground surface. Limiting the decommissioning of WTG foundations to ground surface and above will significantly minimize ground disturbance, thus avoiding significant disturbance to surrounding wildlife and habitat.

1.1 Access Roads

Where feasible, the existing network of access roads would be retained and reused for the new WTGs. In addition to the existing access roads, approximately 6.25 miles of new, permanent access and maintenance roads would be constructed to provide access and circulation within the project site. Access roads would consist of compacted native material covered by approximately six inches of aggregate material to provide the soil strength needed for heavier equipment.

The primary construction access and haul ingress/egress for the project site would be from Garnet Avenue. Two ingress/egress points are proposed along the northern boundary of the site along Garnet Avenue. Minimal ground

disturbance acreage (7.2 acres), the total impact acreage is 18.9 acres. All acreage estimates used in this analysis have deducted the previously authorized disturbance acreage.

disturbance would be required within the public ROW to connect the project site access points to Garnet Avenue. Construction contractors would post signs on public roads, alerting the public of increased heavy construction traffic. When possible, delivery times would be planned around local peak travel periods to avoid congestion. Proposed on-site access roads would be utilized during construction activities. During construction, a 17-foot wide compacted subgrade shoulder would be developed on either side of the 16-foot wide roadways, except for the access roads between WTGs 3 and 4, 4 and 7, and 7 and 8 (each of these road segments within the WFCA), which would remain at 16-feet wide. Maximum width for temporary construction roads to support activities would not exceed 50 feet.

All permanent access roads outside of the WFCA would consist of 32-foot-wide aggregate dirt roads to accommodate crane transport during future O&M activities. Within the WFCA, permanent access roads would be limited to 16 feet in width to minimize impacts to biological resources and avoid impacts to jurisdictional Waters of the United States. The new, permanent access road layout would incorporate applicable federal and local standards regarding internal road design and circulation, particularly those provisions related to emergency vehicle access.

1.2 Temporary Laydown and Parking

An approximate 17-acre staging area would be developed in the northern portion of the project site, approximately 550 feet south of the project's western access point. The staging area would be utilized for parking and as a temporary laydown yard to stage WTG components, construction equipment, and construction materials. Steel construction containers would be used to securely store specialized equipment. This area is located strategically within the project site to optimize construction activities while also minimizing off-site visual impacts to the extent feasible. After construction, all temporary disturbances and construction containers associated with the temporary laydown and parking area would be removed.

Each WTG will require a temporary work area for WTG component deliveries and staging, the crane pad, and other construction-related needs. Within this temporary work area, a crane pad is required for supporting the large WTG erection crane. The crane pad would consist of a compacted native soil or compacted aggregate base gravel area.

1.3 Flagging/Staging

Environmentally sensitive areas would be staked, flagged or fenced, prior to ground disturbance activities, to display boundaries to ensure that sensitive ecological and/or archaeological resources would be avoided. MVPP would provide training to construction personnel regarding environmentally sensitive areas, avoidance measures, and the importance of identified exclusion areas that should be avoided.

1.4 Clearing and Grading

Each temporary WTG construction work area would require an approximate 2.0- to 2.5-acre area to be cleared and graded, depending on the project site topography. Clearing and grading would require an average of 6 daily workers and the use of one grader, one dozer, and one roller. The proposed repower project has been designed to limit disturbance within the WFCA to the extent practicable to preserve as much MSHCP species habitat as possible.

Construction of the proposed project would rely on existing roads to the extent possible. New on-site construction and operation roads would be constructed to provide access to each WTG. On-site access roads would be temporarily widened to a maximum width of 50 feet (except for those portions of the project within the WFCA) during construction to accommodate large construction equipment. The cut and fill required for the access roads is anticipated to be balanced. Clearing and grading activities are anticipated to be completed in approximately one month.

1.5 WTG Foundation Construction and Tower Erection

WTG foundations would be a spread-foot type design, below the ground surface, consisting of concrete and steel rebar, and would include scour protection provisions as necessary. WTG foundation design would be based on site-specific geotechnical investigations; soil borings would be collected at or near each WTG site to inform the appropriate WTG foundation design.

After the foundations are constructed, the WTGs would be erected and assembled using a combination of forklifts and construction cranes. Construction cranes would be located on the compacted earthen or gravel crane pad. WTG components would be transported to the project site by transport vehicles via the local highways and project access roads and assembled on site. Each WTG would require multiple deliveries for the WTG tower sections, blades, and nacelle. WTGs are anticipated to be transported from one or more of the following points of origin: the Mojave Rail Yard, Port of San Diego, and/or Pueblo, Colorado. Construction of the WTGs would require 32 to 34 daily workers, and WTG erection is anticipated to be completed in approximately four months.

Upon completion of WTG erection, a permanent 0.21-acre gravel apron would remain around each WTG for operations and maintenance activities and fire protection.

1.6 Construction of Electrical Collection System

The proposed underground electrical collection infrastructure would be installed via excavation due to the presence of cobbles and boulders throughout the site. Excavation would be performed with the use of a CAT 336 or similar-sized excavator. Underground circuits would be direct-buried between 36 and 48 inches, in accordance with applicable requirements including the National Electrical Code. The trench itself would be two feet wide, but the larger, temporary disturbance area could be up to 34 feet wide, which would accommodate temporary soil spoils piles generated from trenching, the trenching machine, and other vehicular traffic traveling adjacent to the electrical collection system trenching activities. The width of this temporary disturbance area would include a 12-foot wide area for trench excavation (for adequate slope stability of soil walls), a 5-foot wide OSHA Clear Zone, a 12-foot wide area for the spoils pile, and a 5-foot wide working area. There also would be 18 feet adjacent to the excavation zone for other vehicular traffic traveling adjacent to the electrical collection system trenching activities. Fiber-optic cables for WTG generator management and control would be installed within these same electrical collection trenches, as would a bare copper or copper-clad neutral ground wires. Vaults and splice boxes would be placed at selected underground locations within the proposed disturbance area.

1.7 Meteorological Tower

One new, free-standing, 91.5m tall monopole meteorological (MET) tower would be erected within the southwest portion of the project site. The applicant is pursuing monopole instead of lattice structure; however,

the type has yet to be determined. The proposed tower would be equipped with applicable FAA-compliant marking or lighting for aviation safety. Preferred lighting color has not yet been finalized, but is anticipated to be in warm tones (e.g., reds or oranges) versus LED or bright lighting in order to lower increased predation risk for small mammals. The MET tower would be constructed atop a 60-foot by 60-foot concrete foundation. A new 16-foot-wide access road would be constructed to provide access to the proposed MET tower. The proposed MET tower would be used to monitor and verify wind characteristics at the project site. The two existing MET towers within the project site would be demolished prior to project construction.

1.8 Facility Testing and Commissioning

As facilities are constructed, commissioning would take place to ensure all facilities are operating per applicable specifications. Each WTG would be tested and commissioned individually along with associated equipment. Upon all inspections being completed and certifications being provided by third-party inspectors, the proposed project would be fully operational and able to deliver energy to the electric grid.

1.9 Project Operations

The proposed project is anticipated to achieve commercial operation by December 31, 2022. Operations and Maintenance (O&M) activities for the proposed project would remain similar to the O&M activities conducted for the existing facility. Regularly scheduled maintenance of the proposed project would generally include lubrication of mechanical parts, cleaning of blades, and changing of fluids, performed in conformity with the manufacturer's guidelines. Occasionally, major overhauls or component replacements would be required, necessitating use of cranes or other equipment similar to that used during construction. Maintenance personnel would be on site on a regular basis to service WTGs, replace parts, and perform other O&M duties. No increase in the number of O&M personnel is expected.

1.10 Supervisory Control and Data Acquisition System

A supervisory control and data acquisition (SCADA) system would be included within each WTG to collect operating and performance data and to enable remote operation of the WTGs. The WTGs would be linked by a fiber-optic network to a central computer located in a nearby, offsite, operations center. The SCADA system's fiber-optic cables would be co-located with the project's electrical collection system circuits to the greatest extent possible. The SCADA system would be capable of sending signals to a cellphone, tablet, computer, or other personal communication device to alert O&M staff of any operational issues. The SCADA system would also be connected to the California Independent System Operator and Southern California Edison (SCE) data monitoring systems.

1.11 Decommissioning

Decommissioning would involve removing the WTGs and some of the foundations to a depth of no greater than 3 feet below the ground surface. Currently, it is unknown which foundations will be removed below grade versus left in place at grade. The preference is to leave decommissioned foundations in place except where they would obstruct new turbine and road facilities. Generally, WTGs either are refurbished and resold or recycled for scrap.

Underground collection system cables would be cut to three feet below grade and abandoned in place. All unsalvageable materials would be disposed of at authorized off-site disposal sites in accordance with federal, state, and local laws and regulations in effect at the time of decommissioning.

2 Methods

In preparation of this Memo, Dudek created a geographic information system (GIS) project geodatabase incorporating MSHCP layers and project-specific information including a proposed project boundary, project footprint (permanent and temporary), and proposed Gabrych Set-aside parcel layers. Program-specific GIS project files (mxd format) were created using ArcGIS software. Dudek GIS analyst Christopher Starbird incorporated the following GIS data into the project geodatabase: existing, available MSHCP layers (conservation areas, modeled species habitat, fluvial and Aeolian sand transport, biological corridors, and previously authorized disturbance areas, etc.); vegetation community and land cover data; digital, vector-based boundaries of vegetation communities and land covers (Tetra Tech 2020; Attachment 2); Palm Springs ground squirrel² (*Spermophilus [Xerospermophilus] tereticaudus chlorus*) habitat assessment mapping results (Brylski 2020; Attachment 3); and digital, vector-based boundaries of suitable habitat. This information was used in tandem to generate proposed project impacts within the WFCA.

The proposed project overlaps MSHCP modeled habitat for triple-ribbed milkvetch (*Astragalus tricarlinatus*), desert tortoise (*Gopherus agassizii*), Palm Springs ground squirrel, Palm Springs pocket mouse (*Perognathus longimembris bangsi*), and Le Conte's thrasher (*Toxostoma lecontei*). The project also overlaps MSHCP fluvial and aeolian sand transport and biological corridors. Impacts were calculated by intersecting proposed project impacts (permanent and temporary) with MSHCP modeled habitat, fluvial and aeolian sand transport, and biological corridors as further discussed in Section 4 of this Memo. Impact acreages calculated within this Memo have already deducted the acreage of previously authorized disturbance that overlap proposed project impacts.

Note that temporary impacts are discussed in the context of being permanent, and are being offset with donation of the Gabrych Set-aside Parcel within the WFCA. The project is not proposing revegetation or restoration of temporary impacts after project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas from root systems left intact. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally.

3 Existing Conditions

Approximately 383.4 acres of the project boundary overlap the WFCA. Of the 383.4 acres, approximately 253.73 acres (referred to as the Gabrych Set-aside Parcel) are being proposed for donation and conservation by MVPP. The majority of the Gabrych Set-aside Parcel is located within the WFCA. Specifically, 247 acres occur within the WFCA, and 6.74 acres occur outside of the WFCA.

Table 1 summarizes the existing vegetation communities within the project boundary that overlap with the WFCA. Figure 2 provides the geographic extent of existing WFCA vegetation communities within the project boundary.

² Also referred to as Coachella Valley round-tailed ground squirrel.

Table 1: Existing Vegetation Communities within Project Boundary that Overlap with the Whitewater Floodplain Conservation Area

Vegetation Community ¹	Acres in Conservation Area	Description
Cheesebush - Sweetbush Scrub	148.0	Cheesebush (<i>Ambrosia salsola</i>) and sweetbush (<i>Bebbia juncea</i>) were co-dominant in the shrub canopy.
Creosote Bush - White Bursage Scrub	30.6	White bursage (<i>Ambrosia dumosa</i>) and bush creosote (<i>Larrea tridentata</i>) were co-dominant in the shrub canopy.
Creosote Bush Scrub	1.5	Creosote bush was dominant in the shrub canopy.
White Bursage Scrub	4.2	White bursage was dominant in the shrub canopy.
Disturbed - White Bursage Scrub	39.5	Large scale anthropogenic causes (e.g., cattle grazing, grading) have significantly disturbed vegetation, compared to the undisturbed community. Intermittent white bursage was present with herbaceous plants including desert dandelion (<i>Malacothrix glabrata</i>), Fremont's pincushion (<i>Chaenactis fremontii</i>), and non-native species including stinknet (<i>Oncosiphon piluliferum</i>).
Disturbed	11.3	Areas that lacked development but were heavily influenced by human actions (e.g., grading, trash dumping, dirt roads). Vegetation was absent or consisted primarily of non-native species, such as red brome (<i>Bromus madritensis</i> ssp. <i>rubens</i>), redstem filaree (<i>Erodium cicutarium</i>), and Mediterranean grass (<i>Schismus barbatus</i>).
Sonoran Creosote Bush Scrub ²	148.2	Sonoran creosote bush scrub is the most widespread vegetation type in the Colorado Desert. It is dominated by creosote bush (<i>Larrea tridentata</i>). The physiognomy of the Sonoran creosote bush scrub community is simple because of low species diversity and the broad spacing of the shrubs, 0.5 - 3 meters tall, usually with bare ground between. The codominant species in the community is burrobush (<i>Ambrosia dumosa</i>). Many species of ephemeral herbs may flower in late Winter/early Spring if winter rains are sufficient.
Total	383.4	

Notes:¹ Vegetation community mapping completed by Tetra Tech (2020) unless otherwise denoted.² Vegetation community mapping based on mapping provided in the MSHCP (CVAG 2007)

3.1 Modeled Habitat

The goal of the WFCAs, as described by the MSHCP, is to conserve Core Habitat and associated ecological processes for the following species: Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, Coachella Valley fringe-toed lizard, Coachella Valley round-tailed ground squirrel (Palm Springs ground squirrel), and Palm Springs pocket mouse, allowing evolutionary processes and natural population fluctuations to occur. Additional goals include minimizing fragmentation, human-caused disturbance, and edge effects to Core Habitat by conserving contiguous Habitat and effective Linkages between patches of Core Habitat.

The proposed project does not overlap modeled Core Habitat for Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, or Coachella Valley fringe-toed lizard (refer to Attachment 4: Mapbook – Species Models, Sheet A, C and F). Of these species, the project boundary overlaps WFCAs Core Habitat for Palm Springs Pocket Mouse and overlaps Other Conserved Habitat for triple-ribbed milkvetch, desert tortoise, Palm Springs ground squirrel, and Le Conte's thrasher (Figure 2; also refer to Mapbook – Species Models, Sheet D, G, H, J, and K). The entirety of the project within the WFCAs is modeled as fluvial aeolian sand transport, and the majority of the project within the WFCAs is modeled as a biological corridor (Figure 2; also refer Mapbook – Species Models, Sheet M and N). The project includes the Gabrych Set-aside Parcel, which MVPP is proposing for MSHCP conservation.

Table 2 summarizes the acreage of existing vegetation communities present within MSHCP modeled habitat (Core Habitat and Other Conserved Habitat) within the WFCAs, which includes the Gabrych Set-aside Parcel.

Table 2: Species Modeled Habitat (acres) in Whitewater Floodplain Conservation Area Portion of Project

Vegetation Community ¹	Triple-ribbed Milkvetch (Other Conserved Habitat)	Desert Tortoise (Other Conserved Habitat)	Palm Springs Ground Squirrel (Other Conserved Habitat)	Palm Springs Pocket Mouse (Core Habitat)	Le Conte's Thrasher (Other Conserved Habitat)	Fluvial and Aeolian Sand Transport	Biological Corridors
Cheesebush - Sweetbush Scrub	136.62	148.04	11.50	148.04	148.04	148.04	148.04
Creosote Bush - White Bursage Scrub	6.88	30.55	5.90	29.37	30.55	30.55	30.55
Creosote Bush Scrub	0.05	1.53	--	--	1.53	1.53	1.53
White Bursage Scrub	4.20	4.24	--	4.24	4.24	4.24	4.24
Disturbed - White Bursage Scrub	1.98	39.53	8.98	39.53	39.53	39.53	39.53

Table 2: Species Modeled Habitat (acres) in Whitewater Floodplain Conservation Area Portion of Project

Vegetation Community ¹	Triple-ribbed Milkvetch (Other Conserved Habitat)	Desert Tortoise (Other Conserved Habitat)	Palm Springs Ground Squirrel (Other Conserved Habitat)	Palm Springs Pocket Mouse (Core Habitat)	Le Conte's Thrasher (Other Conserved Habitat)	Fluvial and Aeolian Sand Transport	Biological Corridors
Sonoran Creosote Bush Scrub ²	135.49	148.22	2.28	147.78	148.22	148.22	148.22
Disturbed	6.51	11.27	1.57	11.26	11.27	11.27	11.27
Total	291.73	383.38	30.24	380.22	383.39	383.39	383.39

Notes:

¹ Vegetation community mapping completed by Tetra Tech (2020) unless otherwise denoted.

² Vegetation community mapping based on mapping provided in the MSHCP (CVAG 2007).

3.2 Species Surveys Results

The following sections summarize project surveys conducted in Spring and Summer of 2020. Full details of methods and results are provided in the Tetra Tech Biological Report, refer to Attachment 2(Tetra Tech 2020). Results are illustrated in Figure 2.

Desert Tortoise

A protocol-level desert tortoise survey was conducted at the project site in May 2020 (Tetra Tech 2020). The survey was conducted according to USFWS's *Preparing for any Action That May Occur Within the Range of Mojave Desert Tortoise* (USFWS 2019), which requires a 100-percent coverage pedestrian transect survey of the project site prior to construction activities. The desert tortoise survey was also performed in accordance with the survey requirements outlined in the MSHCP for Conservation Areas.

A total of seven potential desert tortoise burrows were found during the survey. All seven burrows were characterized as Class 4 burrows, which are described as “good condition, possible tortoise” per the *USFWS Desert Tortoise (Mojave Population) Field Manual* (2009).

No desert tortoise individuals or sign (e.g., scat, tracks) were observed during the survey, but the burrows were of appropriate size and shape to potentially have been made or used by desert tortoise.

Rare Plants

A rare plant survey was conducted at the project in April and May 2020 (Tetra Tech 2020). No special-status plants were found during the surveys. Rainfall for the wet season of 2019-2020 was considered average for the area (less than 10 inches) (Weather Underground 2020). The timing of surveys was considered adequate for detection of all potential special-status plant species.

Burrowing Owl

Observations of LeConte's thrasher, burrowing owl, and suitable burrowing owl burrows were documented during the rare plant survey. Burrowing owl burrow checks were conducted for documented suitable burrows. Two checks for burrowing owl were conducted in June 2020.

A total of six potential burrowing owl burrows (i.e., B1- B5 and B8; Figure 2) were observed within the WFCA during the 2020 surveys. Burrows B1 and B4 did not show signs of burrowing owl occupancy. Burrow locations B2 and B3 are located approximately 60 feet apart and included two adjacent burrows at each location. A total of nine burrowing owl observations (the highest number of owls observed at each burrow location on a single survey date) were observed within the B2 and B3 burrow complex. It is presumed that the same owls were observed during each survey. Additionally, an incidental observation of a burrowing owl occurred during a Dudek cultural survey conducted for the project in 2020. The individual was flushed from active burrow B8 (i.e., burrowing owl pellets were observed immediately outside the burrow), which is located approximately 200 feet southwest of the B2 and B3 complex. Due to proximity, this individual is assumed to be part of the family group observed at the B2 and B3 burrow complex. Burrow B5 was occupied by five burrowing owls (including juveniles).

LeConte's thrasher was not observed during project surveys conducted in 2020.

Palm Springs Ground Squirrel

A field assessment of Palm Springs ground squirrel habitat at the project site was undertaken in August 2020 by small mammal biologist Phil Brylski³. This assessment determined that the modeled habitat in the northeast portion of the project site is suitable for the species; however, the modeled habitat along the western boundary, particularly within the WFCA, provides poor quality habitat due to the predominance of boulders and cobbles and limited suitable sandy soils.

There is 30.24 acres of modeled ground squirrel habitat within the vicinity of proposed project construction but very little modeled ground squirrel habitat along the western and southern edges of the project area that falls within the WFCA (the Gabrych Set-aside Parcel). However, the August 2020 survey identified several areas of suitable ground squirrel habitat within the proposed Gabrych Set-aside Parcel. Additionally, three individuals of Palm Springs ground squirrel were observed within the Gabrych Set-aside Parcel. Other than the Gabrych Set-aside Parcel, there were no observations of this species during the field (habitat) assessment.

4 Potential Impacts

The proposed project would result in approximately 18.9 acres of disturbance (permanent and temporary) within the WFCA, which excludes the previously authorized disturbance acres. A preliminary assessment of project impacts to the WFCA, including modeled species habitat, fluvial and aeolian sand transport, and biological corridors, has been conducted. The site plan has gone through numerous iterations to avoid and minimize impacts to sensitive resources. Table 3 provides estimated project impacts to MSHCP modeled habitat within the WFCA.

The MSHCP states that if old turbines are removed and the former impact area is restored to a natural condition, an equal new area may be disturbed without counting toward the calculation of net disturbance. The project intends for

³ Report is under preparation; citation will be provided upon completion of the report.

the Gabrych Set-aside Parcel donation to offset both temporary and permanent impacts to modeled habitat within the WFCa. In fact, after the Gabrych Set-aside parcel is donated, there will be a surplus of modeled species habitats, fluvial and aeolian sand transport, and biological corridors acreage created.

Table 3: Impacts to Modeled Habitat (acres) in the Whitewater Floodplain Conservation Area Portion of Project

Species Modeled Habitat	Type of Modeled Habitat	Permanent Impacts ¹	Temporary Impacts ²	Total Impacts ³	Conserved Habitat in Gabrych Set-aside Parcel	Conservation to Impact Ratio
Triple-ribbed Milkvetch	Other Conserved Habitat	0.46	3.93	4.39	229.55	52.1:1
Desert Tortoise	Other Conserved Habitat	1.48	17.42	18.9	246.98	13.1:1
Palm Springs Ground Squirrel	Other Conserved Habitat	0.09	1.98	2.07	4.19	2:1
Palm Springs Pocket Mouse	Core Habitat	1.48	17.42	18.9	245.96	13:1
Le Conte's Thrasher	Other Conserved Habitat	1.48	17.42	18.9	246.98	13.1:1
Fluvial and Aeolian Sand Transport	NA	1.48	17.42	18.9	246.98	13.1:1
Biological Corridors	NA	1.48	17.42	18.9	253.72	13.4:1

Notes:

¹ Permanent impacts include turbine pads and permanent new access roads

² Temporary impacts include temporary construction areas, laydown yards, and temporary parking

³ For purposes of determining rough step and conservation requirements, both temporary and permanent were included in the total acres of proposed disturbance for purposes of determining rough step. This total acreage includes acreage deductions of previously authorized disturbances and only accounts for total impacts of new disturbances as a result of project implementation.

Based on the acreages outlined in Table 3, all project impacts to modeled species habitat, other than the Palm Springs ground squirrel, are offset by a ratio of 13 acres or greater of conservation acreage to 1 acre of project impacts as a result of donating the Gabrych Set-aside Parcel to CVCC. Impacts to modeled species habitat for the Palm Springs ground squirrel and the offset afforded by donating the Gabrych Set-aside Parcel are further discussed below.

4.1 Palm Springs Ground Squirrel

There is a total of 30.24 acres of MSHCP modeled habitat for Palm Springs ground squirrel within the project boundary that overlaps the WFCa (refer to Mapbook – Species Models, Sheet H). Of the 30.24 acres, the proposed project would result in a total impact of 2.07 acres of modeled habitat for Palm Springs ground squirrel, specifically 0.09 acre of permanent impacts and 1.98 acres of temporary impacts. MVPP has worked diligently to minimize project construction disturbance, and the resulting temporary and permanent disturbance acreages for modeled ground squirrel habitat represent the minimum disturbance acreages that preserve viable project economics. MVPP is proposing to donate the Gabrych Set-aside Parcel, which includes 4.19 acres of MSHCP modeled habitat for Palm

Springs ground squirrel; therefore, the project would result in a conservation/impact ratio of 2:1 for Palm Springs ground squirrel based solely on MSHCP modeled habitat.

Phil Brylski, wildlife biologist, conducted a field assessment for Palm Springs Ground squirrel in August 2020, within the Gabrych Set-aside Parcel, to assess additional areas that may provide suitable habitat for Palm Springs ground squirrel (Brylski 2020). Of the 4.19 acres of Palm Springs ground squirrel modeled habitat that would be conserved within the Gabrych Set-aside Parcel, the field assessment concluded that only 3.17 acres of this 4.19-acre modeled habitat is suitable for the ground squirrel. On the other hand, the habitat assessment identified an additional 33.81 acres of suitable habitat for Palm Springs ground squirrel within the Gabrych Set-aside Parcel, not included in the original MSHCP modeled habitat. Therefore, there is a total of 36.98 acres of suitable habitat for Palm Springs ground squirrel within the Gabrych Set-aside Parcel, within the WFCAs, which will be donated to CVCC to offset project impacts (see Mapbook – Species Models, Sheet I). Based on the additional suitable habitat identified during the field assessment, donation of the Gabrych Set-aside Parcel would result in a “conservation to impact” ratio of 17.9:1 for Palm Springs ground squirrel. As discussed in Section 3.2 of this Memo, three individuals of Palm Springs ground squirrel were observed within the Gabrych Set-aside Parcel, thereby affirming that suitable habitat exists and is occupied outside of the designated MSHCP modeled habitat for this species.

Acreage of MSHCP modeled habitat and the results of the August 2020 habitat assessment for Palm Springs ground squirrel is detailed in Table 4.

Table 4: Palm Springs Ground Squirrel Impacts to Modeled Habitat and Suitable Habitat (acres) in Whitewater Floodplain Conservation Area Portion of Project

	Permanent Impacts	Temporary Impacts	Total Impacts ¹	Conserved in Gabrych Set-aside Parcel	Conservation to Impact Ratio
MSHCP Palm Springs Ground Squirrel Modeled Habitat	0.09	1.98	2.07	4.19	2:1
Palm Springs Ground Squirrel Suitable Habitat – Field Assessment ²	0.09	1.98	2.07	36.98³	17.9:1

Notes:

- ¹ For purposes of determining rough step and conservation requirements, both temporary and permanent were included in the total acres of proposed disturbance. This total acreage includes acreage deductions of previously authorized disturbances and only accounts for total impacts of new disturbances as a result of project implementation.
- ² This field assessment was conducted on existing modeled habitat and on the proposed Gabrych Set-aside Parcel in August 2020, which included areas not designated by the MSHCP as Palm Springs ground squirrel modeled habitat.
- ³ This includes the original 3.17 acres of suitable habitat within the MSHCP Palm Springs ground squirrel modeled habitat.

5 MSHCP Consistency

Covered Activities within MSHCP conservation areas must be consistent with conservation objectives of the conservation area within which they’re located, as outlined in MSHCP, Sections 4.3 and 4.4. This section outlines the project’s consistency with MSHCP, Sections 4.3 and 4.4.

5.1 Consistency with MSHCP Section 4.3, Conservation Area Objectives

The following section outlines the Conservation Objections, as outlined in MSHCP Section 4.3.6 for the WFCA, and describes the project's consistency with each objective.

1. In total, 4,140 acres of the WFCA shall be conserved.

Consistency: The project would result in 18.9 acres of impacts, specifically 1.48 acres of permanent impacts and 17.42 acres of temporary impacts, within the WFCA and would contribute 247 acres⁴ to conservation within the WFCA; therefore, the project is consistent with this MSHCP Conservation Objective.

2. Conserve Core Habitat and associated ecological processes (as set forth below) for Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, Coachella Valley fringe-toed lizard, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse, allowing evolutionary processes and natural population fluctuations to occur. Minimize fragmentation, human-caused disturbance, and edge effects to Core Habitat by conserving contiguous Habitat and effective Linkages between patches of Core Habitat.
 - a. Conserve at least 2,671 acres of Core Habitat for the Coachella Valley milkvetch in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 58 acres in the unincorporated Riverside County portion of the area.

Consistency: The proposed project does not overlap Core Habitat for Coachella Valley milkvetch; therefore, this Conservation Objective is not applicable to the project.

- b. Conserve at least 2,659 acres of Core Habitat for the Coachella Valley giant sand-treader cricket in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 57 acres in the unincorporated Riverside County portion of the area.

Consistency: The proposed project does not overlap Core Habitat for Coachella Valley giant sand-treader cricket; therefore, this Conservation Objective is not applicable to the project.

- c. Conserve at least 2,659 acres of Core Habitat for the Coachella Valley fringe-toed lizard in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 57 acres in the unincorporated Riverside County portion of the area.

Consistency: The proposed project does not overlap Core Habitat for Coachella Valley fringe-toed lizard; therefore, this Conservation Objective is not applicable to the project.

- d. Conserve at least 2,955 acres of Core Habitat for the Coachella Valley round-tailed ground squirrel in the Palm Springs portion of the area, at least 59 acres in the Cathedral City portion of the area, and at least 100 acres in the unincorporated Riverside County portion of the area.

Consistency: The proposed project overlaps Palm Springs ground squirrel (Other Conserved Habitat). As detailed in Table 3 above, the project would conserve substantially more habitat for the target species than it would permanently impact. Additionally, project impacts are limited to small, disjointed areas resulting from turbine pad construction and would not result in habitat fragmentation or

⁴ An additional 6.74 acres within the Gabrych Set-aside Parcel would be donated to CVCC to offset project impacts; however, this acreage lies outside of the WFCA.

disruption to linkages between patches of Core Habitat. The project would implement measures to be consistent with the MSHCP Section 4.5, Land Use Adjacency Guidelines, and would therefore minimize human-caused disturbance and potential edge effects. For these reasons, the project is consistent with this MSHCP Conservation Objective.

- e. Conserve at least 3,122 acres of Core Habitat for the Palm Springs pocket mouse in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 477 acres in the unincorporated Riverside County portion of the area.

Consistency: The proposed project overlaps Palm Springs pocket mouse (Core Habitat). As detailed in Table 4 above, the project would conserve substantially more habitat for the target species than it would permanently impact. Additionally, project impacts are limited to small, disjointed areas resulting from turbine pad construction and would not result in habitat fragmentation or disruption to linkages between patches of Core Habitat. The project would implement measures to be consistent with the MSHCP Section 4.5, Land Use Adjacency Guidelines, and would therefore minimize human-caused disturbance and potential edge effects. For these reasons, the project is consistent with this MSHCP Conservation Objective.

- f. Conserve at least 3,484 acres of the fluvial and aeolian sand transport area in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 481 acres in the unincorporated Riverside County portion of the area. Maintain the current capacity for fluvial sand transport in the Whitewater River floodplain.

Consistency: As detailed in Table 3 above, the project would conserve substantially more sand transport area than it would permanently impact; therefore, the project is consistent with this MSHCP Conservation Objective.

3. Conserve occupied burrowing owl burrows as described in Section 4.4 for burrowing owl avoidance, minimization, and mitigation measures.

Consistency: The 2020 field surveys documented six potential burrows (i.e., B1- B5 and B8; Figure 2). One of these is within a proposed temporary disturbance area. The project will avoid occupied burrows in accordance with the MSHCP as summarized below.

- **BUOW-1.** A pre-construction survey will be performed by an Acceptable Biologist between 14 and 30 days of ground disturbance or vegetation removal. The following will apply if occupied burrowing owl burrows are found, in accordance with MSHCP Section 4.4. The burrow will be flagged to include a 160-foot buffer during the non-breeding season (September 1 to January 31), a 250-foot buffer during the breeding season (February 1 to August 31), or a buffer to the edge of the property boundary if less than 500 feet, will be established around the burrow. The buffer will be staked and flagged. No development or operation and maintenance activities will be permitted within the buffer until the young are no longer dependent on the burrow, as determined by an Acceptable Biologist.
- **BUOW-2.** If owl burrows cannot be avoided, the following measure will be implemented:
If a burrow is determined to be unoccupied, the burrow can be made inaccessible to owls and the activity may proceed. If either a nesting or escape burrow is occupied, owls shall be relocated pursuant to accepted USFWS and CDFW protocols. A burrow is assumed occupied if records indicate that, based on surveys conducted following protocol, at least one burrowing owl has been

observed occupying a burrow on site during the past three years. Determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g., distance to nearest suitable habitat and presence of burrows within that habitat) in coordination with the USFWS and CDFW. Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with USFWS and CDFW.

4. Conserve at least 3,433 acres of Other Conserved Habitat for Le Conte's thrasher in the Palm Springs portion of the area, at least 61 acres in the Cathedral City portion of the area, and at least 480 acres in the unincorporated Riverside County portion of the area. Conserve Le Conte's thrasher nesting sites as described in Section 4.4 for avoidance, minimization, and mitigation measures.

Consistency: As detailed in Table 3 above, the project would conserve substantially more habitat for Le Conte's thrasher than it would permanently impact; therefore, the project is consistent with this MSHCP Conservation Objective.

5. Conserve at least 392 acres of the active desert sand fields in the Palm Springs portion of the area; at least 43 acres of the active desert sand fields in the Cathedral City portion of the area; at least 1,185 acres of the ephemeral desert sand fields in the Palm Springs portion of the area and at least 52 acres in the unincorporated Riverside County portion of the area for the conservation of these natural communities; at least 394 acres of the stabilized and partially stabilized desert sand fields in the Palm Springs portion of the area and at least 4 acres of the stabilized and partially stabilized desert sand fields in the unincorporated Riverside County portion of the area. As these conserved natural communities are all part of the Core Habitat areas identified in Conservation Objective 2 for this area, attainment of that objective will also achieve this objective.

Consistency: The proposed project does not overlap active desert sand fields, ephemeral desert sand fields, or stabilized and partially stabilized desert sand fields; therefore, this Conservation Objective is not applicable to the project.

6. Maintain functional Biological Corridors and Linkages by conserving at least 475 acres of identified Biological Corridor in the unincorporated portion of the Conservation Area, at least 809 acres of identified Biological Corridor in the City of Palm Springs' portion, and at least 18 acres of identified Biological Corridor in the City of Cathedral City portion, such that the functionality of each individual Biological Corridor listed below is not compromised:
 - a. Conserve the Whitewater River Biological Corridor south of I-10 in the unincorporated area to maintain potential Habitat connectivity for desert tortoise, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse, and to maintain ecosystem function for Covered Species. Aside from the freeway bridge and any Existing Use areas, which are unavoidably narrow segments, the Biological Corridor shall expand to one mile wide to minimize edge effects.

Consistency: As detailed in Table 3 above, the project would conserve substantially more habitat within the Whitewater River Biological Corridor than it would permanently impact. Additionally, project impacts are limited to small, disjointed areas resulting from turbine pad construction and would not result in habitat fragmentation or disruption to linkages. The project would implement measures to be consistent with the MSHCP Section 4.5, Land Use Adjacency Guidelines, and would therefore minimize

human-caused disturbance and potential edge effects. For these reasons, the project is consistent with this MSHCP Conservation Objective

- b. Conserve the Mission Creek Biological Corridor south of the freeway in the Palm Springs portion of the Conservation Area to maintain potential Habitat connectivity for Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse, and to maintain ecosystem function for Covered Species. Aside from the freeway culvert and any Existing Use areas, which are unavoidably narrow segments, the Biological Corridor shall expand to one mile wide to minimize edge effects.

Consistency: The proposed project does not overlap the area described within this Conservation Objective; therefore, this Conservation Objective is not applicable to the project.

- c. Conserve the Willow wash area south of the I-10 in Palm Springs and in Cathedral City to maintain potential Habitat connectivity for Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse, and to maintain ecosystem function for Covered Species. Aside from the freeway culverts and any Existing Use areas, which are unavoidably narrow segments, the Biological Corridor shall expand to one mile wide to minimize edge effects.

Consistency: The proposed project does not overlap the area described within this Conservation Objective; therefore, this Conservation Objective is not applicable to the project.

- d. Maintain the ability of wildlife to cross Indian Avenue and Gene Autry Trail by providing undercrossings for Coachella Valley fringe-toed lizard, flat-tailed horned lizard, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse if these roads are widened to six lanes or more.

Consistency: The proposed project does not overlap the area described within this Conservation Objective; therefore, this Conservation Objective is not applicable to the project.

5.2 Consistency with MSHCP Section 4.4, Required Avoidance, Minimization and Mitigation Measures

Measures from MSHCP Section 4.4 that are not applicable to the project are because they are either specific to other conservation areas or there is no modeled habitat for the species within the project boundary for these species: little San Bernardino mountains linanthus, Peninsular bighorn sheep, Palm Springs pocket mouse⁵, crissal thrasher, covered riparian birds.

The following sections outline the Avoidance and Minimization Measures within the WFCA that are applicable and describe the project's consistency with each measure. Note that Biological Corridors are discussed under Section 5.1 (No. 6, a through d) above.

5.2.1 Burrowing Owl

MSHCP Section 4.4 contains measures for avoiding impacts to burrowing owl in the WFCA. These measures are provided above in Section 5.1, 1 through 4, of this Memo.

⁵ While there is modeled habitat within the project boundary, the conservation measure for this species in Section 4.4 of the MSHCP specifically applies to the Upper Mission Creek/Big Morongo Canyon and Willow Hole Conservation Areas.

Consistency: As described in Section 5.1 of this Memo, the project would implement measures for burrowing owl as described to avoid occupied burrows.

5.2.2 Desert Tortoise

Focused protocol-level presence/absence surveys for desert tortoise conducted in 2020 for the project were negative. In addition, the site is located at the extreme western extent of the known range for desert tortoise, and the habitat present is degraded due to existing development and associated disturbances. However, seven burrows (all Class 4) found within the site during the survey have the potential to be used by desert tortoise; therefore, the following measure will be implemented by the project as required by the MSHCP:

- **DT-1.** A pre-construction survey on the development site and within 200 feet of the site will be conducted no more than 90 days prior to construction to ensure that no desert tortoises are on the site, in accordance with MSHCP Section 4.4. The survey is valid for 90 days or indefinitely if tortoise-proof fencing is installed around the development site.

The following measures from MSHCP Section 4.4 for desert tortoise will also be implemented as required for projects occurring in conservation areas:

- **DT-2.** Personnel conducting operation and maintenance activities will be instructed to be alert for the presence of desert tortoise. If a tortoise is spotted, activities adjacent to the tortoise's location will be halted and the tortoise will be allowed to move away from the activity area. If the tortoise is not moving, it will be relocated by an Acceptable Biologist to nearby suitable habitat and placed in the shade of a shrub. To the maximum extent feasible, operation and maintenance activities will avoid the period from February 15 and October 31.
- **DT-3.** Two utility development protocols, inactive and active season, provide specific direction on site preparation and construction phases of utility projects in conservation areas. The inactive season protocol must be used for utility maintenance or development within the November 1 - February 14 time-frame; the active season protocol must be used for utility maintenance or development within the February 15 - October 31 time-frame. Deviations from these time frames must be presented to the Reserve Management Oversight Committee. These protocols are detailed within MSHCP Section 4.4. The applicable measures described in these protocols will be implemented prior to and during project activities.
- **DT-4.** Upon locating dead, injured, or sick desert tortoises under any utility or road project, initial notification by the contact representative or Acceptable Biologist must be made to the USFWS or CDFW within three working days of its finding. Written notification must be made within five calendar days with the following information: date; time; location of the carcass; photograph of the carcass; and any other pertinent information. Care must be taken in handling sick or injured animals to ensure effective treatment and care. Injured animals shall be taken care of by the Acceptable Biologist or an appropriately trained veterinarian. Should any treated tortoises survive, USFWS or CDFW should be contacted regarding the final disposition of the animals.

5.2.3 LeConte's Thrasher

Surveys conducted for the project in Spring of 2020 did not detect LeConte's thrasher within the project area; however, the following measure from MSHCP Section 4.4 will be implemented:

- **LCT-1.** During the nesting season, January 15 - June 15, prior to the start of construction activities, surveys will be conducted by an Acceptable Biologist on the construction site and within 500 feet of the construction site, or to the property boundary if less than 500 feet. If nesting Le Conte's thrashers are found, a 500-foot buffer, or to the property boundary if less than 500 feet, will be established around the nest site. The buffer will be staked and flagged. No construction will be permitted within the buffer during the breeding season of January 15 - June 15 or until the young have fledged.

5.2.4 Triple-ribbed Milkvetch

Focused surveys conducted in Spring 2020 for this species (Tetra Tech 2020) were negative, and there are no known occurrences of this species within the project boundary; therefore, the project is consistent with this MSHCP requirement regarding known occurrences of the species as maintained on a map by CVCC will not be disturbed.

In accordance with MSHCP Section 4.4, the following measure will be implemented:

- **TRMV-1.** If project activities are conducted during the growing and flowering period of the species from February 1 to May 15, focused surveys for the species will be conducted by an Acceptable Biologist prior to initiation of activities. Any occurrences of the species will be flagged, and project activities shall avoid impacts to the plants to the maximum extent feasible.

5.2.5 Fluvial Sand Transport.

Section 4.4 states that Covered Activities, including O&M of facilities and construction of permitted new projects, in fluvial sand transport areas will be conducted in a manner to maintain the fluvial sand transport capacity of the system.

The proposed project does not include any modifications to the drainage or fluvial transport in the project area. New structures, including turbine pads and access roads, and temporary construction areas, including staging areas and laydown areas, have been sited outside of active waterways (Figure 3). As a result, the project would maintain existing fluvial sand transport capacity and flow.

5.3 Consistency with MSHCP Section 4.5, Land Use Adjacency Guidelines

Per MSHCP, Section 4.5, the purpose of Land Use Adjacency Guidelines is to avoid or minimize indirect effects from development adjacent to or within MSHCP Conservation Areas. The following section outlines the Land Use Adjacency Guidelines and describes the project's consistency with each, if applicable.

5.3.1 Drainage

Proposed Development adjacent to or within a Conservation Area shall incorporate plans to ensure that the quantity and quality of runoff discharged to the adjacent Conservation Area is not altered in an adverse way when compared with existing conditions. Stormwater systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the adjacent Conservation Area.

Consistency: The project will prepare a stormwater pollution prevention plan (SWPPP), and a spill prevention control and countermeasure plan as required by County of Riverside regulations to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the adjacent Conservation Area. Therefore, the project is consistent with this MSHCP Land Use Adjacency Guideline.

5.3.2 Toxics

Land uses proposed adjacent to or within a Conservation Area that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife and plant species, Habitat, or water quality shall incorporate measures to ensure that application of such chemicals does not result in any discharge to the adjacent Conservation Area.

Consistency: As discussed under Section 5.3.1 above, the project will prepare a SWPPP; therefore, the project is consistent with this MSHCP Land Use Adjacency Guideline.

5.3.3 Lighting

For proposed Development adjacent to or within a Conservation Area, lighting shall be shielded and directed toward the developed area. Landscape shielding or other appropriate methods shall be incorporated in project designs to minimize the effects of lighting adjacent to or within the adjacent Conservation Area in accordance with the guidelines to be included in the Implementation Manual.

Consistency: Construction activities would be conducted during the daytime; no nighttime lighting would be required for project construction. Aviation warning lights are required as part of turbine operation. Consistent with FAA rules established in Advisory Circular 70/7460-1L: exterior lighting installed on WTGs would be restricted and would only include FAA aviation warning lights. The project will be reducing the number of aviation warning lights as compared to greater number of existing turbines that will be removed. Therefore, the project is consistent with this MSHCP Land Use Adjacency Guideline.

5.3.4 Noise

Proposed Development adjacent to or within a Conservation Area that generates noise in excess of 75 dBA Leq hourly shall incorporate setbacks, berms, or walls, as appropriate, to minimize the effects of noise on the adjacent Conservation Area in accordance with the guidelines to be included in the Implementation Manual.

Consistency: As noted, the proposed project includes the construction of 16 new, Vestas 3.6 and 4.2 MW WTGs while removing 104 existing Mitsubishi 600 kW WTGs; 7 existing Mitsubishi 600 kW WTGs would remain as part of the repower project. The project will be reducing the amount of turbines as compared to existing conditions and overall reducing noise generated from turbine operations. Therefore, the project is consistent with this MSHCP Land Use Adjacency Guideline.

5.3.5 Invasives

Invasive, non-native plant species shall not be incorporated in the landscape for land uses adjacent to or within a Conservation Area. Landscape treatments within or adjacent to a Conservation Area shall incorporate native plant materials to the maximum extent Feasible; recommended native species are listed in Table 4-112. The plants listed in Table 4-113 shall not be used within or adjacent to a Conservation Area. This list may be amended from time to time through a Minor Amendment with Wildlife Agency Concurrence.

Consistency: The proposed project does not include any landscaping or proposed revegetation/restoration within the project area. Therefore, this MSHCP Land Use Adjacency Guideline is not applicable to the project.

5.3.6 Barriers

Land uses adjacent to or within a Conservation Area shall incorporate barriers in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping in a Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls and/or signage.

Consistency: The existing project includes existing gates and signage, which will be maintained for the proposed project to minimize unauthorized public access. Therefore, the project is consistent with this MSHCP Land Use Adjacency Guideline.

5.3.7 Grading/Land Development

Manufactured slopes associated with site Development shall not extend into adjacent land in a Conservation Area.

Consistency: The proposed project does not include any manufactured slopes extending into the adjacent Conservation Area; therefore, this MSHCP Land Use Adjacency Guideline is not applicable to the project.

6 Conclusion

Based on the information provided above, the proposed project is consistent with the MSHCP.

7 References

Brylski 2020. Habitat Assessment for Palm Springs Ground Squirrel for Mountain View Power Partners Wind Repower Project. In Progress September 2020.

Coachella Valley Association of Governments (CVAG) 2007. Final Recirculated Coachella Valley Multiple Species Habitat Conservation Plan. September 2007. Amended in August 2016.

Tetra Tech 2020. Biological Resources Technical Report for Mountain View Power Partners Wind Repower Project, Riverside County, CA. Prepared for AES, MVPP North American Development, LLC. 690 North

Studebaker Road, Long Beach, CA 90803. Prepared by Tetra Tech, Inc. 5383 Hollister Avenue, Suite 130, Santa Barbara, CA 93111. August 2020.

U.S. Fish and Wildlife Service (USFWS) 2019 Preparing for Any Action that May Occur within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*). October 8.

List of Dudek Preparers

Britney Strittmater, Senior Biologist

Christopher Starbird, GIS Analyst

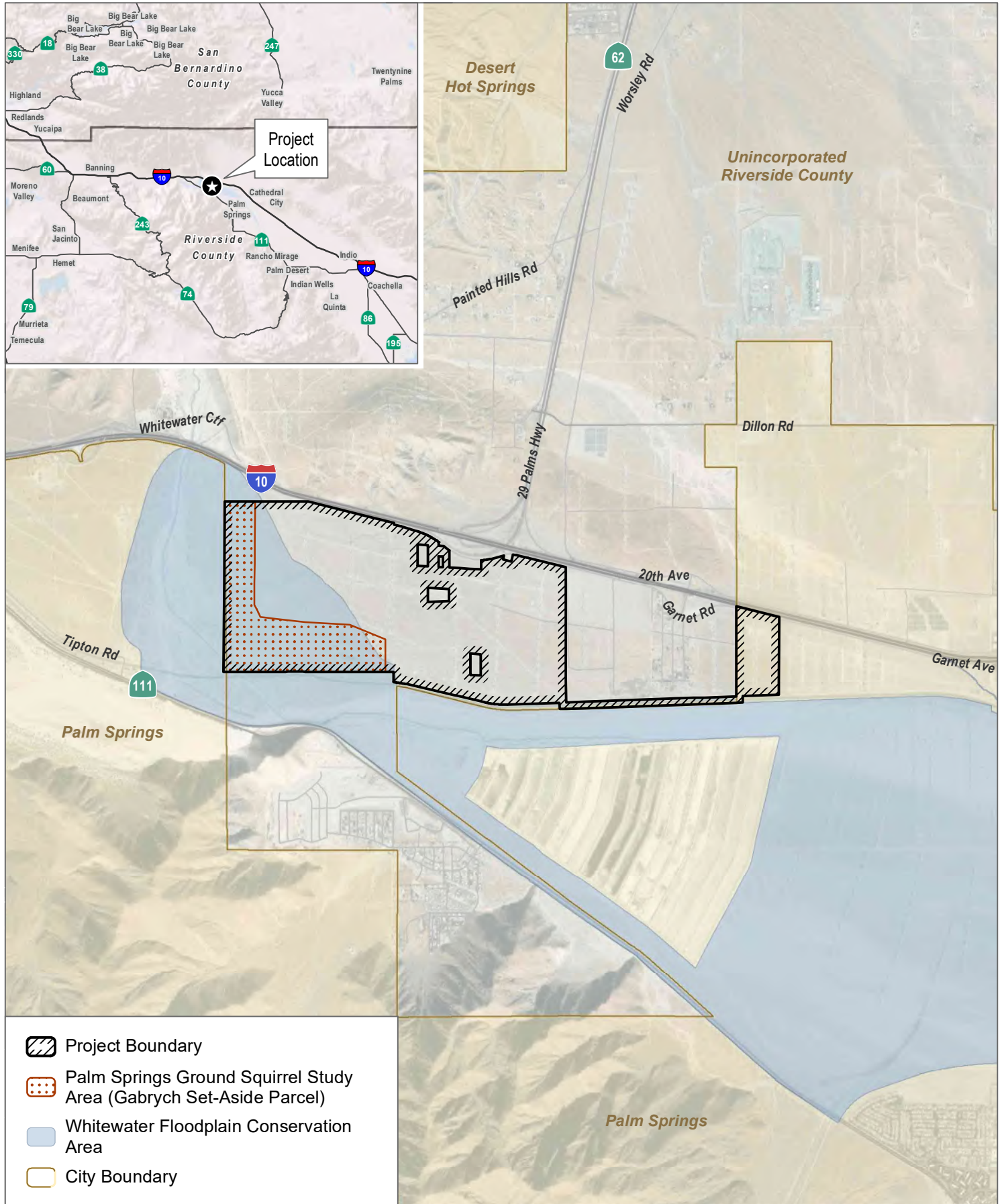
Wendy Worthey, Senior Project Manager

Audrey Nickerson, Deputy Project Manager



Attachment 1

Figures

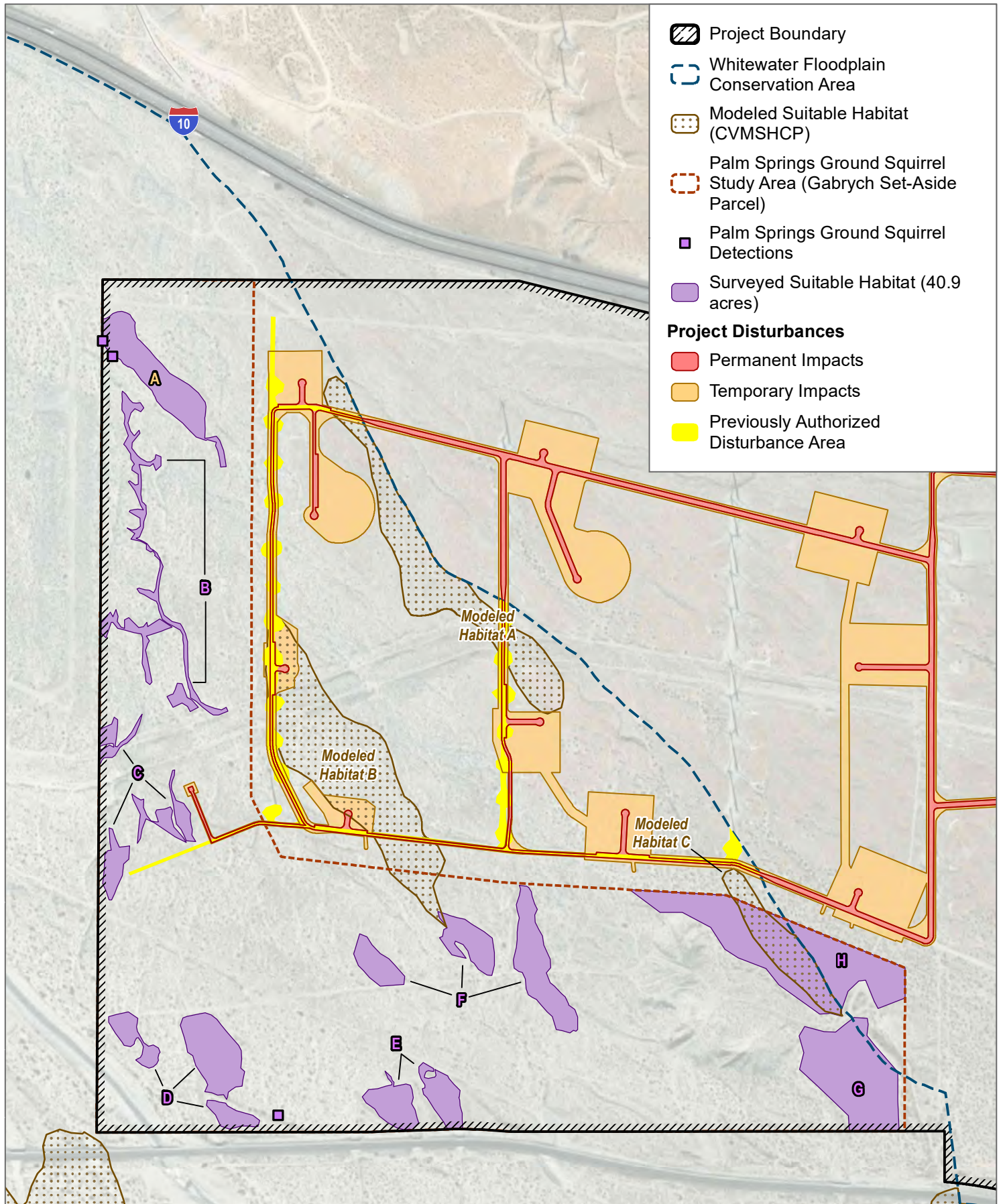


SOURCE: Esri and Digital Globe Aerials, OpenStreetMap 2019

FIGURE 1

Project Location

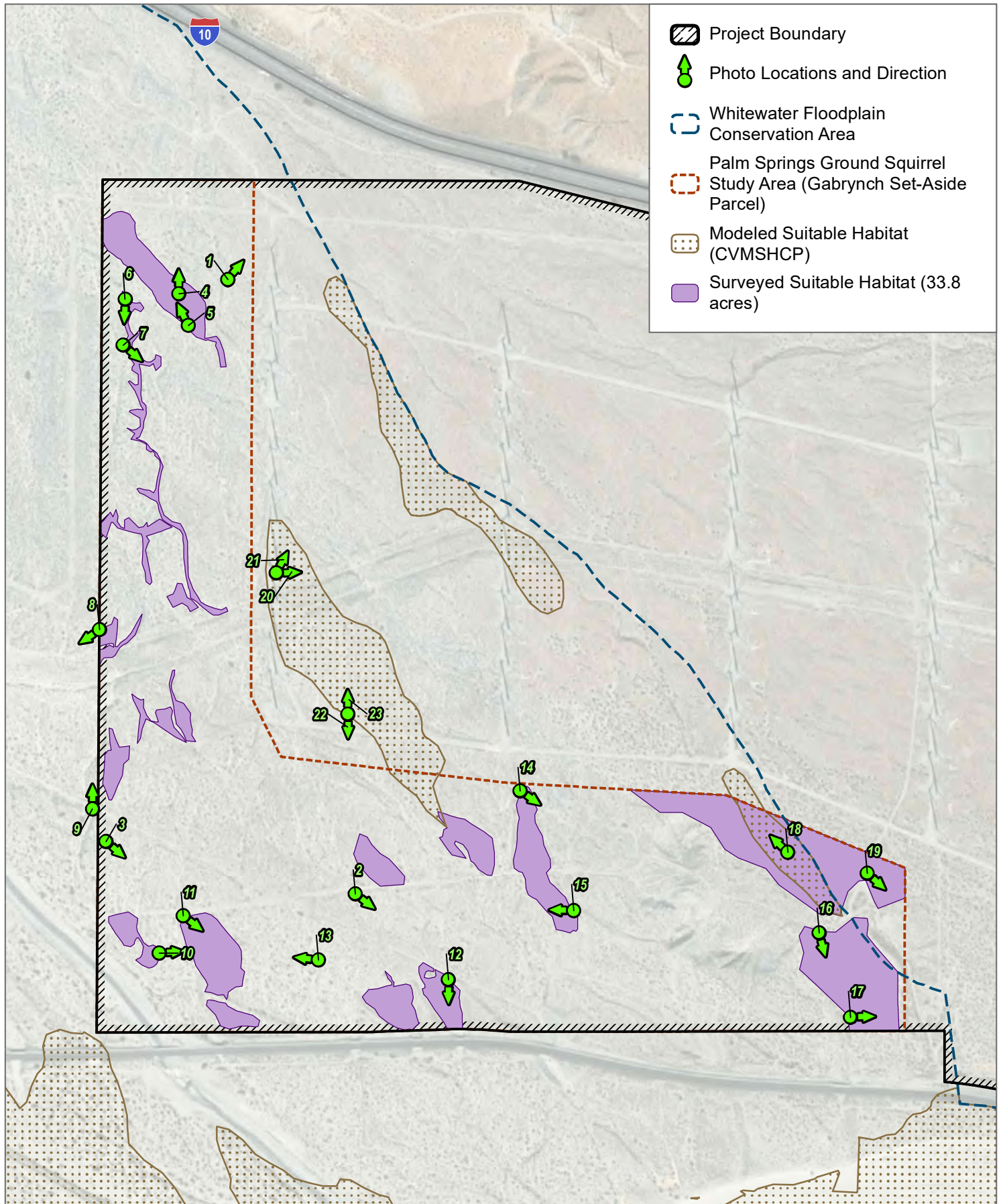
Mountain View Power Partners (MVPP) Proposed Wind Energy Repower



SOURCE: Esri and Digital Globe Aerials, Open Street Map 2019

FIGURE 2

Coachella Valley Round-Tailed Ground Squirrel Potentially Suitable Habitat



SOURCE: Esri and Digital Globe Aerials, OpenStreetMap 2019

FIGURE 3

Photo Locations

Mountain View Power Partners (MVPP) Proposed Wind Energy Repower



Attachment 2

Biological Resources Technical Report (Tetra Tech 2020)

Biological Resources Technical Report for Mountain View Power Partners Wind Repower Project

Riverside County, CA

Prepared for:



MVPP North American Development, LLC
690 North Studebaker Road
Long Beach, CA 90803

Prepared by:



Tetra Tech, Inc.
5383 Hollister Avenue, Suite 130
Santa Barbara, CA 93111

August 2020

GENERAL DISCLAIMER FOR SCIENTIFIC WORK PRODUCTS

This deliverable was prepared in accordance with generally accepted professional practices that are typically utilized for scientific work products. The work was performed within the limitations and assumptions of our approved scope of work, and the descriptive documentation associated with this deliverable. Unless explicitly included in our approved scope of work, information provided in this deliverable has not been prepared to meet industry standards for engineering and should not be used for construction.

EXECUTIVE SUMMARY

This Biological Resources Technical Report (Report) documents the results of the biological surveys performed for the proposed Mountain View Power Partners (MVPP) Wind Repower Project (Project) in Riverside County, CA. The entire repower Project site is approximately 1,111 acres. A portion of the Project site is located in the Whitewater Floodplain Conservation Area, as defined in the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) (Coachella Valley Association of Governments [CVAG] 2007). This area comprises approximately 236 acres of the overall site. In July 2020, an additional 38 acres was added to the Project site, which is comprised of three small areas that are located outside of the Conservation Area (Figure 1).

The following surveys were performed within the Conservation Area:

- Protocol-level desert tortoise survey;
- Rare plant surveys (including vegetation mapping), while concurrently recording observations of LeConte's thrasher, burrowing owls, and suitable burrows for burrowing owls;
- Burrowing owl burrow checks.

The following surveys were performed in the remainder of the Project site outside the Conservation Area:

- Rare plant surveys (including vegetation mapping), while concurrently documenting observations of desert tortoise, LeConte's thrasher, burrowing owls, and suitable burrowing owl burrows;
- Burrowing owl burrow checks;
- General biological survey of the added 38-acre area, including vegetation mapping and documenting observations of rare plants, desert tortoise, LeConte's thrasher, burrowing owls, and suitable burrowing owl burrows.

The surveys were conducted in the spring and summer of 2020. All special-status species found at the Project site are presented in Table ES-1.

Table ES-1: Special-status Species Observed in Project Site

Species	Federal Status	State Status/ Other Status	Found inside Conservation Area	Found outside Conservation Area
Burrowing owl (<i>Athene cunicularia</i>)	None	None/S, SSC, BCC, CVMSHCP	At least nine individuals (both adults and juveniles) observed and four occupied burrows. One occupied burrow (with at least five individuals, both adults and juveniles) observed just south of the Project boundary (not located in the Project site but in the buffer area surveyed).	Six individuals (two adults and four juveniles) observed and one occupied burrow.

Table ES-1: Special-status Species Observed in Project Site

Species	Federal Status	State Status/ Other Status	Found inside Conservation Area	Found outside Conservation Area
Golden eagle (<i>Aquila chrysaetos</i>)	None	None/S, FP, WL, BCC	One carcass.	None.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	None	None/SSC, BCC	Observed.	Observed (including fledglings).
California glossy snake (<i>Arizona elegans occidentalis</i>)	None	None/SSC	One carcass.	None.
Red-diamond rattlesnake (<i>Crotalus ruber</i>)	None	None/SSC	One observed.	One observed.

Notes: BCC USFWS Birds of Conservation Concern
 FP CDFW Fully Protected
 FT USFWS Federally Threatened
 S BLM Sensitive Species
 SSC CDFW Species of Special Concern
 ST CDFW State Threatened
 WL CDFW Watch List
 CVMSHCP Coachella Valley Multiple Species Habitat Conservation Covered Species

Although burrows that could potentially be used by the desert tortoise were found on-site, the analysis indicates that there is low likelihood of occurrence of this species in the Project site.

The results of the surveys have been used to inform the pre-construction surveys required and to determine avoidance and minimization measures during construction activities. The recommended measures within this Report are preliminary and will be refined during the CEQA process as more details about the Project design and schedule are available. If habitat for special-status species can be avoided during the finalization of the Project design, this could minimize the requirements. Since occupied burrowing owl burrows and potential desert tortoise burrows were found within the site, it is recommended that burrows are avoided whenever possible during Project implementation.

Table of Contents

1	Introduction.....	1
1.1	Project Description.....	1
2	Regulatory Setting.....	1
2.1	Federal Endangered Species Act.....	1
2.2	California Endangered Species Act.....	2
2.3	Migratory Bird Treaty Act.....	2
2.4	Bald and Golden Eagle Act.....	3
2.5	Coachella Valley Multiple Species Habitat Conservation Plan.....	3
3	Environmental Setting.....	3
4	Methods.....	4
4.1	Methods in Conservation Area.....	4
4.2	Methods in Remainder of the Project Site Outside the Conservation Area.....	7
4.3	Methods Summary and Schedule.....	8
4.4	Access and Safety.....	9
5	Results.....	10
5.1	Results in Conservation Area.....	25
5.1.1	Protocol-Level Desert Tortoise Survey.....	25
5.1.2	Rare Plant Surveys.....	26
5.1.3	Vegetation Mapping.....	26
5.1.4	Burrowing Owl.....	29
5.1.5	Incidental Species Observations.....	30
5.2	Results in Remainder of the Project Site Outside the Conservation Area.....	34
5.2.1	Rare Plant Surveys.....	34
5.2.2	Vegetation Mapping.....	34
5.2.3	Burrowing Owl.....	35
5.2.4	Incidental Observations.....	36
5.3	Rabbit Hemorrhagic Disease.....	39
6	Avoidance and Minimization Measures.....	39
7	References.....	45

List of Tables

Table ES-1: Special-status Species Observed in Project Site	1
Table 1: Field Summary	8
Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer	11
Table 3: Survey Times and Weather Data	24
Table 4: Potential Desert Tortoise Burrows in Conservation Area Portion of Survey Area	25
Table 5: Vegetation Communities in Conservation Area Portion of Survey Area.....	26
Table 6: Potential Burrowing Owl Burrows in Conservation Area Portion of Survey Area	29
Table 7: Plant Species Observed in Conservation Area Portion of Survey Area	30
Table 8: Wildlife Species Observed in Conservation Area Portion of Survey Area	32
Table 9: Vegetation Communities Outside Conservation Area Portion of Survey Area.....	34
Table 10: Plant Species Observed Outside Conservation Area Portion of Survey Area.....	36
Table 11: Wildlife Species Observed Outside Conservation Area Portion of Survey Area	38
Table 12: Special-status Species Observed in Project Site	40
Table 13: Avoidance and Minimization Measures	42

List of Figures

- Figure 1: MVPP Wind Repower Project Location
- Figure 2: Special Status-Species Occurrences and Sign within Survey Area
- Figure 3: Vegetation Communities

List of Appendices

- Appendix A. Desert Tortoise Survey Data Sheets
- Appendix B. Site Photographs

Acronyms and Abbreviations

°F	degrees Fahrenheit
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CVAG	Coachella Valley Association of Governments
CVCC	Coachella Valley Conservation Commission
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
FESA	Federal Endangered Species Act
GPS	Global Positioning System
HCP	Habitat Conservation Plan
ID	identification number (burrow)
ITP	Incidental Take Permit
JPR	Joint Project Review
m	meters
msl	mean sea level
MVPP	Mountain View Power Partners
NEPA	National Environmental Policy Act
RHDV2	Rabbit Hemorrhagic Disease Virus Type 2
Tetra Tech	Tetra Tech, Inc.
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
WECS	wind energy conversion systems
WEST	Western EcoSystems Technology, Inc.

This page intentionally left blank

1 Introduction

This Biological Resources Technical Report (Report) documents the results of the biological surveys performed for the proposed Mountain View Power Partners (MVPP) Wind Repower Project (Project) in Riverside County, CA. MVPP worked with Tetra Tech, Inc. (Tetra Tech), Dudek, and ECORP to conduct biological surveys in support of their Riverside County Wind Energy Conversion Systems (WECS) permit application. This Report was prepared to document the methods and results of the biological surveys, describe any additional requirements (e.g., avoidance and minimization measures, future survey efforts, if any), provide sufficient detail required for the California Environmental Quality Act (CEQA) document to be written, and support the WECS permit application.

1.1 Project Description

MVPP is proposing to repower its existing Mountain View I & II wind energy projects, located in unincorporated Riverside County and City of Palm Springs jurisdictions. The entire repower Project site is 1,111 acres, as shown in Figure 1. The existing and proposed facilities are shown on Figure 1; specific locations of the proposed facilities may be modified during finalization of the Project design. A portion of the Project site is located in the Whitewater Floodplain Conservation Area, as defined in the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) (Coachella Valley Association of Governments [CVAG] 2007). This area comprises approximately 236 acres of the overall Project site. The Project site also includes a 1.5-mile underground electrical line from the eastern-most turbine string, along the railroad right-of-way to the southeastern corner of the substation parcel and extending north to the substation. In July 2020, an additional 38 acres was added to the Project site, which is comprised of three small areas that are located outside of the Conservation Area (Figure 1). MVPP is targeting a December 2021 commercial operations date.

2 Regulatory Setting

Federal, state, and local regulations related to biological resources that pertain to the Project are discussed in the following sections.

2.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) and its implementing regulations in Title 50 of the Code of Federal Regulations (CFR) Section 17 prohibit the take of any fish or wildlife species that is federally listed as threatened or endangered without prior approval pursuant to either Section 7 or Section 10 of the FESA. Species can be listed as endangered, threatened, proposed for listing (proposed for listing in Federal Register), or candidates for listing (where listing is warranted, but precluded by higher priority listing activities).

FESA Section 7(a)(2) requires each federal agency to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat (16 United States Code [U.S.C.] § 1536 (a)(2)). If there is a federal nexus (e.g., permit or funding from a federal entity), then ESA issues are addressed through Section 7 of the FESA and a Biological Assessment is developed.

Section 10 of the FESA allows a non-federal applicant, under certain terms and conditions, to incidentally take a FESA-listed species that would otherwise be prohibited. When a non-federal landowner wishes to proceed with an activity that is legal in all other respects, but that may result in the incidental taking of a listed species, an Incidental Take Permit (ITP) is required. Under Section 10, a U.S. Fish and Wildlife Service (USFWS)-approved Habitat Conservation Plan (HCP) is required to accompany an application for an ITP to demonstrate that all reasonable and prudent efforts have been made to avoid, minimize, and mitigate for the effects of the potential incidental take.

2.2 California Endangered Species Act

The California Endangered Species Act (CESA) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is “consistent” with the CESA under California Fish and Game Code Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project operator would have to apply for an ITP under Section 2081(b).

2.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act makes it unlawful “by any means or in any manner, to pursue, hunt, take, capture, kill [...] possess, offer for sale, sell [...] purchase [...] ship, export, import [...] transport or cause to be transported [...] any migratory bird, any part, nest, or eggs of any such bird” except as otherwise permitted under the regulations (16 U.S.C. 703). The word “take” is defined by regulation as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR 10.12). An April 11, 2018 memorandum from the USFWS provided guidance to “clarify what constitutes prohibited take” (USFWS 2018). The USFWS memo stated that the “take of birds, eggs or nests” was prohibited only when the purpose of the activity was to conduct take, but was not prohibited when the purpose of the activity was not to conduct take.

2.4 Bald and Golden Eagle Act

The Bald and Golden Eagle Protection Act of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) by prohibiting the take, possession, and commerce of these species and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” To disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

2.5 Coachella Valley Multiple Species Habitat Conservation Plan

On October 2, 2008, and as amended in 2016, the CVMSHCP became effective and applies to the portions of the Project within the jurisdiction of the County of Riverside and the City of Palm Springs. The CVMSHCP maintains or restores self-sustaining populations or metapopulations of the species included in the Plan to ensure conservation so that ITPs can be obtained in the Plan area for species listed by the USFWS and/or CDFW. It does not apply to Bureau of Land Management (BLM)-administered lands, such that it does not provide take permit coverage for activities on BLM-administered lands. Separate take permits would be required, as needed for federal lands, outside of the CVMSHCP.

The Project would be required to complete a Joint Project Review (JPR) process through the County of Riverside, with concurrence by Coachella Valley Conservation Commission (CVCC), CDFW, and USFWS. As part of this process, the CVMSHCP establishes a mechanism for mitigating the effects of development through the payment of a Local Development Mitigation Fee (CVAG 2007).

The portions of the Project site that are located within the CVMSCHP Whitewater Floodplain Conservation Area are subject to additional review and certain limits on the amount and location of development (CVAG 2007).

3 Environmental Setting

The Project site is located near the northwestern extent of the Coachella Valley, and a portion of the site is within the Whitewater Floodplain Conservation Area of the CVMSHCP. This region experiences hot summers, mild winters, frequent gusty winds, and annual rainfall averaging less than 10 inches (Western EcoSystems Technology, Inc. [WEST] 2013). Elevation at the site ranges from approximately 240 to 400 meters (m). The site currently supports existing wind turbines. Vegetation on the site includes components of the Mojave and Sonoran deserts, including desert scrub communities.

4 Methods

Survey methods for the Project site were described in the Biological Surveys Work Plan that was finalized in April 2020 before surveys were conducted (Tetra Tech 2020). The Work Plan confirmed and updated the list of special-status species that could occur in the Project area. Special-status species are defined as plants and wildlife holding a status of sensitive, threatened, endangered, rare, or candidate as defined by CDFW, USFWS, California Native Plant Society (CNPS), or the BLM. Based on the list of special-status species, field methods were developed to survey the Project site for natural resources.

The CVMSHCP Whitewater Floodplain Conservation Area has modeled habitat for the Coachella Valley Jerusalem cricket, Coachella Valley milkvetch, triple-ribbed milkvetch, desert tortoise, flat-tailed horned lizard, burrowing owl, LeConte's thrasher, Palm Springs round-tailed ground squirrel, and Palm Springs pocket mouse; therefore, the Project site could contain habitat for these species. These species are covered under the CVMSHCP, and impacts to and mitigation for these species are covered in the CVMSHCP permits. Although there is modeled habitat for the Coachella Valley Jerusalem cricket, it has not been found in this area based on limited surveys. The survey approach also was developed to comply with the applicable measures described in Section 4.4 of the CVMSHCP.

A protocol-level desert tortoise survey, rare plant surveys (including vegetation mapping), LeConte's thrasher surveys and burrowing owl surveys were conducted as described in the sections below. Focused surveys were not conducted for the other species with modeled habitat listed above because these species are covered under the CVMSHCP, and the CVMSHCP does not require surveys for them. However, a habitat assessment was conducted, and any special-status species observed or detected during the surveys were recorded.

Methods below are separated between the Conservation Area (approximately 236 acres in the western corner of the Project site covered by the CVMSHCP) and the remainder of the Project site (approximately 875 acres).

4.1 Methods in Conservation Area

The following surveys were performed within the Conservation Area:

- Protocol-level desert tortoise survey;
- Rare plant surveys (including vegetation mapping), while concurrently recording observations of LeConte's thrasher, burrowing owls, and suitable burrows for burrowing owls;
- Burrowing owl burrow checks.

Desert Tortoise. Desert tortoise is a covered species under the CVMSHCP, and focused surveys are generally not required for covered activities within the Plan area. However, Section 4.4 of the CVMSHCP states that a protocol-level desert tortoise survey is required within Conservation Areas. Therefore, the desert tortoise survey was restricted to the western-most portion of the Project site

that overlaps with the Whitewater Floodplain Conservation Area. A 200-foot buffer around the survey area was also included, consistent with Section 4.4 of the CVMSHCP.

The Project team performed a protocol-level survey for desert tortoise according to USFWS's *Preparing for any Action That May Occur Within the Range of Mojave Desert Tortoise* (USFWS 2019), which requires a 100 percent coverage pedestrian transect survey of the Project site prior to construction activities. The desert tortoise survey was also performed in accordance with the survey requirements outlined in the CVMSHCP for Conservation Areas. The survey was conducted for desert tortoise individuals and their sign (e.g., burrows, carcasses, scat, pellets, drinking sites, tracks, mating rings) during the species spring active period (April through May). The survey was led by an Authorized Desert Tortoise Biologist and the remaining team members consisted of qualified desert tortoise biologists who have undergone the Desert Tortoise Council's Desert Tortoise Workshop and who have considerable experience conducting surveys for and identifying desert tortoise.

Biologists walked the survey area using pedestrian transects spaced no more than 30 feet apart to provide 100-percent survey coverage. Biologists checked under shrubs and trees and visually inspected any burrows encountered for desert tortoise or desert tortoise sign. A portion of the survey area within the buffer along the western boundary was inaccessible due to fenced-in private property (Figure 1). These areas were not surveyed on-foot but were scanned using binoculars. The survey was conducted during atmospheric conditions most conducive to observing desert tortoise and avoided adverse conditions that might have inhibited tortoise activity, including high winds and temperature extremes (less than 50 degrees Fahrenheit [°F] and greater than 104°F).

Locations of tortoises and sign, if detected, were recorded onto data sheets. All tortoise survey data sheets are provided in Appendix A. The date of observation, sign type, sign classification (according to the survey protocol), amount of sign, and any pertinent comments were recorded for any sign encountered. Additionally, detected tortoises and tortoise sign were photographed when feasible, and the location was documented using a Global Positioning System (GPS) unit.

Rare Plant Surveys. The Conservation Area provides habitat for one CVMSHCP-covered plant species, the triple-ribbed milkvetch, and potentially provides habitat for two additional CVMSHCP-covered species: the Coachella Valley milkvetch and the little San Bernardino Mountains linanthus. A review of special-status plants in the region reveals that 12 additional special-status plant species that are not covered species under the CVMSHCP had the potential to occur on or adjacent to the Project site. To address CEQA requirements, rare plant surveys were conducted to determine the presence of these additional plant species on or adjacent to the Project site.

Two rare plant surveys were conducted in the Conservation Area during the blooming periods of the target rare plant species: one in early May and the second in late May. The first rare plant survey within the Conservation Area was conducted simultaneously with the desert tortoise survey.

Prior to conducting the rare plant surveys, a biologist performed blooming status checks at rare plant reference populations. Visiting reference populations ensured that surveys were conducted during the appropriate timeframe, when plants were identifiable.

Survey methods identified in standard rare plant protocol documents such as the USFWS *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), the BLM *Survey Protocols Required for NEPA/ESA Compliance for BLM Special Status Plant Species* (BLM 2009), the CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018), and the CNPS *Botanical Survey Guidelines of the California Native Plant Society* (CNPS 2001) were taken into consideration during the surveys. The four-person survey team consisted of qualified biologists and/or botanists with experience surveying for and identifying southern California flora. Botanists led all rare plant surveys. Plant species observed on site were identified to the taxonomic species in the event that they could be listed under the federal or California Endangered Species Acts or considered rare by CNPS. If a rare plant species was detected, its location was documented using a GPS device with sub-meter accuracy.

In areas of high-quality habitat and/or those containing highest potential for special-status plant species to occur, biologists walked throughout the survey area using pedestrian transects spaced no more than 30 feet apart.

During the rare plant surveys, biologists performed coarse level mapping of plant communities within the Project site. Common plant species were also identified and recorded. Plant communities were mapped using GPS. Nomenclature followed *The Jepson Manual* (Baldwin et al. 2012) for plant names and *A Manual of California Vegetation*, second edition (Sawyer et al. 2009) for vegetation communities. In some cases, a best-fit definition based on habitat descriptions and land-use was applied for vegetation communities.

Other Special-Status Species. During the combined desert tortoise/rare plant survey in early May and the rare plant survey in late May, biologists recorded any other special-status species observed or detected during the survey, including burrowing owl and LeConte's thrasher, on survey data sheets and documented their occurrences using a GPS unit. Any potential burrowing owl burrows were mapped with the GPS unit. Plant and animal species observed on-site during the survey were recorded, and representative site photographs were taken during the survey.

Burrowing Owl Burrow Checks. Burrowing owl and their sign (e.g., burrows, whitewash, feathers, pellets) were documented and mapped during the desert tortoise and rare plant surveys, if observed. Although protocol burrowing owl surveys were not performed, it was anticipated that burrowing owl observations recorded during the rare plant and desert tortoise surveys would gather sufficient data to determine burrowing owl presence and burrow occupancy. In the event that a potential burrowing owl burrow was identified within the Conservation Area and burrowing owl occupation could not be determined at the time it was observed, or more information was needed on an occupied burrow (e.g., nesting status), then a qualified biologist with experience identifying and surveying for burrowing owl performed additional burrow checks within the Conservation Area in June. The purpose of these burrow checks was to gain additional information on burrowing owl use of the Project site in order to provide enough detail to support an impacts analysis for CEQA. The biologist did not perform transect surveys; rather, the biologist visited each previously identified burrow location to observe it at a distance so as to not disrupt the burrowing owls occupying the burrow. Data on burrow occupancy, burrowing owl behavior, and, if necessary, nest status was documented during each burrow check.

4.2 Methods in Remainder of the Project Site Outside the Conservation Area

The following surveys were performed in the remainder of the Project site outside the Conservation Area:

- Rare plant surveys (including vegetation mapping), while concurrently documenting observations of desert tortoise, LeConte's thrasher, burrowing owls, and suitable burrowing owl burrows;
- Burrowing owl burrow checks;
- General biological survey of added 38-acre area, including vegetation mapping and documenting observations of rare plants, desert tortoise, LeConte's thrasher, burrowing owls, and suitable burrowing owl burrows.

Rare Plant Surveys. The Project team conducted rare plant surveys within the approximately 875-acre Project area outside the Conservation Area and the 1.5 mile underground electrical line from the eastern-most turbine string to along the railroad right-of-way to the southeastern corner of the substation parcel. Due to the existing disturbances within the Project site (e.g., access roads, wind turbines, other facilities), 100-percent survey coverage of the Project site was not conducted. Rather, rare plant surveys focused on the areas containing the highest quality habitat and the highest potential for rare plants to occur, also known as intuitive controlled survey method (BLM 2009). Two surveys were conducted to coincide with the blooming periods of the target rare plant species: one in late April and the second in late May.

Rare plant survey methods outside the Conservation Area followed the same approach described above for rare plant surveys inside the Conservation Area. If a rare plant species was detected, its location was documented using a GPS device with sub-meter accuracy. Biologists also mapped existing plant communities within the Project site and recorded common plant species. Plant communities were mapped using GPS.

Other Special-Status Species. During the rare plant surveys in late April and late May outside the Conservation Area, biologists recorded any other special-status species or signs observed during the survey, including desert tortoise, burrowing owl, and LeConte's thrasher, on survey data sheets and documented their occurrences using a GPS unit. Any potential burrowing owl burrows were mapped with the GPS unit. Plant and animal species observed on-site during the survey were recorded, and representative site photographs were taken during the survey.

Burrowing Owl Burrow Checks. Burrowing owl and their sign (e.g., burrows, whitewash, feathers, pellets) was documented and mapped during rare plant surveys, if observed. Although protocol burrowing owl surveys were not performed, it was anticipated that burrowing owl observations recorded during the rare plant and desert tortoise surveys would gather sufficient data to determine burrowing owl presence and burrow occupancy. In the event that a potential burrowing owl burrow was identified outside the Conservation Area and burrowing owl occupation could not be determined at the time it was observed, or more information was needed on an occupied burrow (e.g., nesting status), then a qualified biologist with experience identifying and surveying for burrowing owl performed additional burrow checks in June. As mentioned above, data on burrow occupancy, burrowing owl behavior, and, if necessary, nest status was documented during each burrow check.

General Biological Survey of Added 38-acre Area. A general biological survey of the added 38-acre area, which is comprised of three small areas, was conducted on July 15, 2020. A 200-foot buffer around the added area was also surveyed. A small portion of the 200-foot buffer outside the southeast boundary of the largest of the three small added areas (southeast of B7 on Figure 2) could not be surveyed due to the presence of an existing fenced facility; this area is developed and is not expected to contain special-status biological resources. The survey team consisted of qualified biologists with experience identifying and surveying for special-status biological resources in the region. Biologists walked the survey area using pedestrian transects spaced no more than 30 feet apart to provide 100-percent survey coverage. Biologists performed coarse level mapping of plant communities and documented any special-status species or signs observed during the survey, including rare plant species, desert tortoise, burrowing owl, and LeConte's thrasher. Any special-status species and active or potential burrowing owl and/or desert tortoise burrows were mapped using a GPS unit. Common plant and animal species observed during the survey were also recorded and representative site photographs were taken.

Due to the timing of the survey in July, the survey was conducted within the burrowing owl active period, as defined in the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012), and during the typical nesting bird season (February 15 - September 1). While the survey was not conducted during the protocol survey period for desert tortoise, during the appropriate blooming period for most rare plants, or during the nesting season for LeConte's thrasher, the survey was able to determine the presence of potential habitat for these species. Any potential habitat for special-status species was documented and mapped during the survey.

4.3 Methods Summary and Schedule

A summary of the field surveys and assessments is provided in Table 1.

Table 1: Field Summary

Dates (2020)	Species	Survey Area	
		Inside Conservation Area	Outside Conservation Area
Event 1: April 27-30			
	Rare plants (Coachella valley milkvetch, Little San Bernardino Mountains linanthus, and rare plants not covered by CVMSHCP) and vegetation mapping*		X
	Desert tortoise sign (recorded if incidentally observed)		X
	Burrowing owl		X
	LeConte's thrasher (recorded if incidentally observed)		X

Table 1: Field Summary

Dates (2020)	Species	Survey Area	
		Inside Conservation Area	Outside Conservation Area
Event 2: May 4-7			
	Desert tortoise (protocol-level)	X	
	Rare plants (Coachella valley milkvetch, little San Bernardino Mountains linanthus, and rare plants not covered by CVMSHCP) and vegetation mapping	X	
	Burrowing owl	X	
	LeConte's thrasher	X	
Event 3: May 26-29			
	Rare plants (Coachella valley milkvetch, little San Bernardino Mountains linanthus, and rare plants not covered by CVMSHCP)*	X	X
	Desert tortoise sign (recorded if incidentally observed)	X	X
	Burrowing owl	X	X
	LeConte's thrasher (recorded if incidentally observed outside Conservation Area)	X	X
Events 4-5: Two checks, June 6 and 18			
	Burrowing owl burrow checks	X	X
Event 6: July 15 (Added 38-acre Area)			
	General biological survey (vegetation mapping, rare plants, desert tortoise, LeConte's thrasher, burrowing owls, and suitable burrowing owl burrows)**		X (Added 38-acre Area only)

Notes:

*Rare plant surveys were done in areas of high-quality habitat. 100 percent coverage was not performed.

**Due to the timing of the survey in July, the survey was not conducted during the protocol survey period for desert tortoise, during the appropriate blooming period for most special-status plant species, or during the nesting season for LeConte's thrasher.

4.4 Access and Safety

Letters indicating that Project staff are authorized to continue working during COVID-19 were provided to the field team and carried by staff at all times during fieldwork. A Tetra Tech health and safety plan was also prepared that included measures to address COVID-19 concerns and was followed by Tetra Tech and ECORP.

5 Results

Prior to the surveys, a literature and data review of pertinent background information for the Project site was completed, which included the CDFW California Natural Diversity Database (CNDDB) data (CDFW 2020), CNPS Inventory of Rare and Endangered Plants data (CNPS 2020), the CVMSHCP (CVAG 2007), available aerial imagery (Google Earth Pro 2018), and previous avian surveys conducted at the site (WEST 2019). The special-status species in Table 2 are those with potential to occur within or in an approximate 1-mile radius around the site (CDFW 2020, CNPS 2020). Likelihood of occurrence was determined for each species based on the survey results and previous occurrence records near the site.

Survey start and end times and weather conditions were recorded for each visit and are presented in Table 3.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
Plants							
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand- verbena	None	None/1B.1	Chaparral, coastal scrub, desert dunes, sandy soils, elevations of 75- 1,600 m	Mar-Sep	Surveys inside and outside Conservation Area	Low. Neither this species nor its habitat was found in the Project site during surveys. No potential habitat for this species was found in the added 38-acre area. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milkvetch	FE	None/1B.2, CVMSHCP	Desert dunes, Sonoran desert scrub, sandy soils, elevations of 40-655 m	Feb-May	Surveys inside and outside Conservation Area*	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There is one known occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Astragalus tricarlinatus</i>	triple-ribbed milkvetch	FE	None/1B.2, CVMSHCP	Joshua tree woodland, Sonoran desert scrub, sandy or gravelly soils, elevations of 450-1,190 m	Feb-May	Surveys inside and outside Conservation Area*	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	None	None/1B.1	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, sandy soils, elevations of 90-800 m	Apr-Jun	Surveys inside and outside Conservation Area	Low. Neither this species nor its habitat was found in the Project site during surveys. No potential habitat for this species was found in the added 38-acre area. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	white-bracted spineflower	None	None/1B.2	Coastal scrub (alluvial fans), Mojavean desert scrub, Pinyon and juniper woodland, sandy or gravelly soils, elevations of 300-1,200 m	Apr-Jun	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There is one known historic occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Dodecahema leptoceras</i>	slender-horned spineflower	FE	SE/1B.1	Chaparral, cismontane woodland, coastal scrub (alluvial fan), sandy or gravelly soils, elevations of 200-760 m	Apr-Jun	Surveys inside and outside Conservation Area	Low. Neither this species nor its habitat was found in the Project site during surveys. No potential habitat for this species was found in the added 38-acre area. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Eriastrum harwoodii</i>	Harwood's eriastrum	None	None/1B.2	Desert dunes, sandy soils, elevations of 125-915 m	Mar-Jun	Surveys inside and outside Conservation Area	Low. Neither this species nor its habitat was found in the Project site during surveys. No potential habitat for this species was found in the added 38-acre area. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Euphorbia misera</i>	cliff spurge	None	None/2B.2	Coastal bluff scrub, coastal scrub, Mojavean desert scrub, rocky soils, elevations of 10-500 m	Dec-Aug	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Imperata brevifolia</i>	California satintail	None	None/2B.2	Chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), riparian scrub, clayey to sandy soils, elevations below 500 m	Sep-May	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Linanthus maculatus</i> ssp. <i>maculatus</i>	Little San Bernardino Mountains linanthus	None	None/1B.2, CVMSHCP	Desert dunes, Joshua tree woodland, Mojavean desert scrub, Sonoran desert scrub, sandy soils, 140-1,220 m	Mar-May	Surveys inside and outside Conservation Area*	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Mentzelia tricuspidis</i>	spiny-hair blazing star	None	None/2B.1	Mojavean desert scrub, sandy or gravelly soils, 150-1,280 m	Mar-May	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender cottonheads	None	None/2B.2	Coastal dunes, desert dunes, Sonoran desert scrub, sandy desert soils, elevations of 0-400 m	Apr-May	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There is one known historic occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i>	desert beardtongue	None	None/2B.2	Mojavean desert scrub, Sonoran desert scrub, sandy or rocky soils, elevations of 80-1,935 m	Jan-May	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	None	None/1B.2	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland, coarse sand to rocky soils, elevations of 400-1,900 m	Mar-Jun	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. The maximum elevation at the site is approximately 400 meters, which is below the elevation range for this species. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Selaginella eremophila</i>	desert spike-moss	None	None/2B.2	Chaparral, Sonoran desert scrub, gravelly or rocky soils, elevations of 200-1,295 m	May-Jul	Surveys inside and outside Conservation Area	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys. Desert scrub was found within the added 38-acre area; however, the entire added area was classified as moderately disturbed habitat and no special-status plants were found in the other hundreds of acres of on-site desert scrub during the blooming period. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
Birds							
<i>Aquila chrysaetos</i>	golden eagle	None	None/S, FP, WL, BCC	Rolling foothills, mountain areas, sage-juniper flats, and desert	NA	Habitat assessment throughout entire Project site	Observed. One carcass of this species was observed within the Conservation Area during surveys and desert habitat occurs within the Project site. The site likely provides foraging habitat for this species. There is one known historic occurrence within one mile of the site (CDFW 2020).
<i>Athene cunicularia</i>	burrowing owl	None	None/S, SSC, BCC, CVMSHCP	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation	NA	Habitat assessment for suitable burrows during desert tortoise/rare plant survey inside Conservation Area, and during rare plant and added 38-acre area surveys outside Conservation Area. Additional burrow checks at suitable burrows. *	Observed. Five burrows occupied by this species were found within the Conservation Area and one occupied burrow was found outside the Conservation Area during surveys. Desert habitat occurs within the Project site. There are two known occurrences within one mile of the site (CDFW 2020).

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Falco mexicanus</i>	prairie falcon	None	None/WL, BCC	Dry, open level or hilly terrain, annual and perennial grasslands, alpine meadows, savannahs, rangeland, agricultural fields, and desert scrub	NA	Habitat assessment throughout entire Project site	Medium. This species was not observed during surveys, but desert habitat occurs within the Project site. There is one known historic occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is medium.
<i>Lanius ludovicianus</i>	Loggerhead shrike	None	None/SSC, BCC	Open areas with scattered shrubs, trees, posts, fences, utility lines, or other perches	NA	Habitat assessment throughout entire Project site	Observed. This species was observed during surveys both inside and outside the Conservation Area.
<i>Toxostoma lecontei</i>	LeConte's thrasher	None	None/SSC, BCC, CVMSHCP	Open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats	NA	Incidental observations noted during desert tortoise/rare plant survey inside Conservation Area, and during rare plant and added 38-acre area surveys outside Conservation Area*	Low. Although desert scrub habitat occurs within the Project site, this species was not observed during surveys. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
Mammals							
<i>Perognathus longimembris bangsi</i>	Palm Springs pocket mouse	None	None/SSC, S, CVMSHCP	Creosote scrub, desert scrub, and grasslands with loosely packed or sandy soils with sparse to moderately dense vegetative cover	NA	Habitat assessment throughout entire Project site*	Low. Although creosote and desert scrub occurs within the Project site, this species was not observed during surveys. Rocky soils also likely preclude this species from occurring on the site. There are no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Xerospermophilus tereticaudus chlorus</i>	Palm Springs round-tailed ground squirrel	None	None/SSC, S, CVMSHCP	Mesquite- and creosote-dominated sand dunes, creosote bush scrub, creosote-palo verde and saltbush/alkali scrub	NA	Habitat assessment throughout entire Project site*	Low. Although creosote scrub occurs within the Project site, this species was not observed during surveys. There is one known historic occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
Reptiles							
<i>Arizona elegans occidentalis</i>	California glossy snake	None	None/SSC	Desert habitats, chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grass	NA	Habitat assessment and throughout entire Project site	Observed. This species was observed during surveys inside the Conservation Area.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Crotalus ruber</i>	Red-diamond rattlesnake	None	None/SSC	Chaparral, woodland, and arid desert habitats, rocky areas and dense vegetation	NA	Habitat assessment and throughout entire Project site	Observed. This species was observed during surveys both inside and outside the Conservation Area.
<i>Gopherus agassizii</i>	desert tortoise	FT	ST/ CVMSHCP	Flats and slopes dominated by creosote bush scrub to rocky slopes in blackbrush and juniper woodland	NA	Protocol survey inside Conservation Area. Incidental observations noted outside Conservation Area during rare plant and added 38-acre area surveys. *	Low. Neither this species nor recent sign (e.g., burrow sites with scat and/or tracks present) was observed during the focused protocol survey of the Conservation Area, but seven burrows that could be used by desert tortoise were found within the Conservation Area. Creosote bush occurs throughout the Project site, but disturbances present due to existing facilities at the Project site reduce the quality of habitat present and may preclude this species from occurring. In addition, the Project site is located towards the western extent of the range of this species in Riverside County. There are also no known occurrences within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Phrynosoma mcallii</i>	flat-tailed horned lizard	None	None/SSC, S, CVMSHCP	Desert scrub, wash, succulent scrub, and alkali scrub, typically associated with desert dune soils	NA	Habitat assessment throughout entire Project site*	Low. Although desert scrub occurs within the Project site, this species was not observed during surveys and no desert dune soils were present at the Project site. The site is just outside of the known range of this species. There is one known historic occurrence within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
<i>Uma inornata</i>	Coachella Valley fringe-toed lizard	FT	SE/CVMSHCP	Sand dunes in Coachella Valley	NA	Habitat assessment throughout entire Project site*	Low. This species was not observed during surveys and no dune habitat was found within the Project site. There are two known historic occurrences of this species within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.
Invertebrates							
<i>Macrobaenetes valgum</i>	Coachella Valley giant sand-treader cricket	None	None/ CVMSHCP	Aeolian (wind-driven) dunes, sand hummocks (mounds), and sand fields	NA	Habitat assessment throughout entire Project site*	Low. This species was not observed during surveys and no dune habitat was found within the Project site. There are no known occurrences of this species within one mile of the site (CDFW 2020). Therefore, likelihood of occurrence is low.

Table 2: Special-status Species with Potential to Occur at the Project Site and 1-mile Buffer

Scientific Name	Common Name	Federal Status	State Status/ Other Status	Habitat	Blooming Period	Survey Type Conducted	Likelihood of Occurrence
<i>Stenopelmatus cahuilaensis</i>	Coachella Valley Jerusalem cricket	None	None/ CVMSHCP	Sand dunes and alluvial gravelly/sandy soils	NA	Habitat assessment throughout entire Project site*	Low. This species was not observed during surveys and no dune habitat was found within the Project site. There is one known occurrence of this species within one mile of the Project site (CDFW 2020). Therefore, likelihood of occurrence is low.

Notes: Species based on CNDDDB query for 1-mile radius around center of Project site and CNPS query for two quadrangles (White Water and Desert Hot Springs).

BCC USFWS Birds of Conservation Concern

FE USFWS Federally Endangered

FP CDFW Fully Protected

FT USFWS Federally Threatened

S BLM Sensitive Species

SE CDFW State Endangered

SSC CDFW Species of Special Concern

ST CDFW State Threatened

WL CDFW Watch List

1B CNPS Plants that are rare, threatened, or endangered in California and elsewhere

2B CNPS Plants that are rare, threatened, or endangered in California but more common elsewhere

0.1 Seriously threatened in California

0.2 Moderately threatened in California

CVMSHCP Coachella Valley Multiple Species Habitat Conservation Covered Species

m meters

*Although covered by the CVMSHCP, any observations of this species or its suitable habitat will be included as part of the broader planned survey effort.

Table 3: Survey Times and Weather Data

Date (2020)	Surveys Conducted	Location	Start / End Time (24 hour)	Start / End Temp (°F)	Start / End Wind Speed (mph)	Start / End Cloud Cover (Percent)
April 27	Rare Plant	Outside Conservation Area	0814 / 1500	75 / 93	15-25 / 10-20	0 / 0
April 28	Rare Plant	Outside Conservation Area	0640 / 1400	70 / 105	10-15 / 5-12	0 / 0
April 29	Rare Plant	Outside Conservation Area	0630 / 1400	72 / 101	1-5 / 3-8	0 / 70
April 30	Rare Plant	Outside Conservation Area	0630 / 930	76 / 82	10-20 / 10-15	70 / 85
May 4	Rare Plant, Desert Tortoise (combined)	Inside Conservation Area	0805 / 1445	69 / 95	8-10 / 1-4	0 / 0
May 5	Rare Plant, Desert Tortoise (combined)	Inside Conservation Area	0630 / 1400	73 / 103	3-5 / 2-5	0 / 0
May 6	Rare Plant, Desert Tortoise (combined)	Inside Conservation Area	0630 / 1415	74 / 108	3-10 / 2-5	15 / 15
May 7	Rare Plant, Desert Tortoise (combined)	Inside Conservation Area	0630 / 1345	73 / 108	2-8 / 3-9	10 / 15
May 26	Rare Plant	Inside Conservation Area	0740 / 1435	78 / 102	4-6 / 9-11	0 / 0
May 27	Rare Plant	Inside Conservation Area	0600 / 1340	78 / 103	5-7 / 13-15	0 / 0
May 28	Rare Plant	Outside Conservation Area	0605 / 1345	76 / 103	5-7 / 10-12	0 / 0
May 29	Rare Plant	Outside Conservation Area	0610 / 1400	77 / 96	6-8 / 15-20	0 / 40
June 6	Burrowing Owl Burrow Checks	Mapped Active and Potential Burrowing Owl Burrows	0600 / 1030	80 / 96	5-10 / 5-7	0 / 0
June 18	Burrowing Owl Burrow Checks	Mapped Active and Potential Burrowing Owl Burrows	0600 / 1045	72 / 80	5-10 / 5-10	0 / 0
July 15	General Biological Survey	Outside Conservation Area (Added 38-acre Area)	0600 / 1430	78 / 105	10-20 / 8-15	0 / 0

5.1 Results in Conservation Area

5.1.1 Protocol-Level Desert Tortoise Survey

A protocol-level desert tortoise survey was conducted within the Conservation Area portion of the survey area between May 4 and 7, 2020. On May 6 and 7, temperatures at the end of the survey reached higher than the recommended conditions for tortoise activity (i.e., greater than 104°F). However, the high temperature conditions occurred at the end of the survey days when efforts for the day were nearly complete. Representative photographs taken during the survey are included in Appendix B.

Dominant plant species within the desert tortoise survey area included creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), desert dandelion (*Malacothrix glabrata*), and smokebush (*Psoralea arguta* sp.). Approximately 20 percent of the survey area was classified as disturbed areas.

A total of seven potential desert tortoise burrows were found during the survey. All seven burrows were characterized as Class 4 burrows. Class 4 burrows are described as “good condition, possible tortoise” per the *USFWS Desert Tortoise (Mojave Population) Field Manual* (2009). No desert tortoise individuals or sign (e.g., scat, tracks) were observed during the survey but the burrows were of appropriate size and shape to potentially have been made or used by desert tortoise. Of the seven burrows, five were determined to be occupied by burrowing owl. The remaining two burrows did not have evidence of burrowing owl occupation. All burrows found are shown on Figure 2. Details on desert tortoise occupation and sign for each burrow are presented in Table 4. Burrow identification numbers (IDs) are used consistently throughout this Report. For example, B4 in this section represents the same burrow as B4 in the sections below.

Table 4: Potential Desert Tortoise Burrows in Conservation Area Portion of Survey Area

Burrow ID	Desert Tortoise Occupation	Desert Tortoise Sign	Width x Height x Depth (Aspect)	Notes
B1	Unoccupied	None	6" x 4" x 1' (west)	Burrow occurred under white rhatany (<i>Krameria bicolor</i>) shrub.
B2 (Two Burrows)	Unoccupied*	None	12" x 8" x 3'+ (southeast) 10" x 8" x 2'+ (southeast)	Two adjacent burrows.
B3 (Two Burrows)	Unoccupied*	None	8" x 6" x 2'+ (southeast) 12" x 8" x 2'+ (southwest)	Two adjacent burrows.
B4	Unoccupied	None	24"x12"x4'+ (northwest)	Burrow in wash, possibly coyote (<i>Canis latrans</i>).

Table 4: Potential Desert Tortoise Burrows in Conservation Area Portion of Survey Area

Burrow ID	Desert Tortoise Occupation	Desert Tortoise Sign	Width x Height x Depth (Aspect)	Notes
B5	Unoccupied*	None	14" x 6" x 2'+ (northeast)	Located in survey buffer; not within Project boundary. Burrow occurs on a rocky slope.

Notes: " = inches ; ' = feet.

*Burrows B2, B3, and B5 were found to be occupied by burrowing owl at the time of the survey.

The focused protocol desert tortoise survey did not detect live tortoises or recent tortoise sign (i.e. scat, tracks, recent burrows), but seven burrows (all Class 4, good condition and possibly belonging to desert tortoise [USFWS 2009]) that have the potential to be used by and/or have been made by desert tortoise were observed. Five of the seven burrows had recent burrowing owl use. The Project site is located at the western extent of the known range for desert tortoise in Riverside County, and no known records of desert tortoise have been documented within one mile of the Project site (CDFW 2020). While suitable friable soils and forage are present, on-site disturbances due to existing facilities at the Project site reduce the quality of habitat present and may preclude this species from occurring. Given these factors, there is a low likelihood of desert tortoise occurring on the site.

5.1.2 Rare Plant Surveys

The survey team performed a concurrent desert tortoise survey during the first rare plant survey in May. No special-status plants were found during the surveys. Rainfall for the wet season of 2019-2020 was considered average for the area (less than 10 inches) (Weather Underground 2020). The timing of surveys was considered adequate for detection of all potential special-status plant species.

5.1.3 Vegetation Mapping

Vegetation communities within the survey area were mapped. Table 5 describes the vegetation communities observed within the Conservation Area portion of the survey area. The results of the vegetation mapping are shown on Figure 3. These habitats, along with known species occurrences, were used to determine the likelihood of occurrence for the special-status species presented in Table 2.

Table 5: Vegetation Communities in Conservation Area Portion of Survey Area

Vegetation Community	Acres in Conservation Area	Description
Cheesebush - Sweetbush Scrub	147.7	Cheesebush (<i>Ambrosia salsola</i>) and sweetbush (<i>Bebbia juncea</i>) were co-dominant in the shrub canopy.

Table 5: Vegetation Communities in Conservation Area Portion of Survey Area

Vegetation Community	Acres in Conservation Area	Description
Creosote Bush - White Bursage Scrub	30.2	White bursage (<i>Ambrosia dumosa</i>) and creosote bush (<i>Larrea tridentata</i>) were co-dominant in the shrub canopy.
Creosote Bush Scrub	3.1	Creosote bush was dominant in the shrub canopy.
Developed	0.0	Areas with infrastructure present (e.g., substations, concrete, laydown yards) and no vegetation.
Disturbed	11.3	Areas that lacked development but were heavily influenced by human actions (e.g., grading, trash dumping, dirt roads). Vegetation was absent or consisted primarily of non-native species, such as red brome (<i>Bromus madritensis</i> ssp. <i>rubens</i>), redstem filaree (<i>Erodium cicutarium</i>), and Mediterranean grass (<i>Schismus barbatus</i>).
Disturbed - White Bursage Scrub	39.5	Large scale anthropogenic causes (e.g., cattle grazing, grading) have significantly disturbed vegetation, compared to the undisturbed community. Intermittent white bursage was present with herbaceous plants including desert dandelion (<i>Malacothrix glabrata</i>), Fremont's pincushion (<i>Chaenactis fremontii</i>), and non-native species including stinknet (<i>Oncosiphon piluliferum</i>).
White Bursage Scrub	4.2	White bursage was dominant in the shrub canopy.
Total	236.0	

Vegetation communities are described below. Representative photographs of vegetation types taken during the surveys are included in Appendix B.

Cheesebush - Sweetbush Scrub (*Ambrosia salsola* - *Bebbia juncea* Shrubland Alliance). The Cheesebush - Sweetbush Scrub community was co-dominated by cheesebush and sweetbush (*Bebbia juncea*) in the shrub canopy. Brittlebush (*Encelia farinosa*) and California ephedra (*Ephedra californica*) as well as emergent trees, such as desert willow (*Chilopsis linearis*), were also scattered in portions of the survey area. This community is characterized by an open to intermittent shrub canopy with a sparse or seasonally present herbaceous layer. It also can contain intermittently flooded channels, washes, valleys, flats, or rarely flooded low-gradient deposits. Soils are alluvial, sandy and/or gravelly, or disturbed desert pavement at elevations ranging from 0 m at mean sea level (msl) to 1,600 m above msl (Sawyer et al. 2009). This community was predominantly located in the western portion of the survey area and was mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

Creosote Bush - White Bursage Scrub (*Larrea tridentata* - *Ambrosia dumosa* Shrubland Alliance). The Creosote Bush - White Bursage Scrub community was co-dominated by creosote bush and white bursage, with Fremont's pincushion (*Chaenactis fremontii*) present in the herbaceous layer. This community is characterized by a two-tiered, open to intermittent shrub layer and an absent to

intermittent herbaceous layer containing seasonal annuals. Soils are well-drained alluvial and/or sand on washes, rills, and valleys at elevations ranging from 75 m below msl to 1,600 m above msl (Sawyer et al. 2009). This community was located in the western and eastern portions of the survey area and was mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance). The Creosote Bush Scrub community was dominated by creosote bush in the shrub canopy, with goldenhead (*Acamptopappus sphaerocephalus*) and cheesebush also present, as well as narrow leaved cryptantha (*Cryptantha angustifolia*) in the herbaceous layer. This community is characterized by an open to intermittent shrub canopy with an open to intermittent herbaceous layer containing seasonal annuals and/or native perennial grasses. Soils are well drained gravel on alluvial fans, minor intermittent washes, and upland slopes from 75 m below msl to 1,300 m above msl (Sawyer et al. 2009). This community was predominantly located in the mid-portion of the survey area and was mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

Developed. Areas designated as developed had infrastructure present and no vegetation. Developed is not a vegetation classification, but rather a land cover type and is not restricted to a known elevation. Developed areas included substations, concrete, and laydown yards.

Disturbed. The disturbed classification included areas where the native vegetation community was heavily influenced by human actions, such as grading, trash dumping, and dirt roads, but lacked development. Disturbed is not a vegetation classification, but rather a land cover type and is not restricted to a particular elevation. Disturbed areas located most commonly included dirt roads. In areas classified as disturbed, vegetation was absent or consisted primarily of non-native species, such as red brome (*Bromus madritensis* ssp. *rubens*), redstem filaree (*Erodium cicutarium*), and Mediterranean grass (*Schismus barbatus*).

Disturbed - White Bursage Scrub (Disturbed - *Ambrosia dumosa* Shrubland Alliance). The Disturbed - White Bursage Scrub community had many of the same characteristics as the undisturbed White Bursage Scrub community; however, large scale anthropogenic causes (e.g., cattle grazing, grading) have significantly disturbed the vegetation. This community contained very limited, intermittent white bursage shrubs with a seasonally present herbaceous layer including desert dandelion, Fremont's pincushion, and many non-native species including stinknet (*Oncosiphon piluliferum*). This community was located in a large middle portion of the survey area.

White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance). The White Bursage Scrub community was dominated by white bursage, with cheesebush and white rhatany (*Krameria bicolor*) also present, and smallseed sandmat (*Euphorbia polycarpa*) in the herbaceous layer. The White Bursage Scrub community is characterized by an open to intermittent shrub layer and an open to intermittent herbaceous layer with seasonal annuals. This community is found within older washes and/or river terraces with sandy, clay-rich soils at elevations ranging from 0 m at msl to 1,700 m above msl (Sawyer et al. 2009). This community was located in a small northwestern section of the survey area and was mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks).

5.1.4 Burrowing Owl

Protocol-level burrowing owl surveys were not conducted; however, burrowing owls and their sign were documented during all surveys conducted on-site. A total of five potential burrowing owl burrows in three locations were found in the Conservation Area portion of the survey area, two locations (B2 and B3) included two adjacent burrows each, for a total of five individual burrows at three sites. One additional burrow was identified outside the site boundary (B5), and it is not included in the site total above.

Five burrows were found to be occupied by burrowing owl (B2, B3, and B5). B2 and B3 had two adjacent burrows at each location, are approximately 60 feet apart from one another, and are likely part of the same burrow complex used by one burrowing owl family group. B5 was found to be occupied by burrowing owl but is outside the site boundary. The other burrow (B4) did not show signs of burrowing owl occupancy. The total number of burrowing owl observations was nine and was calculated as the highest number of owls observed at each burrow location on a single survey date. It is presumed that the same owls were observed during each survey. Nine owls were observed at B2 and B3 (including juveniles). Five owls were observed at B5 (including juveniles), however, since this is outside of the Project site, these owls are not included in the total number of burrowing owl observations. All owls (adults and juveniles) at these locations were wary of human presence during the surveys. All burrows found are shown on Figure 2. Details on burrowing owl for each burrow are presented in Table 6. Representative photographs taken during the surveys are included in Appendix B.

Table 6: Potential Burrowing Owl Burrows in Conservation Area Portion of Survey Area

Burrow ID	Burrowing Owl Occupation	Burrowing Owl Sign	Width x Height x Depth (Aspect)*	Note (Date)
B2 (Two Burrows) B3 (Two Burrows)	Occupied	Whitewash, prey	12" x 8" x 3'+ (southeast) 10" x 8" x 2'+ (southeast) 8" x 6" x 2'+ (southeast) 12" x 8" x 2'+ (southwest)	B2 and B3 are located approximately 60 feet apart; it is presumed that both locations are part of the same complex. On May 4, one owl was observed in a burrow and another was perched nearby at B2. B3 had sign of recent use on May 4. At least nine burrowing owls were observed using and near the burrows at B2 and B3 on June 6, and at least five owls were observed on June 18; juveniles were identified at B2 and B3 during both burrow checks.
B4	Unoccupied	None	24"x12"x4'+ (northwest)	Burrow in wash, possibly coyote (<i>Canis latrans</i>).

Table 6: Potential Burrowing Owl Burrows in Conservation Area Portion of Survey Area

Burrow ID	Burrowing Owl Occupation	Burrowing Owl Sign	Width x Height x Depth (Aspect)*	Note (Date)
B5	Occupied	Whitewash, feathers, pellets	14" x 6" x 2'+ (northeast)	Located in survey buffer; not within Project boundary. Burrow occurs on a rocky slope. No burrowing owls were observed on June 6 (only fresh sign was observed), and at least five owls were at the burrow on June 18, including juveniles.

Notes: " = inches ; ' = feet.

*Burrow dimensions presented in Table 6 are equivalent to those in Table 4 for desert tortoise.

5.1.5 Incidental Species Observations

Plant and wildlife species observed during the surveys were recorded. No LeConte's thrashers were observed during the surveys. Tables 7 and 8 list the plant and wildlife species that were observed within the Conservation Area portion of the survey area.

Table 7: Plant Species Observed in Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Abronia villosa</i> var. <i>villosa</i>	Desert sand verbena
<i>Acamptopappus sphaerocephalus</i>	Goldenhead
<i>Acmispon glaber</i>	Deerweed
<i>Ambrosia dumosa</i>	Burrobush
<i>Ambrosia salsola</i>	Cheesebush
<i>Amsinckia tessellata</i>	Bristly fiddleneck
<i>Atriplex canescens</i>	Fourwing saltbush
<i>Bebbia juncea</i>	Sweetbush
<i>Brassica tournefortii</i> *	Saharan mustard
<i>Brickellia desertorum</i>	Desert brickellbush
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	Red brome
<i>Camissoniopsis pallida</i>	Pale yellow sun cup
<i>Chaenactis fremontii</i>	Fremont's pincushion
<i>Chaenactis stevioides</i>	Desert pincushion
<i>Chilopsis linearis</i>	Desert willow
<i>Chorizanthe brevicornu</i> var. <i>brevicornu</i>	Brittle spineflower
<i>Crassula connata</i>	Sand pygmyweed
<i>Croton californicus</i>	California croton
<i>Cryptantha angustifolia</i>	Narrow leaved cryptantha

Table 7: Plant Species Observed in Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Cryptantha barbiger</i>	Bearded cryptantha
<i>Cryptantha intermedia</i>	Common cryptantha
<i>Cryptantha micrantha</i>	Purple root cryptantha
<i>Cylindropuntia echinocarpa</i>	Silver cholla
<i>Datura wrightii</i>	Jimsonweed
<i>Dicoria canescens</i>	Desert dicoria
<i>Echinocereus engelmannii</i>	Hedgehog Cactus
<i>Encelia actoni</i>	Acton encelia
<i>Encelia farinosa</i>	Brittlebush
<i>Ephedra californica</i>	California ephedra
<i>Eriastrum diffusum</i>	Miniature woollystar
<i>Eriastrum eremicum</i>	Desert woollystar
<i>Erigeron</i> sp.	Horseweed
<i>Eriogonum deflexum</i>	Flat topped buckwheat
<i>Eriogonum fasciculatum</i> var. <i>polifolium</i>	Mojave wild buckwheat
<i>Eriogonum inflatum</i> var. <i>inflatum</i>	Desert trumpet
<i>Eriogonum pusillum</i>	Yellow turbans
<i>Eriogonum reniforme</i>	Kidney leaf buckwheat
<i>Eriogonum</i> sp.	Buckwheat
<i>Erodium cicutarium</i> *	Redstem stork's bill
<i>Eschscholzia minutiflora</i>	Coville poppy
<i>Euphorbia polycarpa</i>	Smallseed sandmat
<i>Ferocactus cylindraceus</i>	California barrel cactus
<i>Funastrum cynanchoides</i> var. <i>hartwegii</i>	Fringed twinevine
<i>Hesperoyucca whipplei</i>	Chaparral yucca
<i>Hilaria rigida</i>	Big galleta
<i>Hordeum murinum</i> *	Foxtail barley
<i>Isocoma acradenia</i>	Alkali goldenbush
<i>Krameria bicolor</i>	White rhatany
<i>Krameria erecta</i>	Littleleaf rhatany
<i>Lactuca serriola</i> *	Prickly lettuce
<i>Larrea tridentata</i>	South American creosote bush
<i>Loeflingia squarrosa</i>	Spreading loeflingia
<i>Loeseliastrum schottii</i>	Schott's calico
<i>Logfia depressa</i>	Dwarf cottonrose

Table 7: Plant Species Observed in Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Lycium andersonii</i>	Anderson's thornbush
<i>Malacothrix glabrata</i>	Desert dandelion
<i>Mirabilis laevis</i>	Desert four o'clock
<i>Oncosiphon piluliferum</i> *	Stinknet
<i>Palafoxia arida</i>	Spanish needle
<i>Parkinsonia florida</i>	Blue paloverde
<i>Pectocarya linearis</i>	Comb-bur
<i>Pectocarya recurvata</i>	Curvenut combseed
<i>Pennisetum setaceum</i> *	Fountaingrass
<i>Peritoma arborea</i>	Bladderpod
<i>Petalonyx thurberi</i> ssp. <i>thurberi</i>	Thurber's sandpaper plant
<i>Physalis crassifolia</i>	Thick leaved ground cherry
<i>Prosopis glandulosa</i>	Honey mesquite
<i>Psathyrotes ramosissima</i>	Turtleback
<i>Psorothamnus arborescens</i> var. <i>simplicifolius</i>	California indigo bush
<i>Rumex</i> sp.	Dock
<i>Salsola paulsenii</i> *	Barbwire Russian thistle
<i>Salvia columbariae</i>	Chia
<i>Schismus barbatus</i> *	Common Mediterranean grass
<i>Stephanomeria pauciflora</i>	Wirelettuce
<i>Stillingia linearifolia</i>	Narrow leaved stillingia
<i>Stipa hymenoides</i>	Indian rice grass
<i>Thamnosma montana</i>	Turpentine broom
<i>Yucca schidigera</i>	Mojave yucca

Note: *Non-native species.

Table 8: Wildlife Species Observed in Conservation Area Portion of Survey Area

Scientific Name	Common Name	Notes
Birds		
<i>Aquila chrysaetos</i> *	Golden eagle	One carcass of this species was observed. The site likely provides foraging habitat for this species.
<i>Athene cunicularia</i> *	Burrowing owl	Individuals (adult and juvenile) and sign of this species were observed.

Table 8: Wildlife Species Observed in Conservation Area Portion of Survey Area

Scientific Name	Common Name	Notes
<i>Cathartes aura</i>	Turkey vulture	-
<i>Corvus corax</i>	Common raven	-
<i>Lanius ludovicianus</i> *	Loggerhead shrike	-
<i>Tyto alba</i>	Barn owl	A carcass of this species was observed.
Mammals		
<i>Ammospermophilus leucurus</i>	White-tailed antelope squirrel	-
<i>Dipodomys</i> sp.	Kangaroo rat	The site is outside the range of listed kangaroo rat species and/or lacks suitable habitat for the species.
<i>Lepus californicus</i>	Black-tailed jackrabbit	-
<i>Neotoma lepida</i>	Desert woodrat	-
<i>Sylvilagus audubonii</i>	Desert cottontail	-
Reptiles		
<i>Arizona elegans occidentalis</i> *	California glossy snake	One carcass of this species was observed.
<i>Aspidoscelis tigris tigris</i>	Great Basin whiptail	-
<i>Callisaurus draconoides rhodostictus</i>	Western zebra-tailed lizard	-
<i>Coluber flagellum piceus</i>	Red racer	-
<i>Crotalus cerastes</i>	Sidewinder	-
<i>Crotalus oreganus helleri</i>	Southern pacific rattlesnake	-
<i>Crotalus ruber</i> *	Red-diamond rattlesnake	One observed.
<i>Dipsosaurus dorsalis dorsalis</i>	Northern desert iguana	-
<i>Gambelia wislizenii</i>	Long-nosed leopard lizard	-
<i>Phrynosoma platyrhinos calidiarum</i>	Southern desert horned lizard	-
<i>Uta stansburiana elegans</i>	Western side-blotched lizard	-

Note: *California Species of Special Concern/California Fully Protected or Watch List Species.

As shown in Table 8, a total of five special-status species were observed inside the Conservation Area: golden eagle (carcass), burrowing owl, loggerhead shrike, California glossy snake (carcass), and red-diamond rattlesnake. These species are not listed under the FESA and CESA but are considered sensitive by the CDFW. In addition, the golden eagle is protected under the Bald and Golden Eagle Protection Act that provides additional protection to this species.

5.2 Results in Remainder of the Project Site Outside the Conservation Area

The results described in the following sections include the remainder of the Project site outside the Conservation Area that was surveyed in April, May, and June 2020, as well as the added 38-acre area that was surveyed in July 2020.

5.2.1 Rare Plant Surveys

Rare plant surveys were conducted in the portion of the survey area outside the Conservation Area on April 27 to 30, and May 28 and 29, 2020. No special-status plants were found during the surveys. The timing of these surveys was considered adequate for detection of all potential special-status plant species.

No special-status plants were observed within the added 38-acre area during the survey on July 15, 2020; however, due to the timing of the survey, the majority of annual plants were unidentifiable and many perennial plants were dormant. Although approximately 21.9 acres of Disturbed - White Bursage Scrub and 16.5 acres of Creosote Bush Scrub (i.e., desert scrub) were found within the added 38-acre area and this survey was not conducted during the blooming period for most special-status plants (Table 2), the entire added area was classified as moderately disturbed habitat based on the presence of non-native species and anthropogenic causes. In addition, no special-status plants were found in the other approximately 685.9 acres of these two on-site desert scrub communities during surveys that were performed during the blooming period. No other potential habitat for special-status plants was found within the added 38-acre area. Therefore, it is unlikely that the added 38-acre area would support special-status plants and no additional surveys for these plants are required.

5.2.2 Vegetation Mapping

Vegetation communities within the survey area were mapped. Table 9 describes the vegetation communities observed in the portion of the survey area outside the Conservation Area, including the added 38-acre area. The results of the vegetation mapping are shown on Figure 3. These habitats, along with known species occurrences, were used to determine the likelihood of occurrence for the special-status species presented in Table 2. Descriptions of the vegetation communities are provided above for vegetation mapping results in the Conservation Area. Representative photographs of vegetation types taken during the surveys are included in Appendix B.

Table 9: Vegetation Communities Outside Conservation Area Portion of Survey Area

Vegetation Community	Acres Outside Conservation Area	Description
Cheesebush - Sweetbush Scrub	10.9	Cheesebush and sweetbush were co-dominant in the shrub canopy.
Creosote Bush - White Bursage Scrub	80.5	White bursage and creosote bush were co-dominant in the shrub canopy.

Table 9: Vegetation Communities Outside Conservation Area Portion of Survey Area

Vegetation Community	Acres Outside Conservation Area	Description
Creosote Bush Scrub	359.8	Creosote bush was dominant in the shrub canopy.
Developed	10.7	Areas with infrastructure present (e.g., substations, concrete, laydown yards) and no vegetation.
Disturbed	78.3	Areas that lacked development but were heavily influenced by human actions (e.g., grading, trash dumping, dirt roads). Vegetation was absent or consisted primarily of non-native species, such as red brome, redstem filaree, and Mediterranean grass. The areas closest to Garnet Avenue were highly disturbed, containing roadside trash and debris.
Disturbed - White Bursage Scrub	321.9	Large scale anthropogenic causes (e.g., cattle grazing, grading) have significantly disturbed vegetation, compared to the undisturbed community. Intermittent white bursage was present with herbaceous plants including desert dandelion, Fremont's pincushion, and non-native species including stinknet.
Total	862.1*	

Note: *Total acres include the remainder of the Project site outside the Conservation Area that was surveyed in April, May, and June 2020, as well as the added 38-acre area that was surveyed in July 2020.

5.2.3 Burrowing Owl

One occupied burrowing owl burrow was found in the portion of the survey area just outside the Conservation Area near a previously used access road. This burrow is labeled as B6 on Figure 2. Two adult owls and four juveniles were observed near the burrow on June 4 and June 18. It is presumed that the same six owls (two adults and four juveniles) were observed on June 4 as were observed on June 18. Owls at this location were less inclined to retreat inside the burrow or flush during the surveys, and were bobbing their heads repeatedly at the presence of the biologist. Biologists were unable to record measurement information for this burrow because owls were present. One burrowing owl was also observed in flight outside the Conservation Area on May 28, 2020 (Figure 2).

One potential burrowing owl burrow of suitable size and shape for the species was found beneath a creosote bush shrub in the added 38-acre area (Figure 2). This burrow is labeled as B7 on Figure 2. B7 was west facing, eight inches wide by 10 inches high, and greater than two feet deep. No owls or owl sign were observed at B7. This burrow was not the appropriate shape to have been made or used by the desert tortoise.

No additional burrows, owl sign, or owls were found outside the Conservation Area. Representative photographs taken during the surveys are included in Appendix B.

5.2.4 Incidental Observations

Plant and wildlife species observed during the surveys were recorded. No LeConte's thrashers were observed during the surveys. Tables 10 and 11 list the plant and wildlife species that were observed in the portion of the survey area outside the Conservation Area, including the added 38-acre area.

Table 10: Plant Species Observed Outside Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Abronia villosa</i> var. <i>villosa</i>	Desert sand verbena
<i>Acmispon glaber</i>	Deerweed
<i>Acmispon strigosus</i>	Strigose lotus
<i>Ambrosia acanthicarpa</i>	Annual bur-sage
<i>Ambrosia dumosa</i>	Burrobush
<i>Ambrosia salsola</i>	Cheesebush
<i>Amsinckia tessellata</i>	Bristly fiddleneck
<i>Atriplex canescens</i>	Fourwing saltbush
<i>Bebbia juncea</i>	Sweetbush
<i>Brassica tournefortii</i> *	Saharan mustard
<i>Brickellia desertorum</i>	Desert brickellbush
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	Red brome
<i>Bromus tectorum</i> *	Cheat grass
<i>Camissoniopsis pallida</i>	Pale yellow sun cup
<i>Chaenactis fremontii</i>	Fremont's pincushion
<i>Chaenactis glabriuscula</i>	Yellow pincushion
<i>Chaenactis stevioides</i>	Desert pincushion
<i>Chilopsis linearis</i>	Desert willow
<i>Chorizanthe brevicornu</i> var. <i>brevicornu</i>	Brittle spineflower
<i>Crassula connata</i>	Sand pygmyweed
<i>Croton californicus</i>	California croton
<i>Cryptantha angustifolia</i>	Narrow leaved cryptantha
<i>Cryptantha barbiger</i>	Bearded cryptantha
<i>Cryptantha circumscissa</i>	Cushion cryptantha
<i>Cryptantha intermedia</i>	Common cryptantha
<i>Cryptantha micrantha</i>	Purple root cryptantha
<i>Cylindropuntia echinocarpa</i>	Silver cholla
<i>Dicoria canescens</i>	Desert dicoria
<i>Ditaxis serrata</i> var. <i>serrata</i>	Saw toothed ditaxis
<i>Echinocereus engelmannii</i>	Hedgehog Cactus

Table 10: Plant Species Observed Outside Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Encelia actoni</i>	Acton encelia
<i>Encelia farinosa</i>	Brittlebush
<i>Ephedra californica</i>	California ephedra
<i>Eriastrum eremicum</i>	Desert woollystar
<i>Erigeron</i> sp.	Horseweed
<i>Eriogonum deflexum</i>	Flat topped buckwheat
<i>Eriogonum fasciculatum</i> var. <i>polifolium</i>	Mojave wild buckwheat
<i>Eriogonum inflatum</i> var. <i>inflatum</i>	Desert trumpet
<i>Eriogonum pusillum</i>	Yellow turbans
<i>Eriogonum reniforme</i>	Kidney leaf buckwheat
<i>Erodium cicutarium</i> *	Redstem stork's bill
<i>Eschscholzia minutiflora</i>	Coville poppy
<i>Eulobus californicus</i>	California primrose
<i>Euphorbia polycarpa</i>	Smallseed sandmat
<i>Ferocactus cylindraceus</i>	California barrel cactus
<i>Hilaria rigida</i>	Big galleta
<i>Hordeum murinum</i> *	Foxtail barley
<i>Krameria bicolor</i>	White rhatany
<i>Krameria erecta</i>	Littleleaf rhatany
<i>Lactuca serriola</i> *	Prickly lettuce
<i>Larrea tridentata</i>	South American creosote bush
<i>Loeflingia squarrosa</i>	Spreading loeflingia
<i>Loeseliastrum schottii</i>	Schott's calico
<i>Logfia depressa</i>	Dwarf cottonrose
<i>Malacothrix glabrata</i>	Desert dandelion
<i>Mirabilis laevis</i>	Desert four o'clock
<i>Nerium oleander</i> *	Oleander
<i>Oncosiphon piluliferum</i> *	Stinknet
<i>Parkinsonia florida</i>	Blue paloverde
<i>Pectocarya linearis</i>	Comb-bur
<i>Pectocarya penicillata</i>	Winged combseed
<i>Pectocarya recurvata</i>	Curvenut combseed
<i>Peritoma arborea</i>	Bladderpod
<i>Petalonyx thurberi</i> ssp. <i>thurberi</i>	Thurber's sandpaper plant
<i>Physalis crassifolia</i>	Thick leaved ground cherry

Table 10: Plant Species Observed Outside Conservation Area Portion of Survey Area

Scientific Name	Common Name
<i>Plantago ovata</i>	Desert plantain
<i>Prosopis glandulosa</i>	Honey mesquite
<i>Psathyrotes ramosissima</i>	Turtleback
<i>Psorothamnus arborescens</i> var. <i>simplicifolius</i>	California indigo bush
<i>Psorothamnus emoryi</i>	Emory's indigo bush
<i>Rafinesquia neomexicana</i>	Desert chicory
<i>Rumex</i> sp.	Dock
<i>Salsola paulsenii</i> *	Barbwire Russian thistle
<i>Salvia columbariae</i>	Chia
<i>Schismus barbatus</i> *	Common Mediterranean grass
<i>Senegalia</i> sp.	Catclaw
<i>Stephanomeria pauciflora</i>	Wirelettuce
<i>Stillingia linearifolia</i>	Narrow leaved stillingia
<i>Tamarix aphylla</i> *	Athel tamarisk
<i>Thamnosma montana</i>	Turpentine broom
<i>Tiquilia plicata</i>	Fanleaf crinklemat

Note: *Species is not native to California.

Table 11: Wildlife Species Observed Outside Conservation Area Portion of Survey Area

Scientific Name	Common Name	Notes
Birds		
<i>Athene cunicularia</i> *	Burrowing owl	Individuals (adult and juvenile) and sign of this species were observed. One owl was observed in flight and mapped on May 28, 2020 (Figure 2).
<i>Auriparus flaviceps</i>	Verdin	-
<i>Chordeiles acutipennis</i>	Lesser nighthawk	-
<i>Corvus corax</i>	Common raven	-
<i>Haemorrhous mexicanus</i>	House finch	-
<i>Lanius ludovicianus</i> *	Loggerhead shrike	Two fledging shrikes were mapped on April 29, 2020, and one shrike was mapped in the added 38-acre area on July 15, 2020 (Figure 2).
Mammals		
<i>Ammospermophilus leucurus</i>	White-tailed antelope squirrel	-
<i>Canis latrans</i>	Coyote	-
<i>Lepus californicus</i>	Black-tailed jackrabbit	-

Table 11: Wildlife Species Observed Outside Conservation Area Portion of Survey Area

Scientific Name	Common Name	Notes
<i>Neotoma lepida</i>	Desert woodrat	-
<i>Sylvilagus audubonii</i>	Desert cottontail	-
Reptiles		
<i>Aspidoscelis tigris tigris</i>	Great Basin whiptail	-
<i>Callisaurus draconoides rhodostictus</i>	Western zebra-tailed lizard	-
<i>Crotalus ruber*</i>	Red-diamond rattlesnake	One observed.
<i>Crotaphytus</i> sp.	Collared lizard	-
<i>Dipsosaurus dorsalis dorsalis</i>	Northern desert iguana	-
<i>Phrynosoma platyrhinos calidiarum</i>	Southern desert horned lizard	-
<i>Uta stansburiana elegans</i>	western side-blotched lizard	-

Note: *California Species of Special Concern/California Fully Protected or Watch List Species.

As shown in Table 11, a total of three special-status wildlife species were observed outside the Conservation Area: burrowing owl, loggerhead shrike, and red-diamond rattlesnake. These species are not listed under the FESA and CESA but are considered sensitive by the CDFW.

5.3 Rabbit Hemorrhagic Disease

Rabbit Hemorrhagic Disease Virus Type 2 (RHDV2) was confirmed within the Project site, which is a highly contagious disease affecting rabbits and hares. All rabbit or hare carcasses with suspected RHDV2 (e.g., blood on mouth or nose) were reported to the CDFW and locations were recorded with GPS as feasible. MVPP staff buried all carcasses found on the site deep enough to prevent scavenging. Decontamination procedures for boots and gear were followed during surveys, including washing clothing, and disinfecting footwear and equipment in household bleach diluted 1:10 with water for at least 10 minutes. Approximately 60 black-tailed jackrabbit mortalities were observed and/or documented during the surveys.

6 Avoidance and Minimization Measures

The results of the surveys have been used to inform the pre-construction surveys required and to determine avoidance and minimization measures during construction activities. The recommended measures within this Report are preliminary and will be refined during the CEQA process as more details about the Project design and schedule are determined. If habitat for special-status species can be avoided during the finalization of the Project design, this could reduce the requirements. Since occupied burrowing owl burrows and potential desert tortoise burrows were found within the site (Figure 2), it is recommended that burrows are avoided whenever possible during Project implementation.

The portions of the Project site within the Conservation Area must comply with applicable measures described in Section 4.4 of the CVMSHCP (CVAG 2007). These measures are discussed below. In addition, the site must comply with applicable Land Use Adjacency Guidelines described in Section 4.5 of the CVMSHCP (CVAG 2007). The purpose of Land Use Adjacency Guidelines is to avoid or minimize indirect effects from development adjacent to (i.e., sharing a common boundary) or within the Conservation Area. The CVMSHCP includes Guidelines for drainage/runoff, toxics, lighting, noise, invasive species, barriers, and grading/land development.

All special-status species and sign found at the Project site are presented in Table 12. These species include burrowing owl, golden eagle, loggerhead shrike, California glossy snake, and red-diamond rattlesnake. Although burrows that could potentially be used by the desert tortoise were found on-site, the analysis indicates that there is low likelihood of occurrence of this species in the Project site.

Table 12: Special-status Species Observed in Project Site

Species	Federal Status	State Status/ Other Status	Found inside Conservation Area	Found outside Conservation Area
Burrowing owl (<i>Athene cunicularia</i>)	None	None/S, SSC, BCC, CVMSHCP	At least nine individuals (both adults and juveniles) observed and four occupied burrows. One occupied burrow (with at least five individuals, both adults and juveniles) observed just south of the Project boundary (not located in the Project site but in the buffer area surveyed).	Six individuals (two adults and four juveniles) observed and one occupied burrow.
Golden eagle (<i>Aquila chrysaetos</i>)	None	None/S, FP, WL, BCC	One carcass.	None.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	None	None/SSC, BCC	Observed.	Observed.
California glossy snake (<i>Arizona elegans occidentalis</i>)	None	None/SSC	One carcass.	None.
Red-diamond rattlesnake (<i>Crotalus ruber</i>)	None	None/SSC	One observed.	One observed.

Notes: BCC USFWS Birds of Conservation Concern
 FP CDFW Fully Protected
 FT USFWS Federally Threatened
 S BLM Sensitive Species
 SSC CDFW Species of Special Concern
 ST CDFW State Threatened
 WL CDFW Watch List
 CVMSHCP Coachella Valley Multiple Species Habitat Conservation Covered Species

To address the potential occurrence of nesting birds (including LeConte's thrasher under the CVMSHCP) the following pre-construction survey is recommended:

1. A pre-construction nesting bird survey will be performed on the construction site and within 500 feet of the construction site by a qualified biologist within 3 days of ground disturbance or vegetation removal and between delays of greater than 3 days during the nesting season (February 15 - September 1). For the portion of the site within the Whitewater Floodplain Conservation Area, the nesting season for LeConte's thrasher is defined as January 15 - June 15, in accordance with CVMSHCP requirements for the species. If an active nest is found, an appropriate buffer will be determined and established by the qualified biologist based on the bird species occupying the nest and the type of Project activities that are occurring. A 500-foot buffer is required for nesting LeConte's thrashers. The buffer will be staked and flagged. No ground disturbance or vegetation removal will occur within the buffer during the nesting season or until juvenile birds have fledged from the nest as determined by the qualified biologist.

To address the potential occurrence on the site of CDFW Species of Special Concern that are not covered under the CVMSHCP, the following pre-construction survey is recommended throughout the entire site:

2. A pre-construction wildlife survey will be performed on the construction site by a qualified biologist 3 to 14 days prior to ground disturbance or vegetation removal activities and between delays of greater than 14 days. If a sensitive wildlife species is observed within the construction site, a biological monitor will be present on-site during these activities to ensure that impacts to the species are avoided. If applicable, the monitor will flag the boundaries of areas where activities need to be restricted to protect the species. If significant and unavoidable impacts to the species cannot be avoided, compensatory mitigation may be required as determined by the regulatory agency. If a federal or state listed species is found during these surveys, additional consultation with the CDFW and USFWS would be required and activities could not occur until this is completed.

Additional avoidance and minimization measures needed to ensure that the Project remains in compliance with applicable federal, state, and local regulatory requirements are provided in Table 13. Since burrows that could be used by the desert tortoise were found, the applicable measures from the CVMSHCP are included in Table 13. Because triple-ribbed milkvetch and Little San Bernardino Mountains were not found during surveys, specific measures for these species from the CVMSHCP are not required. While the CVMSHCP includes Conservation Objectives for species with modeled Core Habitat or Other Conserved Habitat in the Whitewater Floodplain Conservation Area, these are habitat acreage conservation goals and do not require additional surveys or monitoring for the species (CVAG 2007). It is recommended that MVPP coordinate with the CVCC to ensure the Project is in compliance with the habitat conservation goals for the Conservation Area, which may result in additional Project-specific measures developed during coordination.

The golden eagle is not a covered species under the CVMSHCP; however, it receives protection under the Bald and Golden Eagle Protection Act. MVPP is coordinating with the USFWS and CDFW on a site-specific Avian Risk Assessment and Bird and Bat Conservation Strategy for the Project.

Table 13: Avoidance and Minimization Measures

Species	Recommended Measures Inside Conservation Area	Recommended Measures Outside Conservation Area
Burrowing owl (<i>Athene cunicularia</i>)	<p>The following measure from the CVMSHCP is recommended for burrowing owl (CVAG 2007):</p> <ul style="list-style-type: none"> A pre-construction survey will be performed by an Acceptable Biologist between 14 and 30 days of ground disturbance or vegetation removal. The following will apply if occupied burrowing owl burrows are found, in accordance with Section 4.4 of the CVMSHCP. The burrow will be flagged and a 160-foot buffer during the non-breeding season (September 1 to January 31) and a 250-foot buffer during the breeding season (February 1 to August 31), or a buffer to the edge of the property boundary if less than 500 feet, will be established around the burrow. The buffer will be staked and flagged. No development or operation and maintenance activities will be permitted within the buffer until the young are no longer dependent on the burrow, as determined by an Acceptable Biologist. <p>If owl burrows cannot be avoided, the following measure from the CVMSHCP is recommended (CVAG 2007):</p> <ul style="list-style-type: none"> If a burrow is determined to be unoccupied, the burrow can be made inaccessible to owls and the activity may proceed. If either a nesting or escape burrow is occupied, owls shall be relocated pursuant to accepted USFWS and CDFW protocols. A burrow is assumed occupied if records indicate that, based on surveys conducted following protocol, at least one burrowing owl has been observed occupying a burrow on site during the past three years. Determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g., distance to nearest suitable habitat and presence of burrows within that habitat) in coordination with the USFWS and CDFW. Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with USFWS and CDFW. 	<p>The following measure is recommended for burrowing owl, in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012).</p> <ul style="list-style-type: none"> A pre-construction survey will be performed by a qualified biologist within 14 days of ground disturbance or vegetation removal activities to locate any occupied burrowing owl burrows. If activities are delayed or suspended for more than 14 days after the survey, the site will be resurveyed. If occupied owl burrows are detected in the site, no ground disturbance or vegetation removal activities will be permitted within a buffer of 656 feet from an active burrow during the breeding season (February 1 to August 31). During the non-breeding (winter) season (September 1 to January 31), no activities will be permitted within a buffer of 164 feet from the burrow. A smaller buffer than those described above may be established by the qualified biologist based on the level of disturbance and observed responses of owls. Visible markers will be used to ensure that the buffers are maintained. If ground disturbance or vegetation removal is required within the buffer of an occupied owl burrow during the non-breeding season, or during the breeding season where owls have not yet begun egg laying or where the juveniles are foraging independently and capable of independent survival, a qualified biologist will implement a passive relocation program in accordance with the CDFW Staff Report on Burrowing Owl Mitigation and prepare a Burrowing Owl Exclusion Plan for review by CDFW prior to relocation activities. Training for on-site workers will be conducted to increase the worker's recognition of and commitment to burrowing owl protection.

Table 13: Avoidance and Minimization Measures

Species	Recommended Measures Inside Conservation Area	Recommended Measures Outside Conservation Area
Desert tortoise (<i>Gopherus agassizii</i>)	<p>Tortoise fencing and clearance surveys are not required because the protocol-level presence/absence survey did not detect any live tortoises or recent (i.e., fresh) tortoise sign. In addition, the site is located at the extreme western extent of the known range for desert tortoise, and the habitat present is degraded due to existing development and associated disturbances. However, seven burrows found within the site during the survey have the potential to be used by desert tortoise (all Class 4); therefore, the following measure is recommended:</p> <ul style="list-style-type: none"> A pre-construction survey on the development site and within 200 feet of the site will be conducted no more than 90 days prior to construction to ensure that no desert tortoises are on the site, in accordance with Section 4.4 of the CVMSHCP. The survey is valid for 90 days or indefinitely if tortoise-proof fencing is installed around the development site. <p>The following measures from Section 4.4 of the CVMSHCP for desert tortoise are also required for all projects occurring in Conservation Areas (CVAG 2007):</p> <ul style="list-style-type: none"> Personnel conducting operation and maintenance activities will be instructed to be alert for the presence of desert tortoise. If a tortoise is spotted, activities adjacent to the tortoise's location will be halted and the tortoise will be allowed to move away from the activity area. If the tortoise is not moving, it will be relocated by an Acceptable Biologist to nearby suitable habitat and placed in the shade of a shrub. To the maximum extent feasible, operation and maintenance activities will avoid the period from February 15 and October 31. Two utility development protocols, inactive and active season, provide specific direction on site preparation and construction phases of utility projects in the Conservation Areas. The inactive season protocol must be used for utility maintenance or development within the November 1 - February 14 time frame; the active season protocol must be used for utility maintenance or development within the February 15 - October 31 time frame. Deviations from these time 	None.

Table 13: Avoidance and Minimization Measures

Species	Recommended Measures Inside Conservation Area	Recommended Measures Outside Conservation Area
	<p>frames must be presented to the Reserve Management Oversight Committee. These protocols are detailed within Section 4.4 of the CVMSHCP. It is recommended that applicable measures described in these protocols be implemented prior to and during Project activities.</p> <ul style="list-style-type: none"> Upon locating dead, injured, or sick desert tortoises under any utility or road project, initial notification by the contact representative or Acceptable Biologist must be made to the USFWS or CDFW within three working days of its finding. Written notification must be made within five calendar days with the following information: date; time; location of the carcass; photograph of the carcass; and any other pertinent information. Care must be taken in handling sick or injured animals to ensure effective treatment and care. Injured animals shall be taken care of by the Acceptable Biologist or an appropriately trained veterinarian. Should any treated tortoises survive, USFWS or CDFW should be contacted regarding the final disposition of the animals. 	

Notes: The CVMSHCP defines an Acceptable Biologist as:

- A biologist whose name is on a list maintained by CVCC of biologists who are acceptable to CVCC, CDFW, and USFWS for purposes of conducting surveys of Covered Species.

A qualified biologist is typically more generically described as:

- A biologist with experience in surveying in the region for the special-status species that could occur in the Project area.

7 References

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken (editors)

2012 The Jepson Manual, Vascular Plants of California, Second Edition.

Bureau of Land Management (BLM)

2009 Survey Protocols Required for NEPA and CESA Compliance for BLM Special Status Plant Species. Available at <https://www.blm.gov/policy/ca-im-2009-026>.

California Department of Fish and Wildlife (CDFW)

2012 Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency. March 7.

2018 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. March 20, 2018

2020 California Natural Diversity Database. Version 5.2.14. Accessed March 23, 2020. <http://www.wildlife.ca.gov/Data/BIOS/>.

California Native Plant Society (CNPS)

2001 CNPS Botanical Survey Guidelines. California Native Plant Society, Sacramento, CA. December 9, 1983. Revised June 2, 2001.

2020 Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.45). White Water and Desert Hot Springs Quadrangles. Accessed March 23, 2020. <http://www.rareplants.cnps.org>.

Coachella Valley Association of Governments (CVAG)

2007 Final Recirculated Coachella Valley Multiple Species Habitat Conservation Plan. September 2007. Amended in August 2016.

Google Earth Pro

2018 Imagery accessed March 23, 2020. Version 7.3.2.5491.

Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens

2009 A Manual of California Vegetation, Second Edition. California Native Plant Society Press, Sacramento, California. 1,300 p.

Tetra Tech, Inc. (Tetra Tech)

2020 Biological Surveys Work Plan for MVPP Wind Repower Project, Riverside County, CA. April 9.

U.S. Fish and Wildlife Service (USFWS)

- 2000 Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants. Sacramento, CA. January.
- 2009 Desert Tortoise (Mojave Population) Field Manual (*Gopherus agassizii*). Region 8, Sacramento, CA. December.
- 2018 Guidance on the Recent M-Opinion Affecting the Migratory Bird Treaty Act. April 11.
- 2019 Preparing for Any Action that May Occur within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*). October 8.

Weather Underground

- 2020 Website: <https://www.wunderground.com/>. Accessed June 2020.

Western EcoSystems Technology, Inc. (WEST)

- 2013 Post-Construction Avian and Bat Mortality Study at the Mountain View IV Wind Energy Project. Final Mortality Report March 2012-March 2013.
- 2019 Wildlife Survey Report for the Mountain View Power Partners Wind Project and Yavi Energy, LLC, Riverside County, California. Final Report: October 2017 - October 2018. Prepared for Mountain View Power Partners and Yavi Energy, LLC, Bismarck, North Dakota. February 13.

This page intentionally left blank

FIGURES

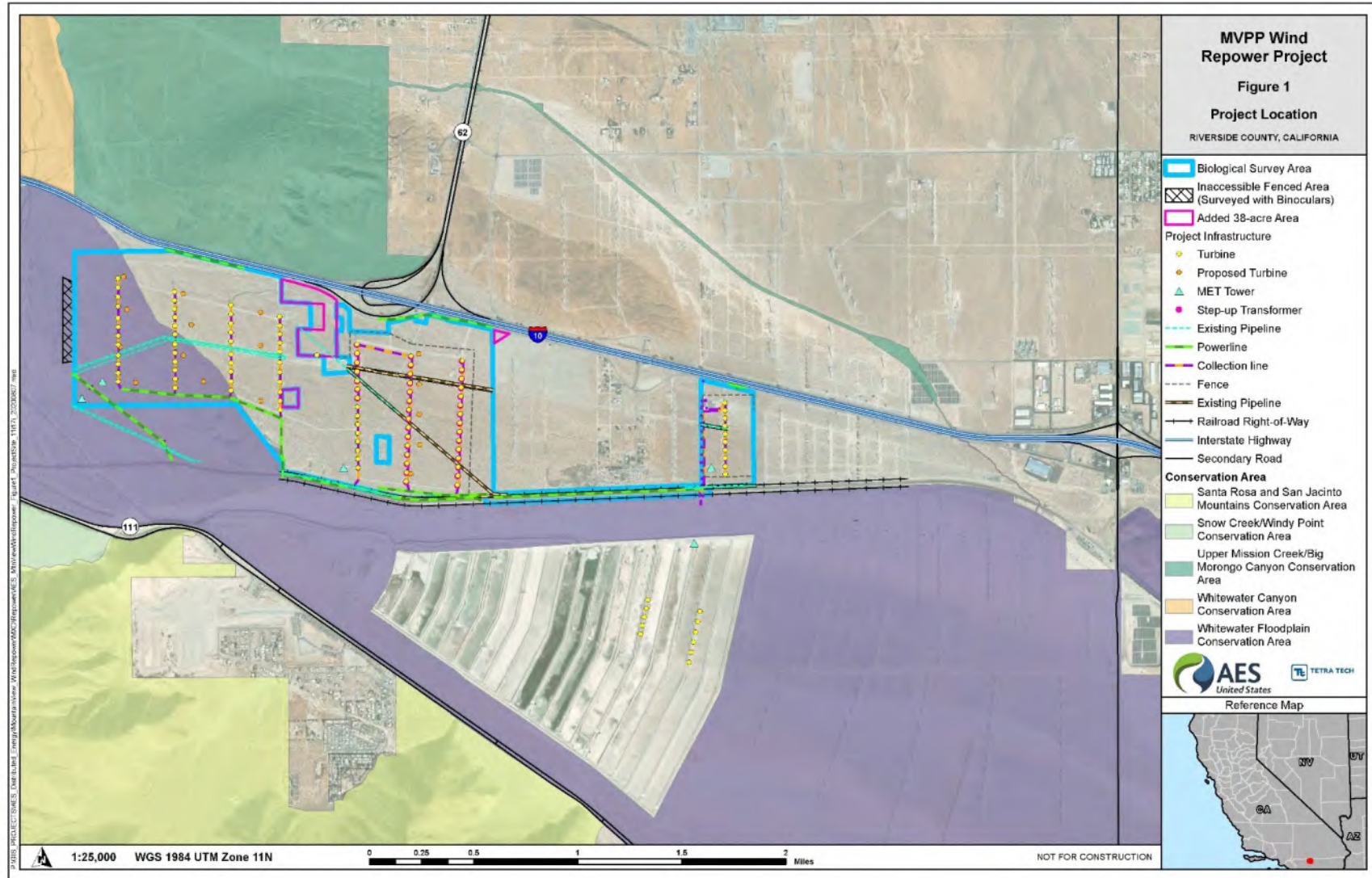


Figure 1: MVPP Wind Repower Project Location

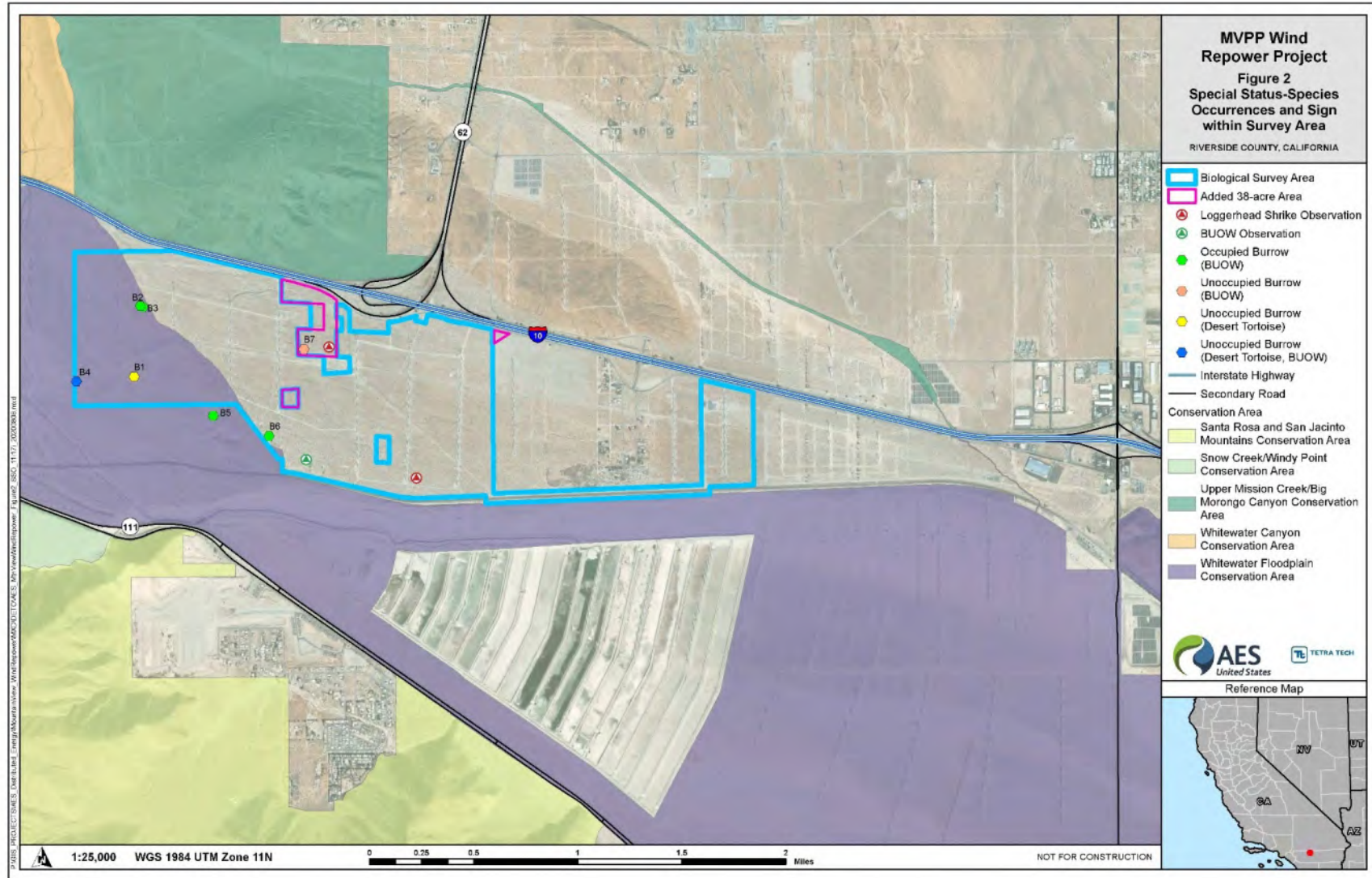


Figure 2: Special Status-Species Occurrences and Sign within Survey Area

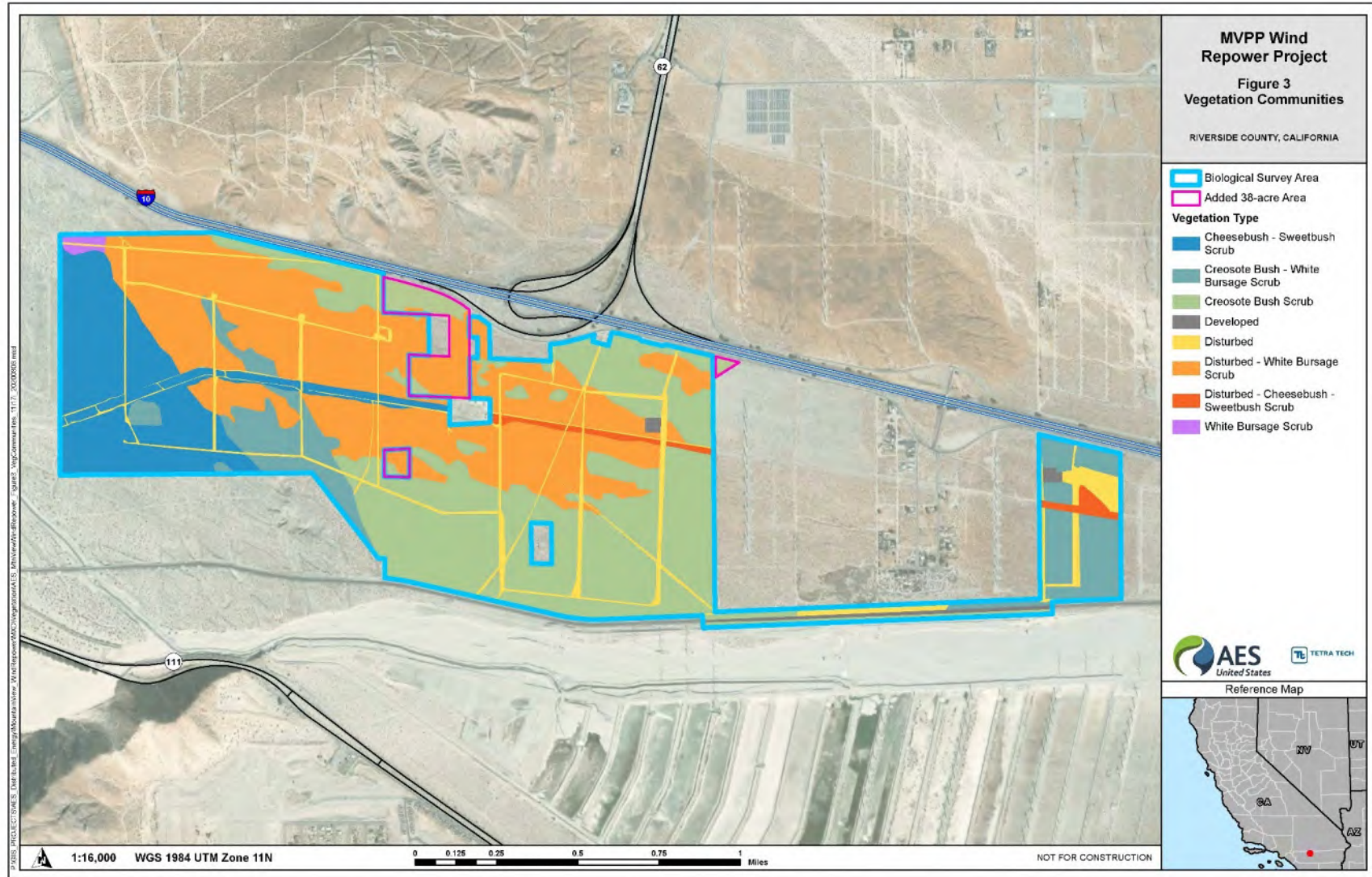


Figure 3: Vegetation Communities

This page intentionally left blank

Appendix A. Desert Tortoise Survey Data Sheets

Date: 5/4/2020
 GPS File: Collector

Desert Tortoise Survey



Project #: 2020-066
 Client: Tetra Tech

General Information		Weather Data	
Observers: <u>Taylor Dec</u>	Time (24 hr)	Start: <u>0805</u>	End: <u>1445</u>
<u>Eric Hampton</u>	Temp* (°F)	Start: <u>69</u>	End: <u>75</u>
<u>Alden Evans</u>	6" above ground in shade	Start: <u>8-10</u>	End: <u>1-4</u>
<u>Adam Schriber</u>	Wind (mph)	Start: <u>0</u>	End: <u>0</u>
<u>Kevin Simpson</u>	% Cloud Cover		
Area(s) surveyed			
<u>Central Gully area</u>			
Site Information			
Project Name: <u>MVPP</u>		UTM Coordinates (NAD 83)	
Location: <u>Palm Springs / Whitewater</u>		N: [PHOTOS?]	
County: <u>Riverside</u>		E: [PHOTOS?]	
Quad: _____		S: [PHOTOS?]	
T _____ R _____ S _____		W: [PHOTOS?]	
Parcel #: _____			
Physical Characteristics			
Elevation: _____	Aspect: _____	Soils: _____	
Land Form*: _____	% Slope: _____	Other: _____	
* e.g. mesa, bajada, wash			
Land Uses: _____			
NW: _____	SE: _____		
NE: _____	SW: _____		
Disturbances on Site: [e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other]			
<u>wind energy site - roads, off</u>			
Is site staked or marked? [Y] [X] [N]			
Transect Width: <u>10-m</u>			
Field Observations			
Vegetation Communities:			
Plants <u>Orange-burn scrub</u>			
Animals: [include: B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]			
<u>Common Raven</u> <u>barn owl (carcass)</u>			
<u>red-diamond rattlesnake</u> <u>whiptail</u>			
<u>burrowing owl</u> <u>woodrat</u>			
<u>desert humped lizard</u> <u>kangaroo rat</u>			
<u>cottontail</u> <u>desert sparrow</u>			
<u>zebra-tailed lizard</u> <u>coyote</u>			
<u>side-blotched lizard</u>			
<u>glossy ibis (carcass)</u>			

Form Updated: 11/5/2018

Page 1 of 2

Date: 9/4/2020Recorder: Tetra TechGPS file: Collector

Desert Tortoise Survey


 Tetra Tech Consulting, Inc.
 ENVIRONMENTAL RESOURCES
Project #: 2020-009Client: Tetra Tech

Desert Tortoise Sign

Time (24 hr)	Sign*	Class*	Easting UTM NAD83	Northing UTM NAD83	Comments (note aspect of burrows, Unique DT ID, measurements, behavior, etc.)
1012	B	4	33.90837477	-116.6275884	W aspect 6x4x1'd no sign under kamen bridge
1020	B	4	33.91428268	-116.62683760	2 occupied burrow burrows no DT sign
					Whitewash, pray items at entrance both SE
					aspect, 10x8x2' + 12x8x3' + live owl
					in one burrow, another owl perched nearby
1052	B	4	33.91432142	-116.62704480	occupied burrow burrows (2) one SE aspect
					8x6x2' + 1 SW aspect 12x8x2' +
					whitewash + pray remains present. NO DT sign
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

* T - tortoise, B - burrow, P - Pallet, S - scat, Tr - tracks, C - carcass, O - other (specify)

*BURROW / PALLET (Note Aspect) 1 - Currently active, w/tortoise or recent sign 2 - Good condition, definitely tortoise, no evidence of recent use 3 - Deteriorated condition (describe), definitely tortoise 4 - Good condition, possibly tortoise (describe) 5 - Deteriorated condition, possibly tortoise (describe)		*SCAT 1 - Wet or freshly dried, obvious odor 2 - Dry w/glaze and some odor, no bleaching, dark brown 3 - Dry, no glaze/odor, light brown, tightly packed, signs of bleaching 4 - Dry, very light brown to yellow, loose material; scaly appearance 5 - Bleached or consisting only of plant fiber	
*LIVE TORTOISE (MCL, Max Width, Width at 7/8 Marginal, Height) 1 - Healthy 2 - URTD 3 - Shell Cracked 4 - Peeling scutes 5 - Ticks		*CARCASS 1 - Fresh or putrid 2 - Normal color, scutes adhered to bone 3 - Scutes peeled off bone 4 - Shell gone is falling apart; growth rings on scutes are peeling 5 - Disarticulated and scattered	
A - Foraging B - Basking C - In burrow D - Digging E - Traveling		A - signs of predation B - No signs of predation	

Form Updated: 11/5/2018

Page 2 of 2

Date: 5/5/2020
 GPS File: collector

Desert Tortoise Survey



Project #: 2020-068
 Client: Tetra Tech

General Information		Weather Data	
Observers: <u>Lauren Simpson</u>	Time (24 hr)	Start: <u>0630</u>	End: <u>1400</u>
<u>Greg Hampton</u>	Temp* (°F) 6" above ground in shade	Start: <u>73</u>	End: <u>103</u>
<u>Adam Schrader</u>	Wind (mph)	Start: <u>35</u>	End: <u>2-5</u>
<u>Alden Lomas</u>	% Cloud Cover	Start: <u>0</u>	End: <u>0</u>
Area(s) surveyed			
<u>Central + eastern area</u>			
Site Information			
Project Name: <u>MVWP</u>		UTM Coordinates (NAD 83)	
Location: <u>Palm Springs / White-tater</u>		N: [PHOTOS?]	
County: <u>Riverside</u>		E: [PHOTOS?]	
Quad: _____		S: [PHOTOS?]	
T _____ R _____ S _____		W: [PHOTOS?]	
Parcel #: _____			
Physical Characteristics			
Elevation:	Aspect:	Soils:	
Land Form*:	% Slope:	Other:	
* e.g. mesa, bajada, wash			
Land Uses:			
NW:		SE:	
NE:		SW:	
Disturbances on Site: [e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other]			
<u>wind energy site - roads, etc</u>			
Is site staked or marked? [Y] <u>(N)</u>			
Transect Width: <u>10-m</u>			
Field Observations			
Vegetation Communities:			
Plants <u>Creosote bush scrub</u>			
Animals: [include: B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]			
<u>Common Raven</u>		<u>blacktailed jackrabbit</u>	
<u>logperched shrike</u>		<u>desert cottontail</u>	
<u>desert quail</u>		<u>antelope ground squirrel</u>	
<u>side-blotched lizard</u>		<u>leopard lizard</u>	
<u>desert horned lizard</u>		<u>whiptail</u>	
<u>zebra-tailed lizard</u>			
<u>andean green rattlesnake</u>		<u>southern pacific rattlesnake</u>	
<u>woodrat</u>			

Form Updated: 11/5/2018

Page 1 of 2

Date: 5/5/20
 Recorder: Lauren Simpson
 GPS file: Collector

Desert Tortoise Survey



ECORP Consulting, Inc.
 ENVIRONMENTAL CONSULTANTS

Project #: 2020-066
 Client: Tetra Tech

Desert Tortoise Sign

	Time (24 hr)	Sign*	Class*	Easting UTM NAD83	Northing UTM NAD83	Comments (note aspect of burrows, Unique DT ID, measurements, behavior, etc.)
1	1240	B	4	33.909860	116.362345	24 X 12 H, 4-5", 1/4" - facing no sign
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

* T - tortoise, B - burrow, P - Pallet, S - scat, Tr - tracks, C - carcass, O - other (specify)

*BURROW / PALLET (Note Aspect)

- 1 - Currently active, w/tortoise or recent sign
- 2 - Good condition, definitely tortoise, no evidence of recent use
- 3 - Deteriorated condition (describe), definitely tortoise
- 4 - Good condition, possibly tortoise (describe)
- 5 - Deteriorated condition, possibly tortoise (describe)

*SCAT

- 1 - Wet or freshly dried, obvious odor
- 2 - Dry w/glaze and some odor, no bleaching, dark brown
- 3 - Dry, no glaze/odor, light brown, tightly packed, signs of bleaching
- 4 - Dry, very light brown to yellow, loose material; scaly appearance
- 5 - Bleached or consisting only of plant fiber

*LIVE TORTOISE (MCL, Max Width,
Width at 7/8 Marginal, Height)

- 1 - Healthy
- 2 - URTD
- 3 - Shell Cracked
- 4 - Peeling scutes
- 5 - Ticks

- A - Foraging
- B - Basking
- C - In burrow
- D - Digging
- E - Traveling

*CARCASS

- 1 - Fresh or putrid
- 2 - Normal color, scutes adhered to bone
- 3 - Scutes peeled off bone
- 4 - Shell bone is falling apart; growth rings on scutes are peeling
- 5 - Disarticulated and scattered

- A - signs of predation
- B - No signs of predation

Form Updated: 11/5/2018

Page 2 of 2

Date: 5/6/2020
GPS File: Collector

Desert Tortoise Survey

 ECORP Consulting, Inc.
Environmental Consultants

Project #: 2020-066Client: Tetra Tech

General Information		Weather Data	
Observers: <u>Lauren Simpson</u>	Time (24 hr)	Start: <u>0630</u>	End: <u>1415</u>
<u>Greg Hampton</u>	Temp* (°F)	Start: <u>74</u>	End: <u>100</u>
<u>Adam Schroeder</u>	5" above ground in shade	Start: <u>3-10</u>	End: <u>2-5 mph</u>
<u>Alexandra Dorough</u>	Wind (mph)	Start: <u>15</u>	End: <u>15</u>
<u>Aiden Loraal</u>	% Cloud Cover		
Area(s) surveyed			
<u>Western end + Southern end</u>			
Site Information			
Project Name: <u>MVWP</u>		UTM Coordinates (NAD 83)	
Location: <u>Palm Springs / Whitewater</u>		N: [PHOTOS?]	
County: <u>Riverside</u>		E: [PHOTOS?]	
Quad: _____		S: [PHOTOS?]	
T: _____ R: _____ S: _____		W: [PHOTOS?]	
Parcel #: _____			
Physical Characteristics			
Elevation: _____	Aspect: _____	Soils: _____	
Land Form*: _____	% Slope: _____	Other: _____	
* e.g. mesa, bajada, wash			
Land Uses: _____			
NW: _____	SE: _____		
NE: _____	SW: _____		
Disturbances on Site: [e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other]			
<u>wind energy site - rocky, OTV</u>			
Is site staked or marked? [Y] [N]			
Transect Width: <u>10-m</u>			
Field Observations			
Vegetation Communities:			
Plants <u>Creosote bush scrub</u>			
Animals: [include: B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]			
<u>black-tailed jackrabbit</u>	<u>desert horned lizard</u>	<u>Golden eagle (carcass)</u>	
<u>desert cottontail</u>	<u>coahuila</u>	<u>burrowing owl (burrow, pellets whitewash)</u>	
<u>antelope ground squirrel</u>	<u>kangaroo rat</u>		
<u>leopard lizard</u>	<u>desert iguana</u>		
<u>whiptail</u>	<u>desert wood rat</u>		
<u>side-blotched lizard</u>	<u>red diamond rattlesnake</u>		
<u>sidewinder</u>	<u>Common raven</u>		
<u>zebra-tailed lizard</u>	<u>loggerhead shrike</u>		

Form Updated: 11/5/2018

Page 1 of 2

Date: 5/6/2020
 Recorder: Lauren Simpson
 GPS file: collector

Desert Tortoise Survey



ECORP Consulting, Inc.
 10000 WINDYBONE BLVD, SUITE 100, LAS VEGAS, NV 89135

Project #: 2020-066
 Client: Tetra Tech

Desert Tortoise Sign

Time (24 hr)	Sign*	Class*	Easting UTM NAD83	Northing UTM NAD83	Comments (note aspect of burrows, Unique DT ID, measurements, behavior, etc.)
1450	B	4	33.90663362	-112.67091276	14X6, 2ft depth, No sign, BLOW pellets On slope, NE Aspect
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

* T - tortoise, B - burrow, P - Pallet, S - scat, Tr - tracks, C - carcass, O - other (specify)

*BURROW / PALLET (Note Aspect)

- 1 - Currently active, w/tortoise or recent sign
- 2 - Good condition, definitely tortoise, no evidence of recent use
- 3 - Deteriorated condition (describe), definitely tortoise
- 4 - Good condition, possibly tortoise (describe)
- 5 - Deteriorated condition, possibly tortoise (describe)

*SCAT

- 1 - Wet or freshly dried, obvious odor
- 2 - Dry w/glaze and some odor, no bleaching, dark brown
- 3 - Dry, no glaze/odor, light brown, tightly packed, signs of bleaching
- 4 - Dry, very light brown to yellow, loose material; scaly appearance
- 5 - Bleached or consisting only of plant fiber

*LIVE TORTOISE (MCL, Max Width,
Width at 7/8 Marginal, Height)

- 1 - Healthy
- 2 - URTD
- 3 - Shell Cracked
- 4 - Peeling scutes
- 5 - Ticks

- A - Foraging
- B - Basking
- C - In burrow
- D - Digging
- E - Traveling

*CARCASS

- 1 - Fresh or putrid
- 2 - Normal color, scutes adhered to bone
- 3 - Scutes peeled off bone
- 4 - Shell bone is falling apart; growth rings on scutes are peeling
- 5 - Disarticulated and scattered

- A - signs of predation
- B - No signs of predation

Form Updated: 11/5/2018

Page 2 of 2

Date: 5/7/2020
 GPS File: Collector

Desert Tortoise Survey

ECORP Consulting, Inc.
 PROJECTS THAT PASS GOVERNMENT

Project #: 2020 066
 Client: Tetra Tech

General Information		Weather Data	
Observers: <u>Lauren Simpson</u>	Time (24 hr)	Start: <u>0630</u>	End: <u>1345</u>
<u>Greg Hampton</u>	Temp* (°F) 6" above ground in shade	Start: <u>73</u>	End: <u>108</u>
<u>Cortay Lancaster</u>	Wind (mph)	Start: <u>2-8</u>	End: <u>3-7</u>
<u>Alexandra Dorough</u>	% Cloud Cover	Start: <u>10</u>	End: <u>15</u>
Area(s) surveyed			
<u>Southern + northern areas</u>			
Site Information			
Project Name: <u>MVWP</u>		UTM Coordinates (NAD 83)	
Location: <u>Palm Springs / White Center</u>		N:	[PHOTOS?]
County: <u>Riverside</u>		E:	[PHOTOS?]
Quad:		S:	[PHOTOS?]
T: R: S:		W:	[PHOTOS?]
Parcel #:			
Physical Characteristics			
Elevation:	Aspect:	Soils:	
Land Form*:	% Slope:	Other:	
* e.g. mesa, bajada, wash			
Land Uses:			
NW:		SE:	
NE:		SW:	
Disturbances on Site: [e.g. tracks (vehicle, human, livestock, dog); trash; dump sites; bullet shells; blading; ravens; other]			
<u>wind energy site - road, DTV</u>			
Is site staked or marked? [Y] <u>(N)</u>			
Transect Width: <u>10-m</u>			
Field Observations			
Vegetation Communities:			
Plants <u>creosote bush scrub</u>			
Animals: [include: B - burrow, S - scat, O - observed, T - tracks, C - carcass, or Other (specify)]			
<u>black-tailed jackrabbit</u>		<u>zebra-tailed lizard</u>	
<u>desert cottontail</u>		<u>side-blotched lizard</u>	
<u>desert woodrat</u>		<u>whiptail</u>	
<u>loggerhead shrike</u>			
<u>burrowing owl (live animal, burrow)</u>			
<u>common barn</u>			
<u>turkey vulture</u>			
<u>desert iguana</u>			

Form Updated: 11/5/2018

Page 1 of 2

Date: 5/7/2020
 Recorder: Lauron Simpson
 GPS file: Collector

Desert Tortoise Survey



Project #: 2020-066
 Client: Tetra Tech

Desert Tortoise Sign					
Time (24 hr)	Sign*	Class*	Easting UTM NAD83	Northing UTM NAD83	Comments (note aspect of burrows, Unique DT ID, measurements, behavior, etc.)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

*T - tortoise, B - burrow, P - Pallet, S - scat, Tr - tracks, C - carcass, O - other (specify)

*BURROW / PALLET (Note Aspect)		*SCAT	
1 - Currently active, w/tortoise or recent sign		1 - Wet or freshly dried, obvious odor	
2 - Good condition, definitely tortoise, no evidence of recent use		2 - Dry w/glaze and some odor, no bleaching, dark brown	
3 - Deteriorated condition (describe), definitely tortoise		3 - Dry, no glaze/odor, light brown, tightly packed, signs of bleaching	
4 - Good condition, possibly tortoise (describe)		4 - Dry, very light brown to yellow, loose material; scaly appearance	
5 - Deteriorated condition, possibly tortoise (describe)		5 - Bleached or consisting only of plant fiber	
*LIVE TORTOISE (MCL, Max Width, Width at 7/8 Marginal, Height)		*CARCASS	
1 - Healthy	A - Foraging	1 - Fresh or putrid	A - signs of predation
2 - URTD	B - Basking	2 - Normal color, scutes adhered to bone	B - No signs of predation
3 - Shell Cracked	C - In burrow	3 - Scutes peeled off bone	
4 - Peeling scutes	D - Digging	4 - Shell bone is falling apart; growth rings on scutes are peeling	
5 - Ticks	E - Traveling	5 - Disarticulated and scattered	

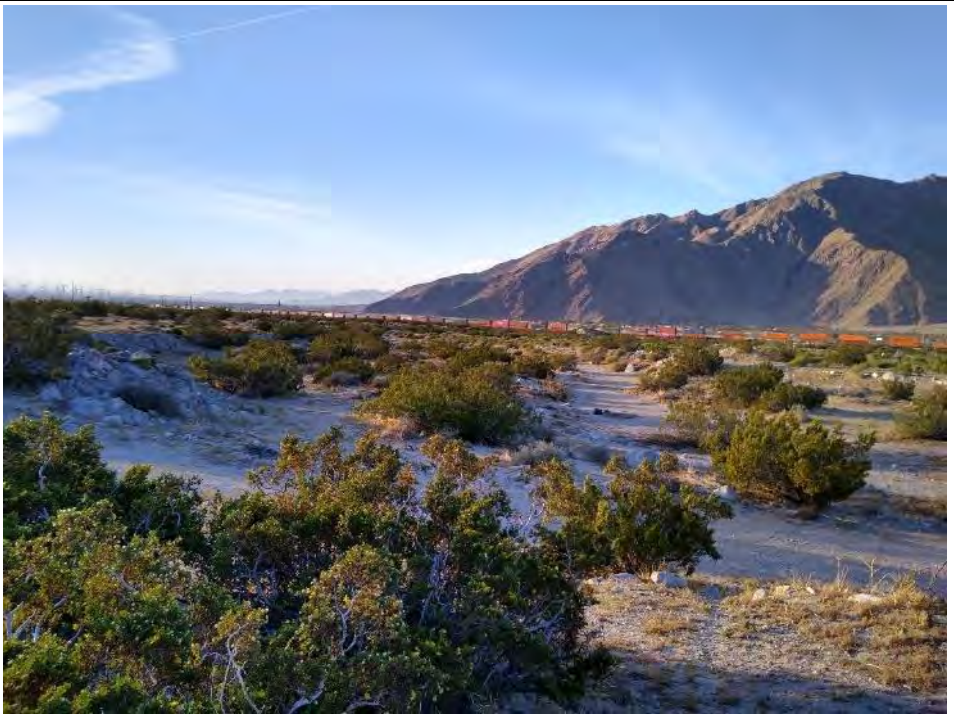
Form Updated: 11/5/2018


Page 1 of 2

This page intentionally left blank

Appendix B. Site Photographs

Photograph 1	 A photograph of a desert landscape. In the foreground, there is dry, yellowish-brown scrub vegetation and several large, smooth, light-colored boulders. In the middle ground, a line of white wind turbines is visible against a backdrop of rugged, brown mountains. The sky is clear and blue.
Location: Inside Conservation Area	
Notes: Protocol survey area for desert tortoise, facing south.	


Photograph 2	 A photograph of a desert landscape. In the foreground, there is a dry riverbed with some green shrubs. In the middle ground, a line of orange and red freight trains is visible. In the background, there are large, brown mountains under a clear blue sky.
Location: Inside Conservation Area	
Notes: Southern portion of protocol survey area for desert tortoise, facing southeast.	

Photograph 3	
Location: Inside Conservation Area	
Notes: Southern portion of protocol survey area for desert tortoise, facing north.	

Photograph 4	
Location: Inside Conservation Area	
Notes: Representative photograph of Class 4 desert tortoise burrow.	

Photograph 5	
Location: Inside Conservation Area	
Notes: Representative photograph of Cheesebush - Sweetbush Scrub.	

Photograph 6	
Location: Outside Conservation Area	
Notes: Representative photograph of Disturbed - Cheesebush - Sweetbush Scrub	

Photograph 7	
Location: Inside Conservation Area	
Notes: Representative photograph of Creosote Bush Scrub.	

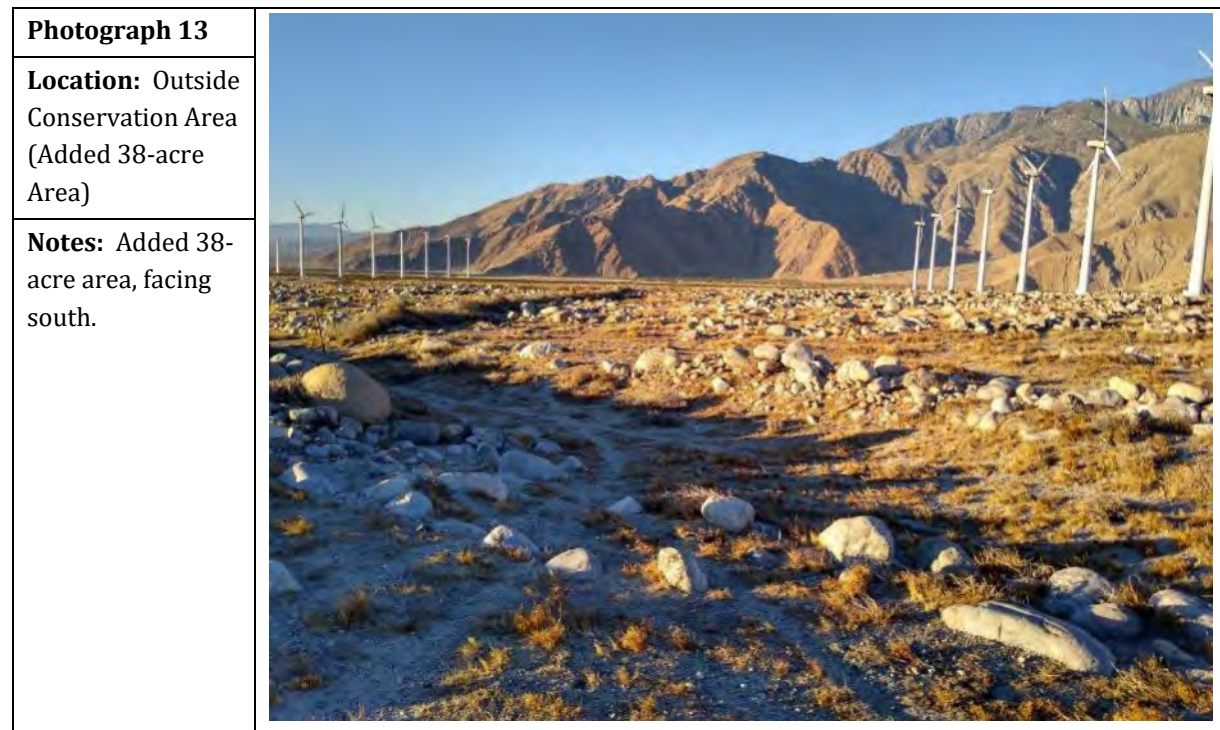
Photograph 8	
Location: Inside Conservation Area	
Notes: Representative photograph of Creosote Bush - White Bursage Scrub.	

Photograph 9	
Location: Inside Conservation Area	
Notes: Representative photograph of White Bursage Scrub.	


Photograph 10	
Location: Outside Conservation Area	
Notes: Representative photograph of Disturbed - White Bursage Scrub.	

Photograph 11	
Location: Outside Conservation Area	
Notes: Representative photograph of Disturbed area.	

Photograph 12	
Location: Outside Conservation Area	
Notes: Representative photograph of Disturbed area (road).	



Photograph 15	
Location: Outside Conservation Area (Added 38-acre Area)	
Notes: Developed and fenced facility in 200-foot buffer of the added 38-acre area. Located outside the southeast boundary of the largest of the three small added areas that comprise the added 38 acres.	


Photograph 16	
Location: Inside Conservation Area	
Notes: Habitat and land features surrounding four burrows at B2 and B3, facing south.	

Photograph 17	
Location: Inside Conservation Area	
Notes: First of two occupied burrowing owl burrows located at B2.	


Photograph 18	
Location: Inside Conservation Area	
Notes: Second of two occupied burrowing owl burrows located at B2.	

Photograph 19	
Location: Inside Conservation Area	
Notes: First of two occupied burrowing owl burrows at B3.	

Photograph 20	
Location: Inside Conservation Area	
Notes: Second of two occupied burrowing owl burrows at B3.	

Photograph 21		
Location: Inside Conservation Area		
Notes: Representative photo of burrow at B5 (located outside of the Project boundary).		

Photograph 22		
Location: Inside Conservation Area		
Notes: B5 burrow entrance, fresh burrowing owl pellets, whitewash, and feathers present (located outside of the Project boundary).		

Photograph 23	
Location: Outside Conservation Area	
Notes: Habitat and land features surrounding B6, facing southeast.	

Photograph 24	
Location: Outside Conservation Area	
Notes: Burrow entrance at B6.	

Photograph 25	
Location: Outside Conservation Area (Added 38-acre Area)	
Notes: Burrow entrance at B7.	

Photograph 26	
Location: Inside Conservation Area	
Notes: Carcass of golden eagle.	

Photograph 27	
Location: Inside Conservation Area	
Notes: Observation of southern desert horned lizard.	

Photograph 28	
Location: Inside Conservation Area	
Notes: Observation of northern desert iguana.	

This page intentionally left blank.



Attachment 3

Palm Springs Ground Squirrel Habitat Assessment (Dudek 2020)

October 5, 2020

12649.03

Michael Hughes
AES North American Development, LLC
690 North Studebaker Road
Long Beach, California 90803

Subject: *Palm Springs Ground Squirrel Habitat Assessment of the Gabrych Set-Aside Parcel for the Mountain View Power Partners Wind Repower Project, Riverside County, California*

Dear Mr. Hughes:

The proposed Mountain View Power Partners Wind Repower Project (project) is located within unincorporated Riverside County and Bureau of Land Management jurisdictions, in a region situated in the northwestern portion of the Coachella Valley. The proposed project would repower and combine the existing Mountain View I & II wind farms through removal of 104 existing wind turbine generators (WTGs), leaving 7 existing turbines in place, and installing 16 new, higher-capacity WTGs. Project components include the following: WTGs (including turbine pad, safety features, and transformer contained within WTG unit), the electrical collection system, access roads, temporary laydown yards, and parking. The existing Mountwind substation would be utilized for the repower project.

This report summarizes the results of a habitat assessment for the Palm Springs ground squirrel¹ (PSGS) (*Xerotherophilus tereticaudus chlores*), a California Species of Special Concern, on the Gabrych Set-Aside Parcel, referred to herein as the survey area, an approximately 253.73-acre site in the San Geronio Pass area of the northwestern Coachella Valley, Riverside County, California.

1 Project Location and Site Description

The survey area is undeveloped, consisting of rocky and sandy areas with predominantly native vegetation east of the Whitewater River, adjoined to the east by an existing wind energy facility. The survey area is on the U.S. Geological Survey Whitewater and Desert Hot Spring 7.5-minute quadrangle maps (T3S R3E, NW¼, SW¼, SE¼, Section 13). Figure 1, Project Location, shows the Gabrych Set-Aside Parcel (survey area) on the western boundary of the proposed project. Report figures are found in Attachment A. Site Photos of the survey area are found in Attachment B.

The western part of the survey area contains a mix of flat areas interspersed with areas of sharp relief caused by historical water flows; the eastern and southern parts are mainly sandy, relatively flat areas with some small areas of sharp relief. The elevation of the survey area ranges from 1,260 feet above mean sea level in the northwestern corner to 1,040 feet above mean sea level in the southeastern corner, with a 3% slope to the southeast. The soils in the survey area are largely Carsitas cobbly sands and Cerizzo stony sands, which occur on floodplains and alluvial fans in the project region (NRCS 2020).

¹ Also commonly referred to as Coachella Valley round-tailed ground squirrel.

The plant communities in the survey area include white bursage scrub, cheesebush–sweetbush scrub, creosote bush–white bursage scrub, and creosote bush scrub (Tetra Tech 2020). The white bursage scrub community is dominated by white bursage (*Ambrosia dumosa*), with cheesebush (*Ambrosia salsola*) and white rhatany (*Krameria bicolor*); the white bursage scrub community was most common in the northwestern corner of the survey area. Cheesebush–sweetbush scrub, dominated by cheesebush and sweetbush (*Bebbia juncea*), occurs in various parts of the survey area. The creosote bush–white bursage scrub community, dominated by creosote bush (*Larrea tridentata*) and white bursage, is common in the southern and eastern parts of the survey area. The creosote bush scrub community is dominated by creosote bush, with rayless goldenhead (*Acamptopappus sphaerocephalus*) and cheesebush also present, and is common in the eastern part of the survey area. Shrubs that occur widely across the survey area include creosote bush, California ephedra (*Ephedra californica*), cheesebush, white bursage, desert willow (*Chilopsis linearis*), and brittlebush (*Encelia farinosa*).

The Gabrych Set-Aside Parcel (survey area) is located within the Whitewater Floodplain Conservation Area under the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) (CVAG 2016). The Whitewater Floodplain Conservation Area provides Core Habitat for a number of species, including PSGS. The Gabrych Set-Aside Parcel also contains parts of two “Other Conserved Habitat” areas in the form of Modeled Habitat for the PSGS (CVAG 2016), as shown in Figure 2, Palm Springs Ground Squirrel Potentially Suitable Habitat.

2 Palm Springs Ground Squirrel

The PSGS is a small, gray–olive- or cinnamon-colored ground squirrel with a long, round tail. The pelage is pale, without spots, and blends with sandy desert soils. This species occurred historically in the Coachella Valley from the San Geronio Pass area from Cabazon and Whitewater Station east and south through the Coachella Valley to Mecca (Brylski et al. 1997). Round-tailed ground squirrels, including the PSGS, occur in scrub and wash habitats, including mesquite and creosote-dominated sand dunes, creosote bush scrub, creosote-palo verde and saltbush/alkali scrub (Ryan 1968). Substrates include wind-blown sand, coarse sand, and packed silt with desert pavement (Ryan 1968). PSGS prefer sandy hummocks at the base of large shrubs, which provide burrow sites and cover (Grinnell and Dixon 1918, as cited in CVAG 2016). In areas of overlap with the antelope ground squirrel (AGS) (*Ammospermophilus leucurus*), the PSGS occurs in the sandier floodplain and antelope ground squirrel occur in rockier habitats. Burrows are dug at the bases of shrubs (Brylski et al. 1997).

The project site is located in the northwestern corner of the species’ historical range, with historical records as far west as Cabazon (CDFW 2020). The nearest PSGS record in the California Natural Diversity Database (CDFW 2020) is a museum record from Whitewater Station collected in 1908 (California Natural Diversity Database occurrence 3), approximately 0.9 miles west of the survey area. The CVMSHCP reported moderate numbers of PSGS observed along transects in the Whitewater Floodplain Preserve in 1995 (CVAG 2016).

3 Methods

A field assessment was carried out over three days from August 18–20, 2020, by Phil Brylski, Ph.D., who holds a California Department of Fish Wildlife Scientific Collecting Permit that includes authorization to carry out presence/absence surveys for PSGS. Survey conditions included temperatures ranging from 80°F to 115°F and clear skies. The field-based assessment examined soil, vegetation, topography, and disturbance features to assess

the suitability of habitat for the PSGS in the survey area. The field survey involved walking throughout the survey area, noting plant cover, soil types, and slope/disturbance factors that influence PSGS habitat suitability. Potentially suitable habitat was identified based on the presence of relatively level sandy, floodplain, alluvial fan, or aeolian habitats with shrub cover such as mesquite (*Prosopis glandulosa* var. *torreyana*), creosote bush, and desert scrub plants, particularly with sandy hummocks at the bases of shrubs, which provide burrow sites and cover. Areas considered potentially suitable for PSGS were mapped by recording tracks on a Garmin GPS Map76CSx.

The literature review included available literature on the PSGS, including from the CVMSHCP (CVAG 2016), occurrence records from the California Natural Diversity Database (CDFW 2020), scientific literature, unpublished reports, and the U.S. Department of Agriculture online soil survey (NRCS 2020).

4 Results

Three PSGSs were detected in the course of the habitat assessment, two as visual observations in the northwestern corner of the survey area and one detected from an alarm call at close range in the southwestern part of the survey area. The locations of these detections are shown in Figure 2. Antelope ground squirrels were regularly observed during the survey. Other mammals observed include black-tailed jackrabbit (*Lepus californicus*), Audubon's cottontail (*Sylvilagus audubonii*), California ground squirrel (*Otospermophilus beecheyi*), wood rat (*Neotoma* spp.), coyote (*Canis latrans*), and one kangaroo rat (*Dipodomys* spp.).

Potentially Suitable Palm Springs Ground Squirrel Habitat and Unsuitable Habitat

The approximate 253.73-acre Gabrych Set-Aside Parcel contains native habitats on alluvial and floodplain habitats. The survey area contains a mix of rocky and sandy habitats with common shrubs such as creosote, white bursage, cheesebush, and desert willow. Much of the survey area is predominantly rocky. Areas with 50% or more rocks on the surface, or with incised rocky channels, are considered unsuitable for PSGS. Photos 1–3 in Attachment B show examples of habitats within the survey area considered unsuitable for the PSGS and Figure 3 depicts the photo locations.

Relatively flat, scrub habitats in the survey area that with more than 50% sands on the surface are considered potentially suitable for the PSGS. Eight patches of potentially suitable habitat for the PSGS were mapped, and are distributed across the survey area (Figure 2). Pictures of the sites are shown in Photos 4–17 and locations are depicted on Figure 3. The eight areas considered potentially suitable for PSGS comprise 40.94 acres² (16% of the survey area).

Impacts to Palm Springs Ground Squirrel Modeled Habitat

There is a total of 30.24 acres of MSHCP modeled habitat for Palm Springs ground squirrel within the project boundary that overlaps the Whitewater Floodplain Conservation Area identified under the CVMSHCP (CVAG 2016; Figure 2). The proposed project would result in a total impact of 2.07 acres of MSHCP modeled habitat (Other Conserved Habitat) for Palm Springs ground squirrel, specifically 0.09 acre of permanent impacts and 1.98 acres

² Of the 40.94 acres of mapped suitable PSGS habitat, 36.98 acres occur within the Whitewater Floodplain Conservation Area and 3.96 acres occur outside of the Whitewater Floodplain Conservation Area.

Mr. Michael Hughes

Subject: *Palm Springs Ground Squirrel Habitat Assessment of the Gabrych Set-Aside Parcel for the Mountain View Power Partners Wind Repower Project, Riverside County, California*

of temporary impacts (Figure 2). MVPP has worked hard to minimize project construction disturbance, and the resulting temporary and permanent disturbance acreages for modeled ground squirrel habitat represent the minimum disturbances that preserve viable project economics. The CVMSHCP notes that the soils in the Modeled Habitats are gravelly, stony, or cobbly and therefore would likely support low numbers of ground squirrels (CVAG 2016). Photos 20 and 21 near proposed turbine 3, as shown within Figure Modeled Habitat B, show the stony substrate at this location. Photos 22 and 23 show that the soils at proposed turbine 4, as shown within Figure 2 Modeled Habitat B, are rocky, and have low habitat potential for PSGS.

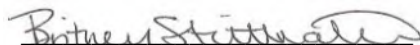
5 Conclusion

The approximate 253.73-acre Gabrych Set-Aside Parcel is located within the northwestern part of the PSGS's range. There are historical records from the vicinity of the survey area, and the Gabrych Set-Aside Parcel is within the Whitewater Floodplain Conservation Area, most of which is considered potential PSGS habitat (CVAG 2016). PSGS individuals were detected at three locations within the survey area during the field survey (Figure 2, which was carried out in August when PSGS typically start reducing above-ground activity (Brylski et al. 1997)).

The survey area contains a range of habitat suitability for PSGS, from unsuitable areas dominated by rocky and cobbly substrates to suitable habitats comprised of open creosote scrub and white bursage habitats on predominantly sandy (greater than 50%) to fully sandy substrates. Taken together, the data from the habitat assessment, historical records, and previous assessments indicate that the PSGS occupies the survey area. Surveys carried out in support of the CVMSHCP indicate that PSGS are most common in open sandy habitats, and most abundant in sandy mesquite hummock habitats in and around the open Willow Hole and Thousand Palms Conservation Areas east of the survey area (CVAG 2016). While the somewhat rocky and sandy creosote and white bursage scrub habitats that occur within the Gabrych Set-Aside Parcel are not high-quality habitats, they are likely occupied and contribute to conservation value for the species near the northwestern part of its range. In addition, the Gabrych Set-Aside Parcel contributes to the biological corridor and habitat linkages along the Whitewater River channel.

Should you have any questions regarding this report or require additional information, please do not hesitate to contact me at bstrittmater@dudek.com or 760.685.1231, or Wendy Worthey at wworthey@dudek.com or 619.890.2762.

Sincerely,



Britney Strittmater
Biologist

Att.: Attachment A, Figures
Attachment B, Site Photographs

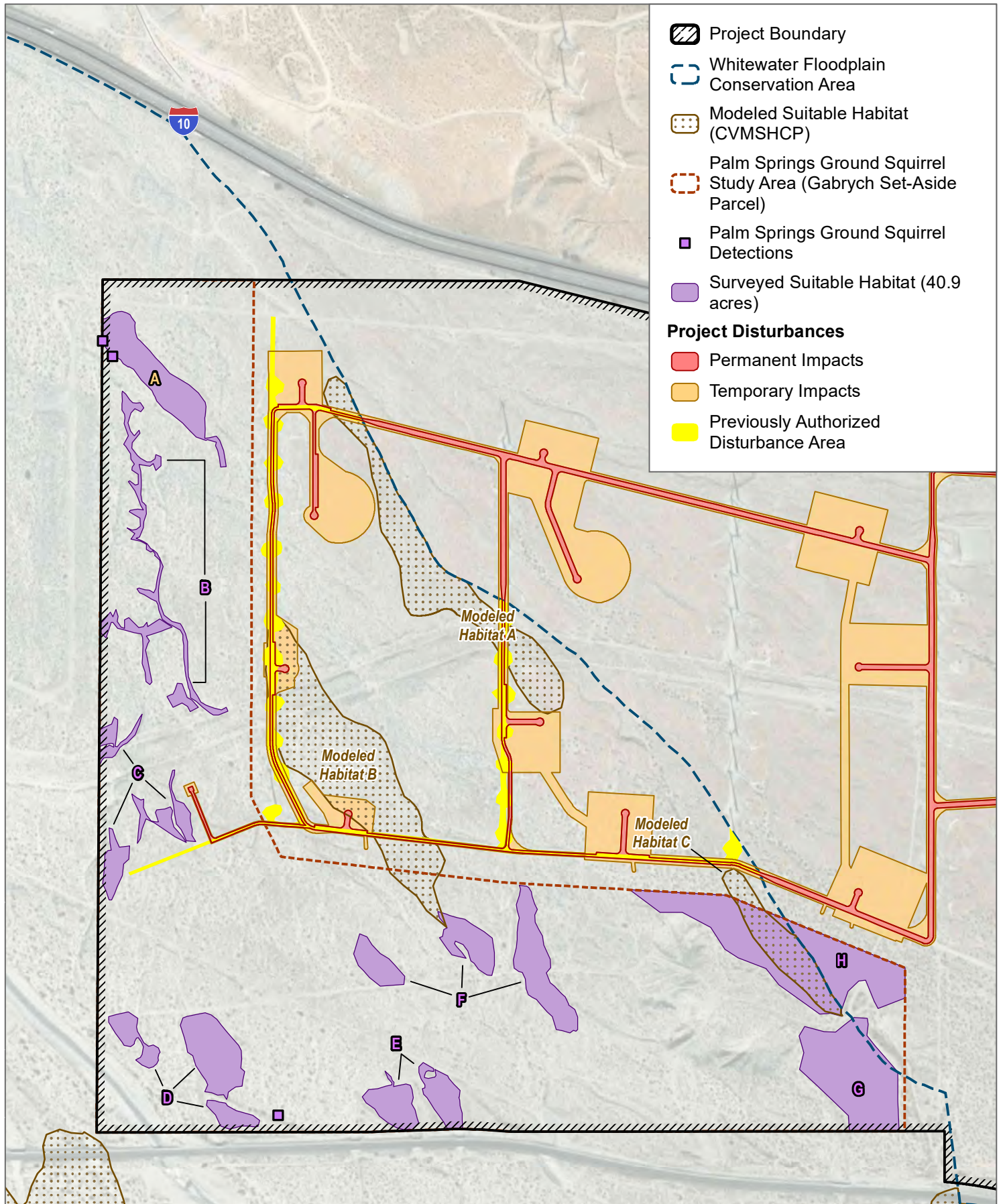
6 References

- Brylski, P. V., P. W. Collins, E. D. Pierson, W. E. Rainey, and T. E. Kucera. 1997. *Mammal Species of Special Concern in California*. Draft Final Report Prepared for the California Department of Fish and Game, Wildlife Management Division, Bird and Mammal Conservation Program, Sacramento, California. Contract FG3146WM.
- CDFW. 2020. "Special Animals List." California Natural Diversity Database. CDFW, Biogeographic Data Branch. August 2020. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline=1>.
- CVAG (Coachella Valley Association of Governments). 2016. *Coachella Valley Multiple Species Habit Conservation Plan*. As amended August 2016. http://www.cvmshcp.org/Plan_Documents_old.htm#plan.
- NRCS (Natural Resources Conservation Service). 2020. Web Soil Survey, web application. USDA Natural Resources Conservation Service. <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>
- Ryan, R. M. 1968. *Mammals of Deep Canyon, Colorado Desert, California*. Palm Springs, California: The Desert Museum.
- Tetra Tech Inc. 2020. *Biological Resources Technical Report for Mountain View Power Partners Wind Repower Project*. Prepared for AES



Attachment A

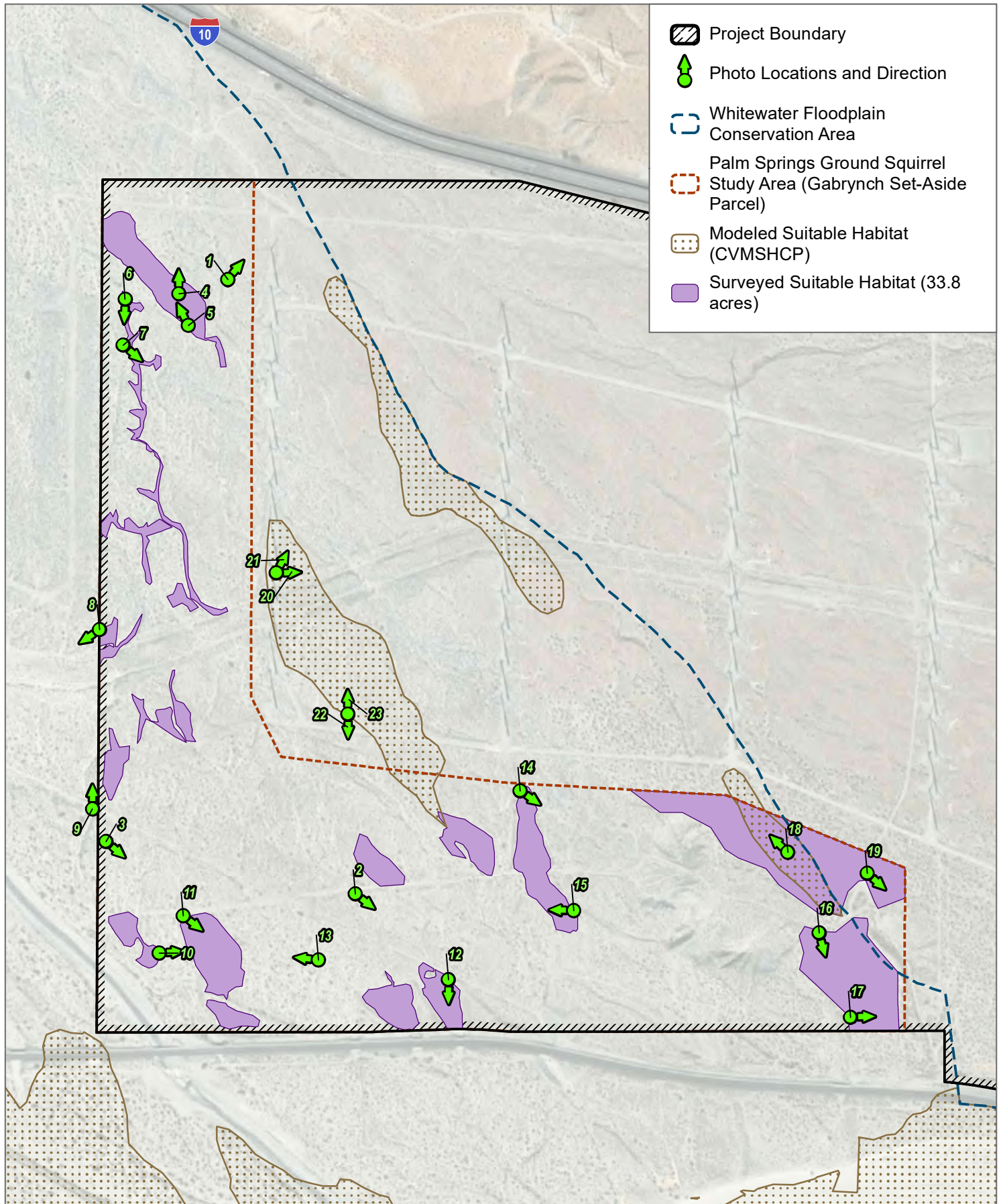
Figures



SOURCE: Esri and Digital Globe Aerials, Open Street Map 2019

FIGURE 2

Coachella Valley Round-Tailed Ground Squirrel Potentially Suitable Habitat



SOURCE: Esri and Digital Globe Aerials, OpenStreetMap 2019

FIGURE 3

Photo Locations

Mountain View Power Partners (MVPP) Proposed Wind Energy Repower



Attachment B

Site Photographs



Photo 1. Unsuitable Palm Springs ground squirrel (PSGS) habitat in northern part of Gabrych parcel, looking northeast.



Photo 2. Unsuitable PSGS habitat in southern part of Gabrych parcel, looking south.



Photo 3. Unsuitable PSGS habitat in southwestern part of Gabrych parcel, looking south.



Photo 4. Potentially suitable PSGS habitat in Area A.



Photo 5. Potentially suitable PSGS habitat in Area A.



Photo 6. Potentially suitable PSGS habitat in Area B.



Photo 7. Potentially suitable PSGS habitat in Area B.



Photo 8. Potentially suitable PSGS habitat in Area C.



Photo 9. Potentially suitable PSGS habitat in Area C.



Photo 10. Potentially suitable PSGS habitat in Area D.



Photo 11. Potentially suitable PSGS habitat in Area D.



Photo 12. Potentially suitable PSGS habitat in Area E.



Photo 13. Potentially suitable PSGS habitat in Area E.



Photo 14. Potentially suitable PSGS habitat in Area F.



Photo 15. Potentially suitable PSGS habitat in Area F.



Photo 16. Potentially suitable PSGS habitat in Area G.



Photo 17. Potentially suitable PSGS habitat in Area G.



Photo 18. Modeled PSGS habitat in eastern Gabrych parcel.



Photo 19. Modeled PSGS habitat in eastern Gabrych parcel.



Photo 20. Access route of proposed turbine TTB3 in Modeled PSGS Habitat.



Photo 21. Location of proposed turbine TTB3 in Modeled PSGS Habitat.



Photo 22. Access route of proposed turbine TTB4 in PSGS Modeled Habitat.



Photo 23. Location of proposed turbine TTB3 in Modeled PSGS Habitat.



Attachment 4

Mapbook – Species Models

**Coachella Valley Multiple Species Habitat Conservation Plan Species Models
for the
Mountain View I & II Wind Power Project**

Prepared for:

Coachella Valley Association of Governments

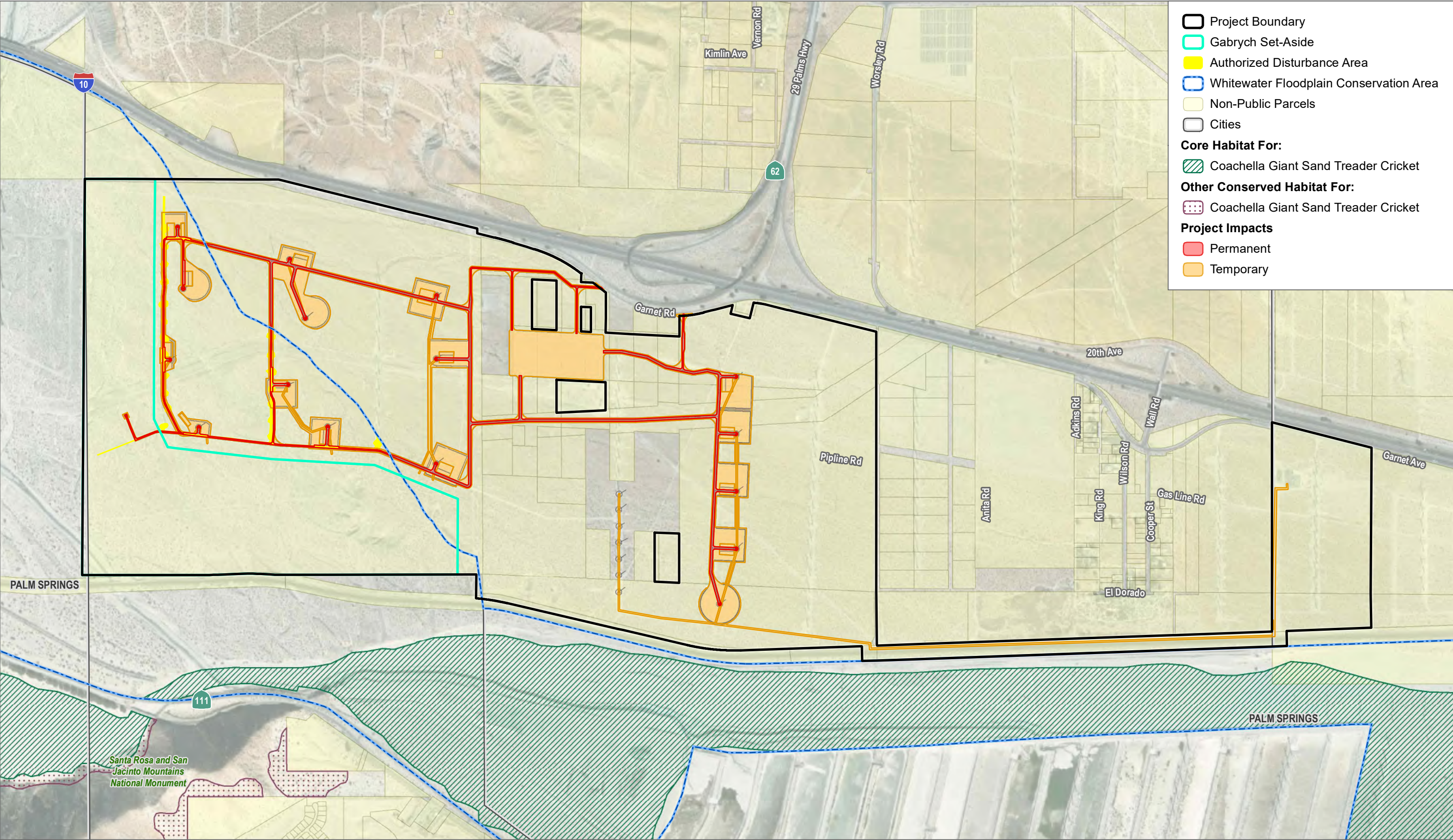
73-710 Fred Waring Drive
Palm Desert, California 92260, Ste #200

Prepared by:

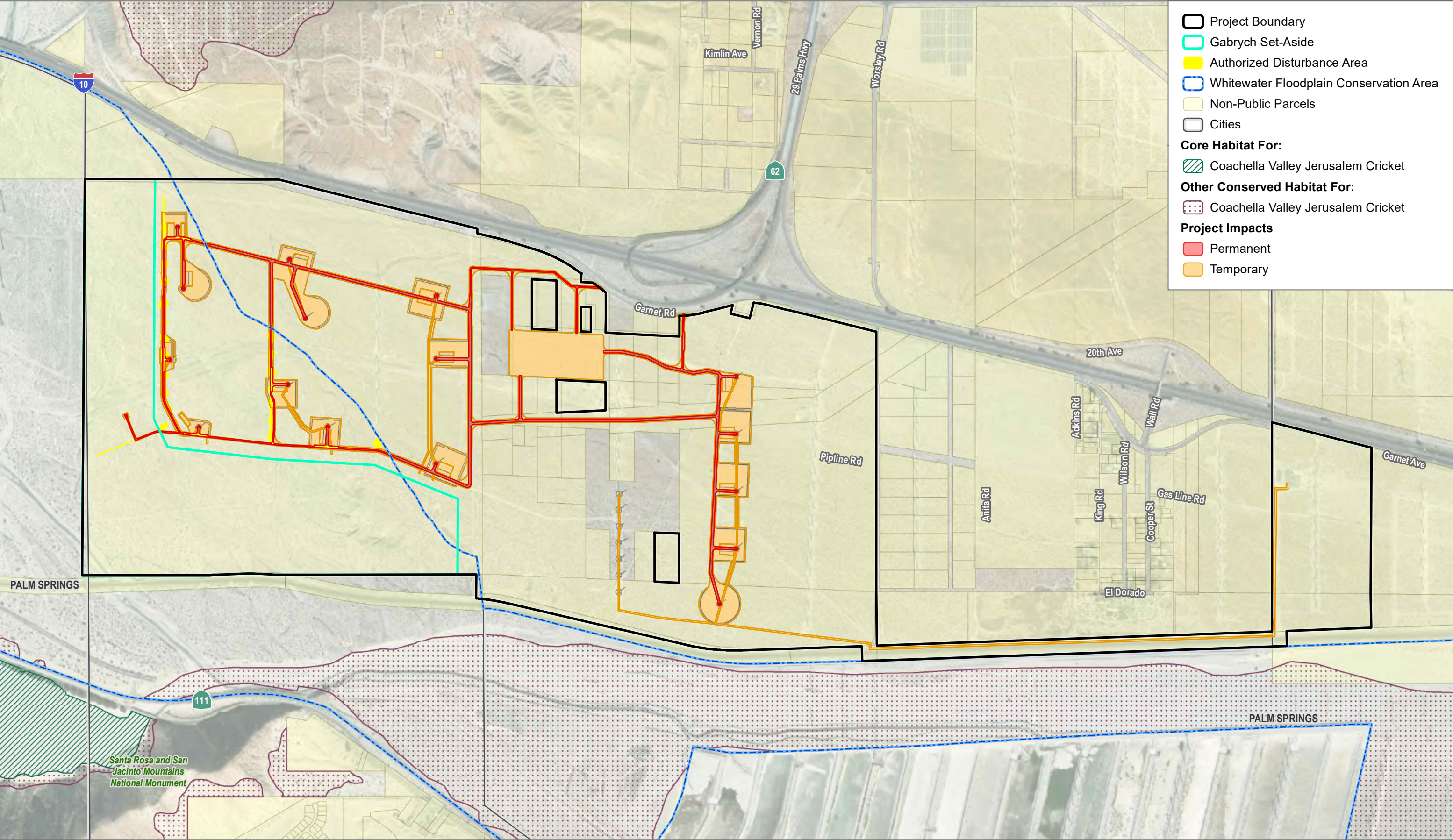
DUDEK

605 Third Street
Encinitas, California 92024
Contact: Wendy Worthey

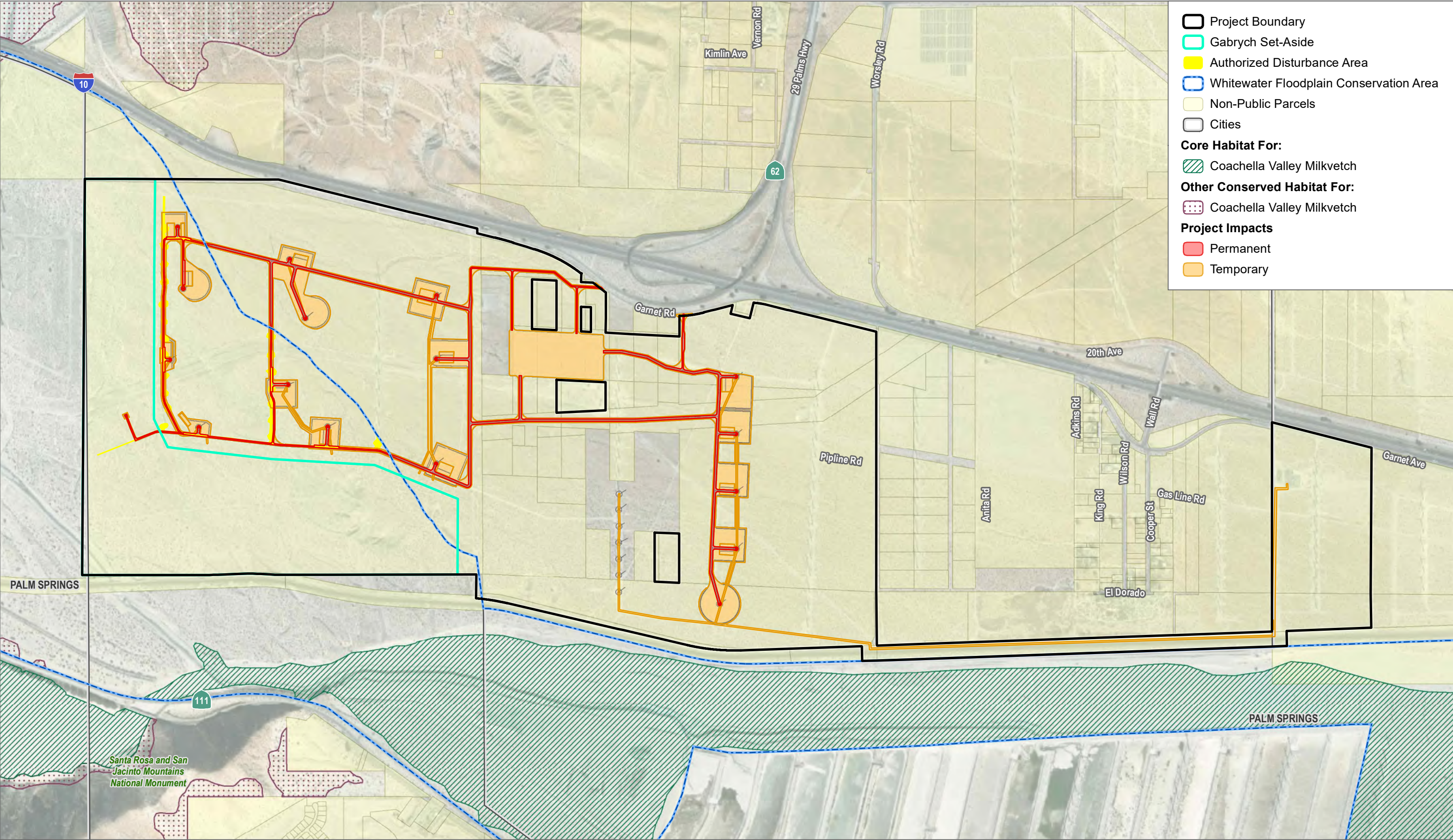
SEPTEMBER 2020



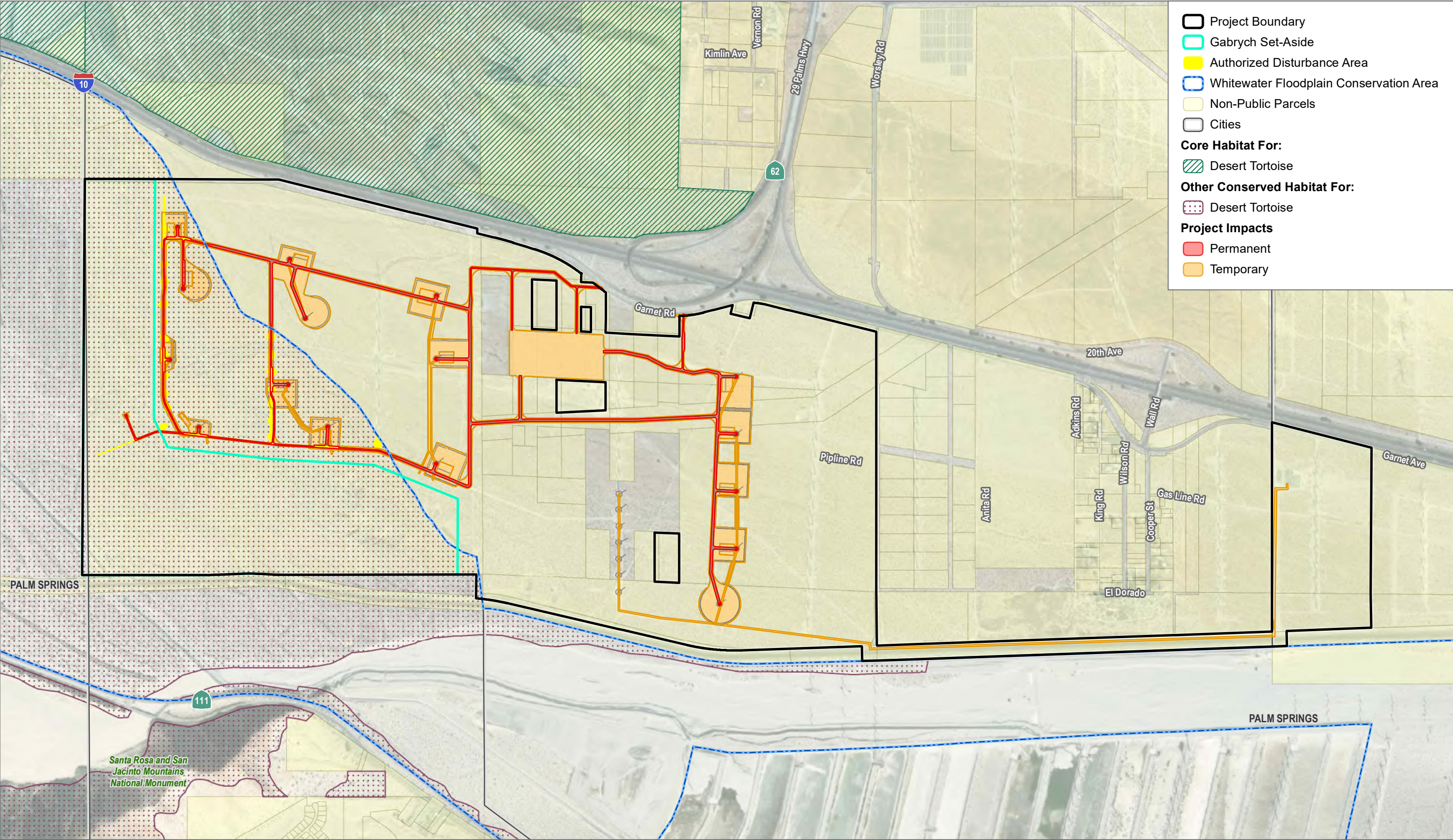
SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



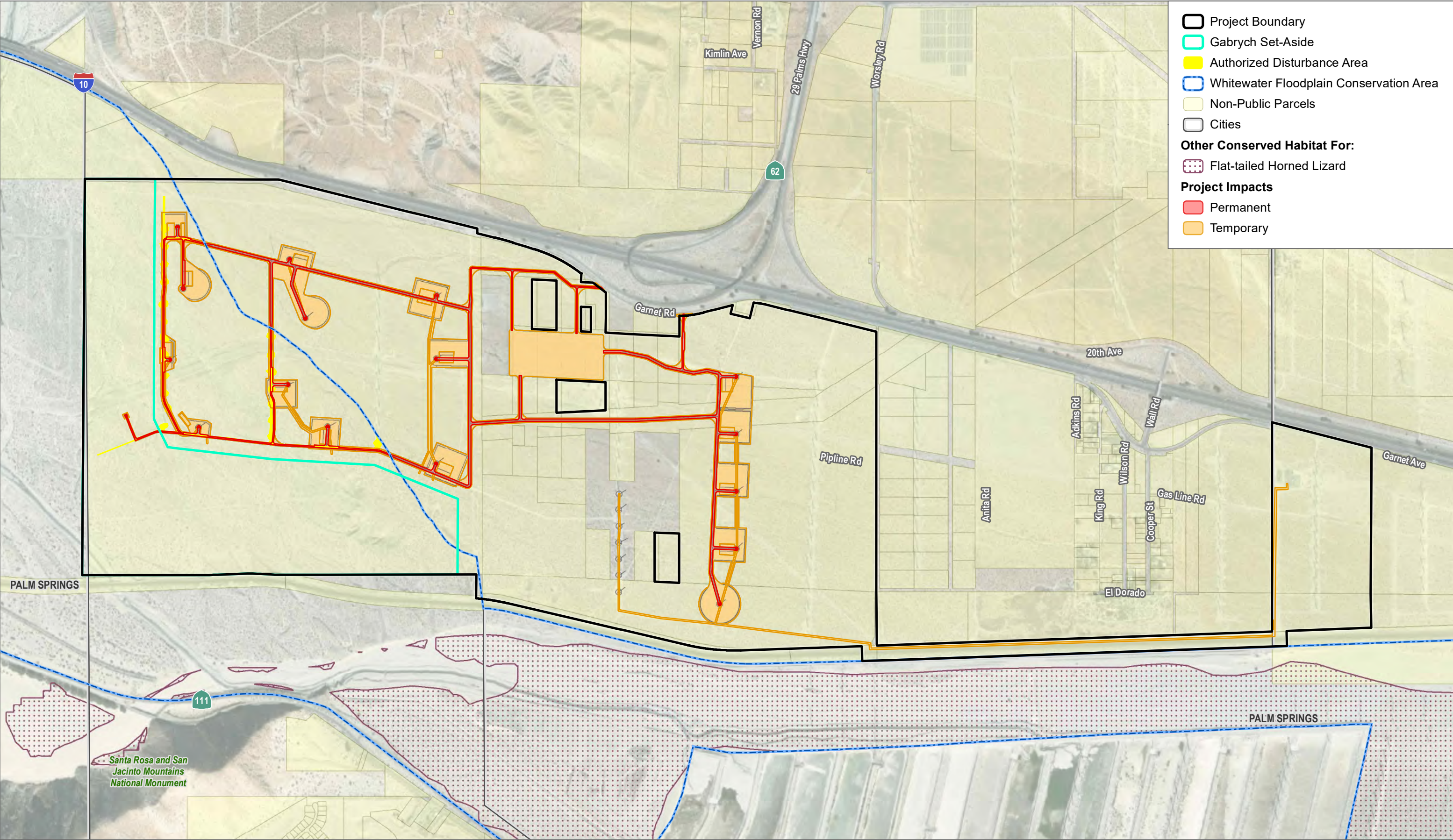
SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



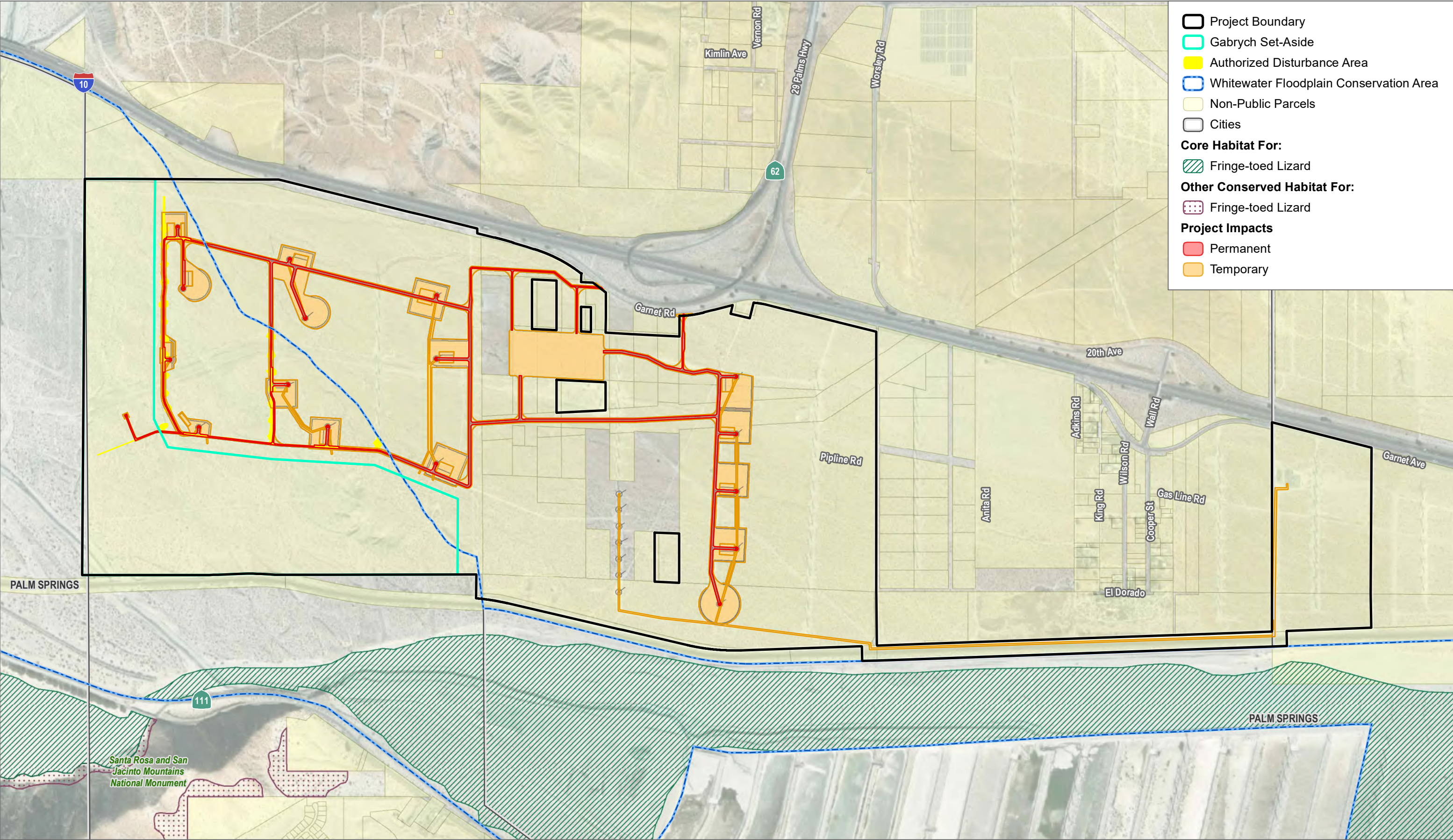
SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



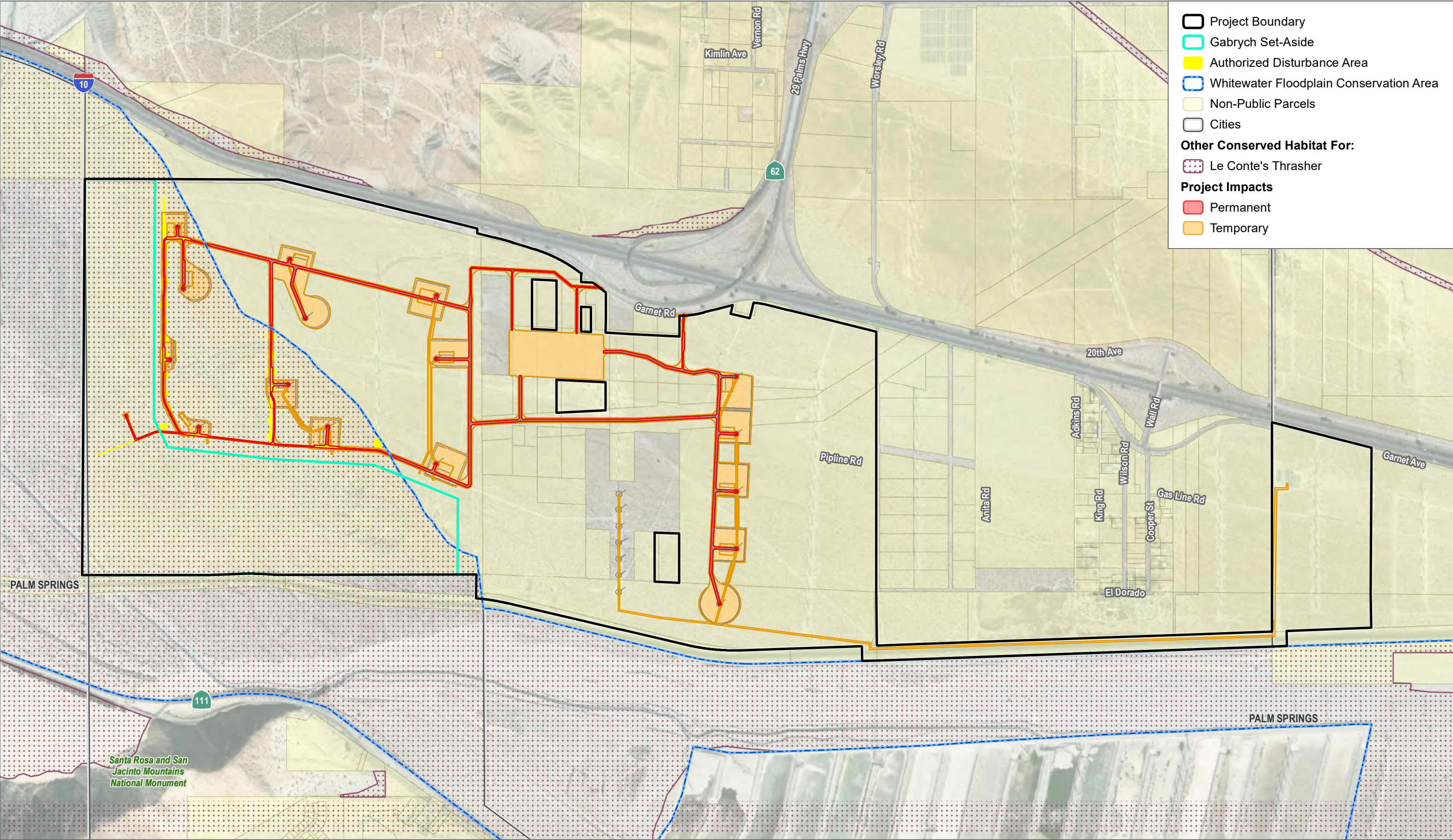
SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



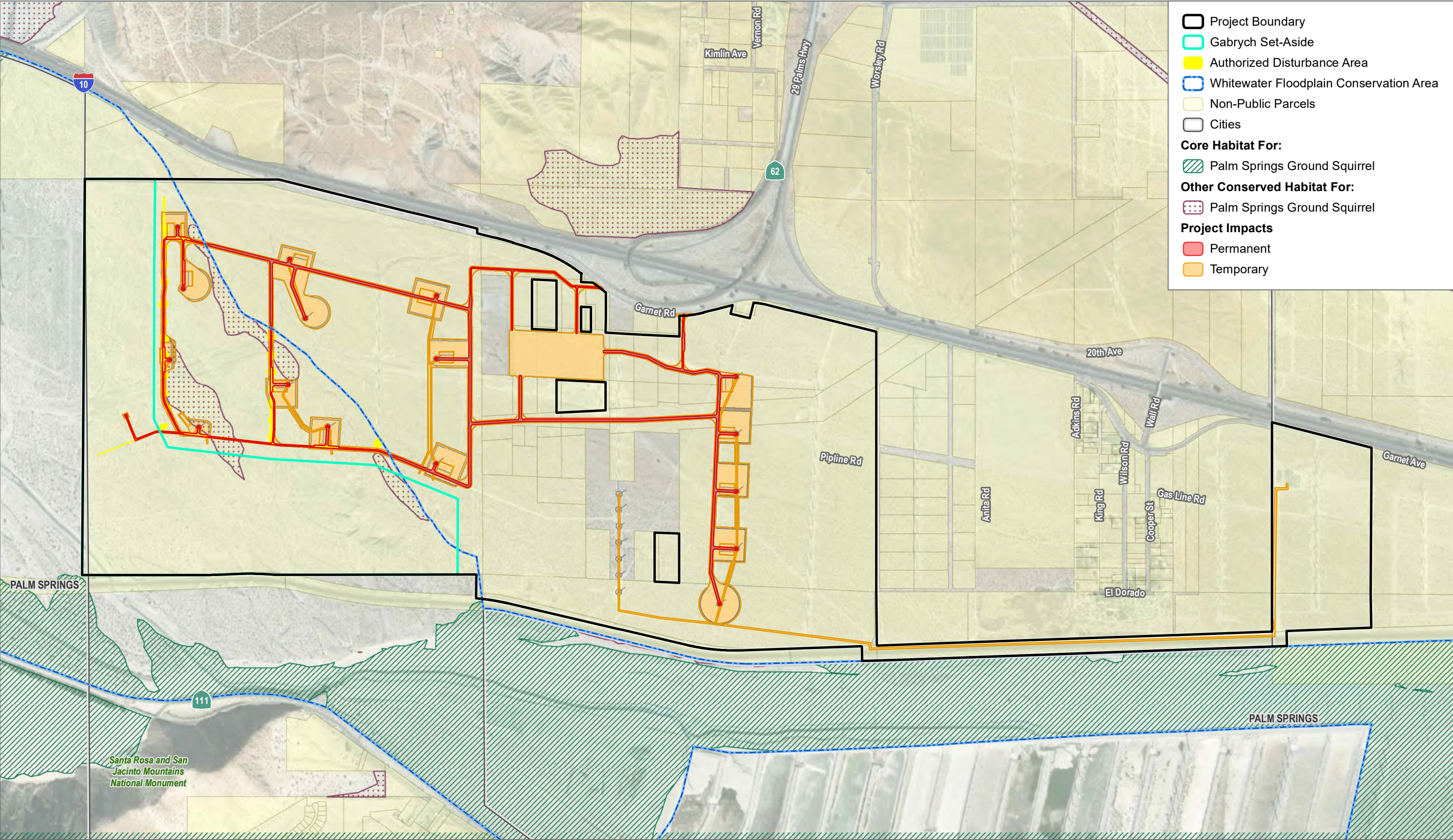
SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



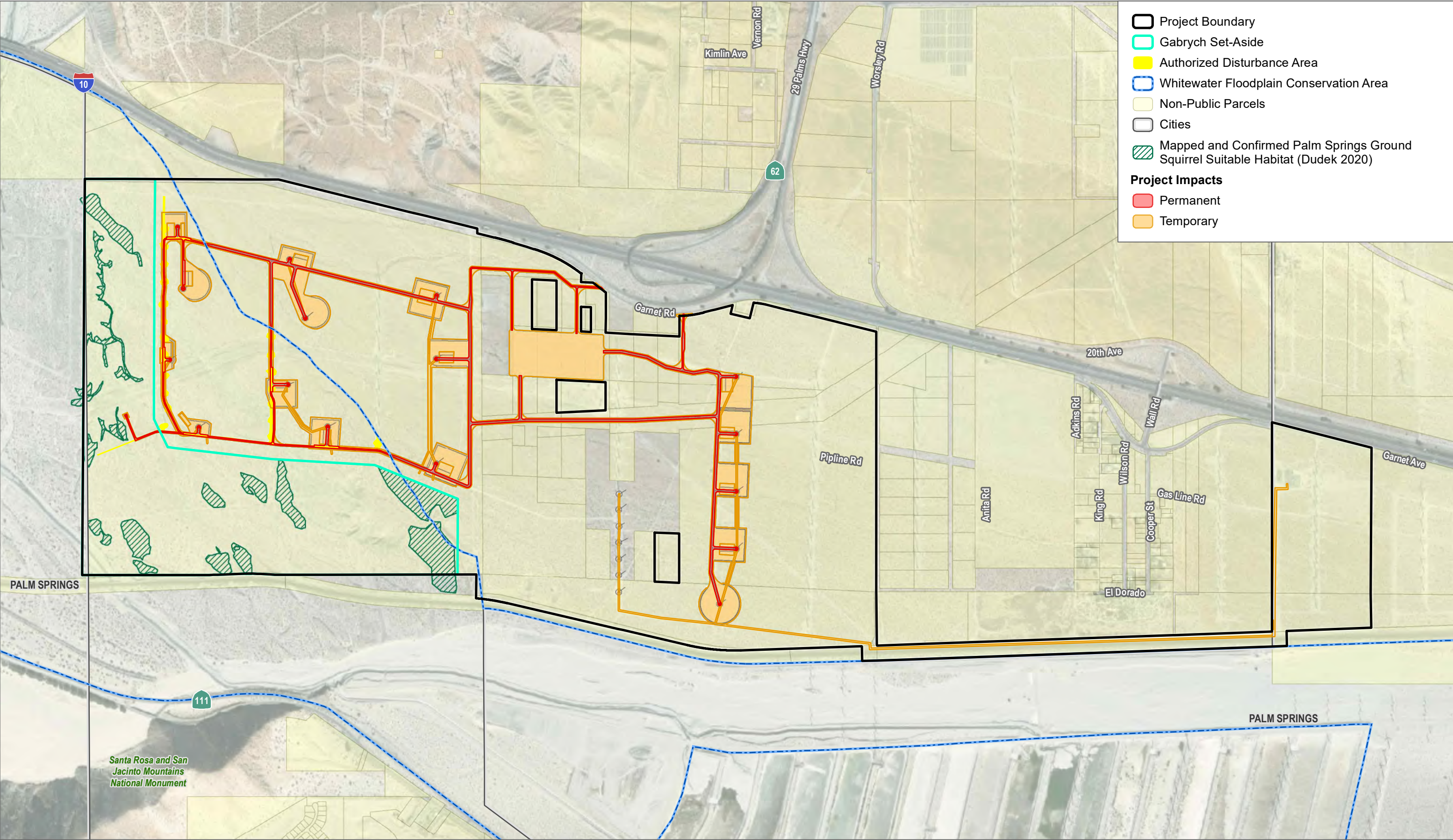
SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



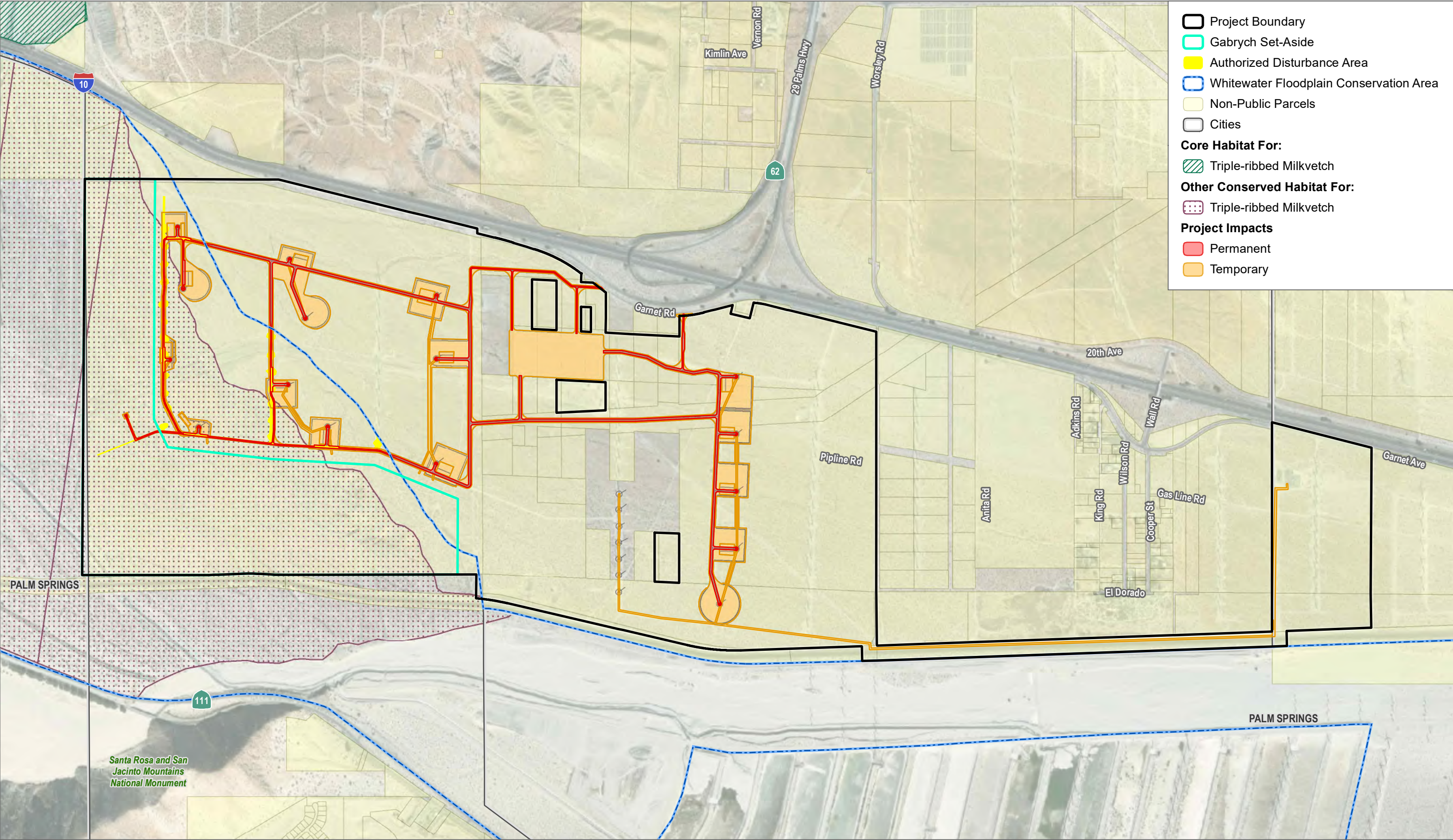
SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



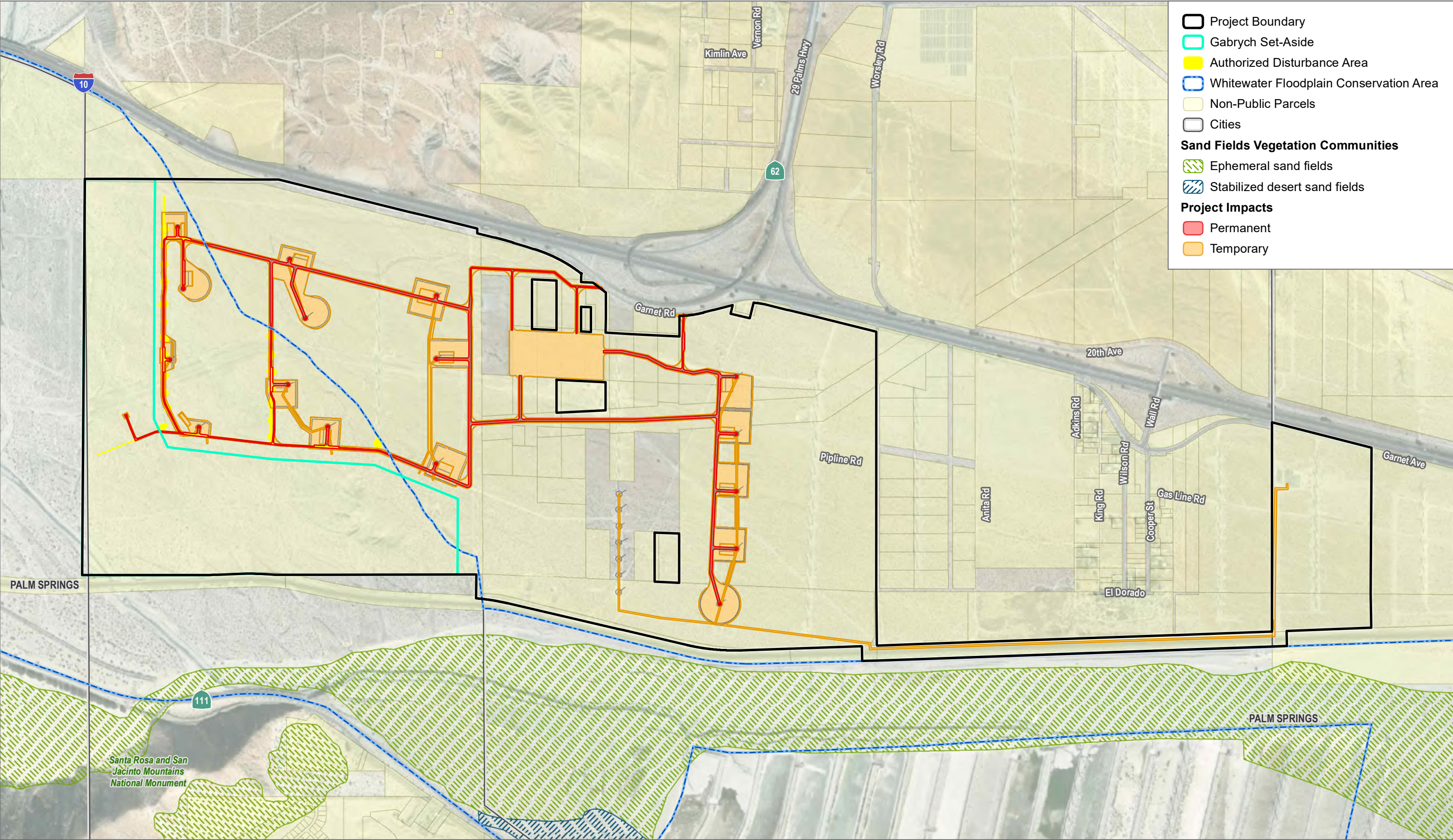
SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



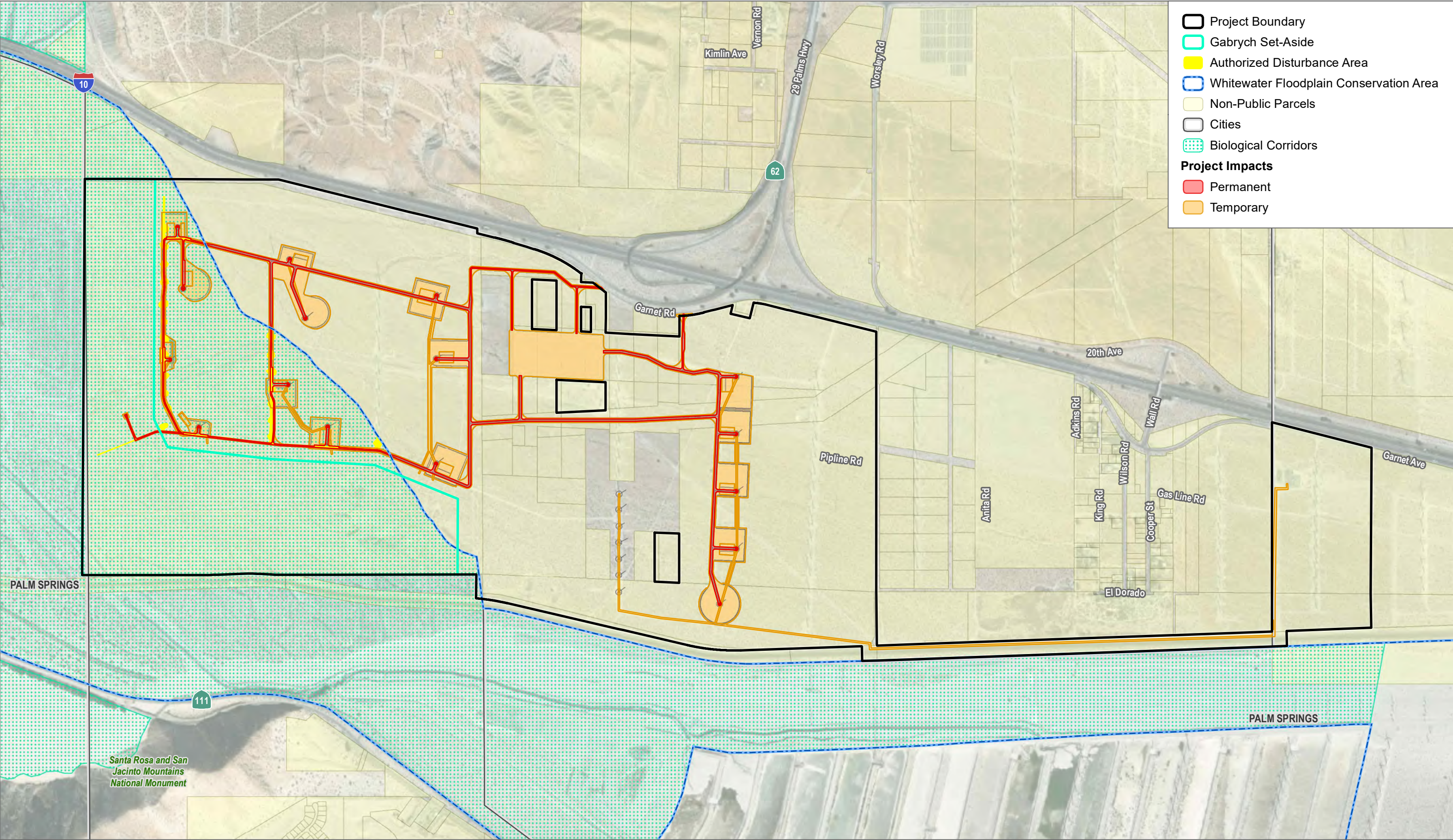
SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



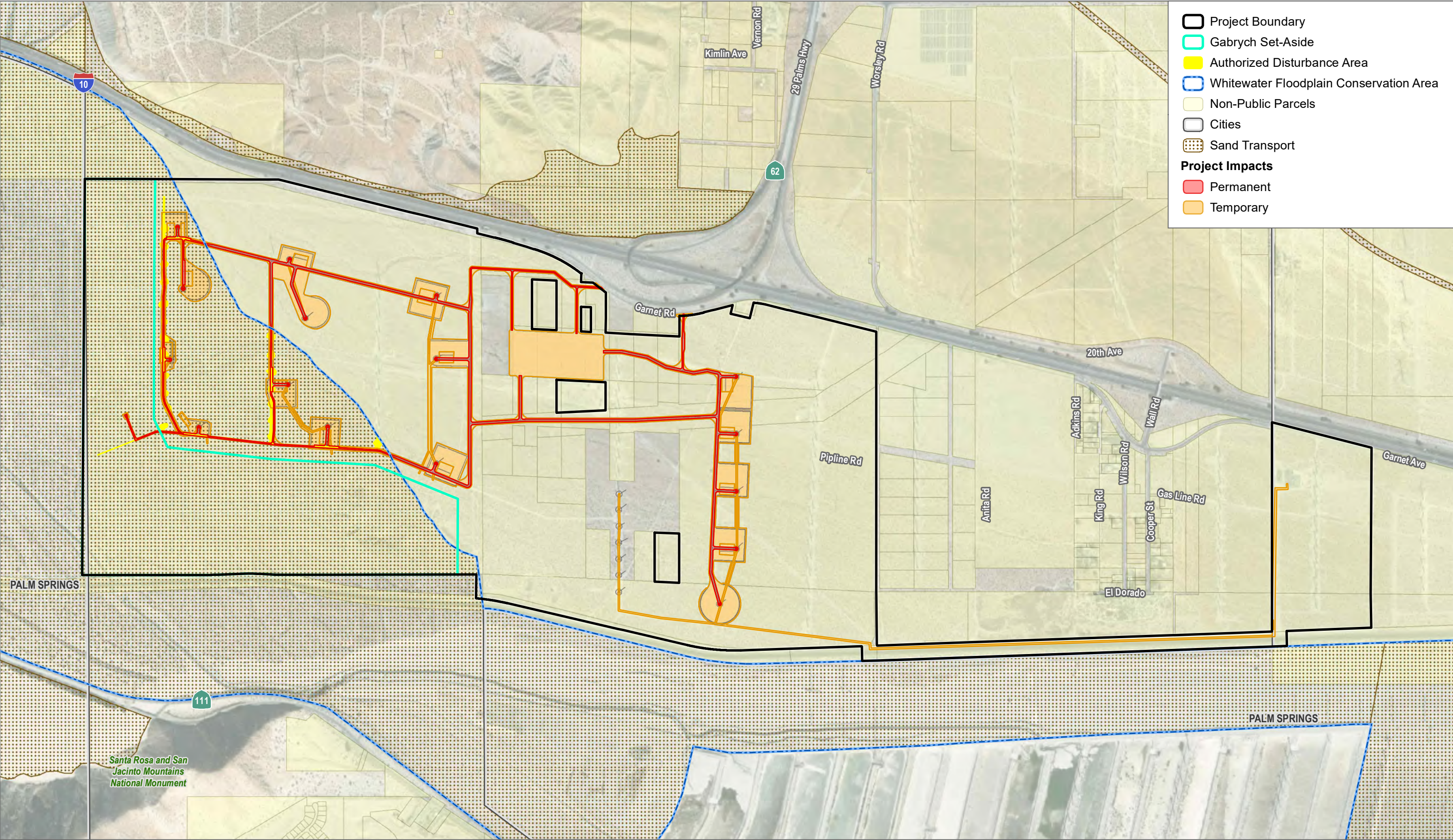
SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP



SOURCE: Esri and Digital Globe, OpenStreetMap, CVMHCP

Appendix B: Agency Comment

Comments and feedback from United States Fish and Wildlife Service and California Department of Fish and Wildlife are included here in full, as well as any response from CVCC or the applicant.

Note that the initial draft Joint Project Review (JPR) contained an error in the rough step analysis; comments from the agencies pertaining to the former, incorrect result are included as a matter of record.

USFWS

Thank you for providing answers to our questions for JPR 20-005 (Mountain View Power Partners). The California Department of Fish and Wildlife (CDFW) and US Fish and Wildlife Service (Service) have reviewed the JPR. In order to provide further comments on the issues of rough-step compliance for Coachella Valley round-tailed ground squirrel and the mitigation area waiver from Riverside County, it would be helpful for the Wildlife Agencies to have more information from the upcoming meetings you have scheduled with Mountain View Power Partners and Riverside County. How might our request to review this anticipated information affect the JPR timeline for this project?

Additionally, though the following feedback is not pertinent to the JPR process for this project, in light of the general uncertainties concerning impacts of newer, larger turbines and rotor-swept areas to avian and bat species, and the previous golden eagle mortality near the project site, the Service encourages the Applicant to continue ongoing coordination through the appropriate federal regulatory processes for the Mountain View project overall to avoid and minimize impacts to eagles and other species.

CDFW

CVCC responses are included in blue.

CDFW and the Service are in the process of reviewing JPR 20-005 (Mountain View Power Partners). To continue our review of the project, we are requesting additional information based on the questions listed below.

- Has a plan been developed to get the project in alignment with rough step regarding Coachella Valley round-tailed squirrel?

We are working with MVPP to identify a solution. We are planning to meet with them next week to review some of the donation agreement language, part of which is predicated on achieving rough step compliance.

- Did the project receive a waiver from Riverside County allowing the entire proposed conservation area to be used as mitigation, specifically since no buffer habitat exists between the project impact area and the proposed conservation area? If not, how will this influence the rough step calculation?

Appendix B

We will be meeting with Ken Baez at the county to discuss how to memorialize this donation as a fee credit towards the Local Development Mitigation Fund. This is another precondition of the conservation parcel's donation. Were the donation not made, the project would result in a negative rough step balance for all impacted Conservation Objectives.

- Regarding the road leading to the meteorological tower located within the conservation area, what is the acreage of permanent impacts associated with that road? Has this acreage been subtracted from the acreage of the proposed conservation area?

We do not distinguish between permanent and temporary impacts for the purpose of the JPR. The total novel disturbance caused by the meteorological tower is 0.119 acres. This was not discounted against the total acreage of the conservation parcel, but was included in the total acres of proposed disturbance. The difference has a negligible effect on rough step calculations for the given Objectives but we can revise the language in the final JPR to note that this has been excluded as conservation acreage.

Appendix C: Mitigation and Land Use Adjacency Best Practices

Relevant Avoidance, Minimization, and Mitigation Measures

This section describes certain avoidance, minimization, and mitigation requirements for Covered Activities within the Conservation Area, in addition to Conservation Area specific measures described in the Conservation Area subsections in Section 4.3. The City must condition the project to meet these measures.

Biological Corridors. Specific roads in Conservation Areas, where culverts or under crossings are required to maintain Biological Corridors, are delineated in the Section 4.3 subsections on individual Conservation Areas.

Burrowing Owl. This measure does not apply to single-family residences and any non-commercial accessory uses and structures including but not limited to second units on an existing legal lot, or to O&M of Covered Activities other than levees, berms, dikes, and similar features that are known to contain burrowing owl burrows. O&M of roads is not subject to this requirement. For other projects that are subject to CEQA, the Permittees will require burrowing owl surveys in the Conservation Areas using an accepted protocol (as determined by the CVCC in coordination with the Permittees and the Wildlife Agencies). Prior to Development, the construction area and adjacent areas within 500 feet of the Development site, or to the edge of the property if less than 500 feet, will be surveyed by an Acceptable Biologist for burrows that could be used by burrowing owl. If a burrow is located, the biologist will determine if an owl is present in the burrow. If the burrow is determined to be occupied, the burrow will be flagged and a 160-foot buffer during the non-breeding season and a 250-foot buffer during the breeding season, or a buffer to the edge of the property boundary if less than 500 feet, will be established around the burrow. The buffer will be staked and flagged. No Development or O&M activities will be permitted within the buffer until the young are no longer dependent on the burrow.

If the burrow is unoccupied, the burrow will be made inaccessible to owls, and the Covered Activity may proceed. If either a nesting or escape burrow is occupied, owls shall be relocated pursuant to accepted Wildlife Agency protocols. A burrow is assumed occupied if records indicate that, based on surveys conducted following protocol, at least one burrowing owl has been observed occupying a burrow on site during the past three years. If there are no records for the site, surveys must be conducted to determine, prior to construction, if burrowing owls are present. Determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g., distance to nearest suitable habitat and presence of burrows within that habitat) in coordination with the Wildlife Agencies. Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with the Wildlife Agencies.

Fluvial Sand Transport. Activities, including O&M of facilities and construction of permitted new projects, in fluvial sand transport areas in the Cabazon, Stubbe and Cottonwood Canyons, Snow Creek/Windy Point, Whitewater Canyon, Whitewater Floodplain, Upper Mission Creek/Big Morongo Canyon, Mission Creek/Morongo Wash, Willow Hole, Long Canyon, Edom Hill, Thousand Palms, West Deception Canyon, and Indio Hills/Joshua Tree National Park Linkage Conservation Areas will be conducted in a manner to maintain the fluvial sand transport capacity of the system.

Le Conte's Thrasher. This measure does not apply to single-family residences and any non-commercial accessory uses and structures including but not limited to second units on an existing

legal lot, or to O&M of Covered Activities. In modeled Le Conte's thrasher Habitat in all the Conservation Areas, during the nesting season, January 15 - June 15, prior to the start of construction activities, surveys will be conducted by an Acceptable Biologist on the construction site and within 500 feet of the construction site, or to the property boundary if less than 500 feet. If nesting Le Conte's thrashers are found, a 500 foot buffer, or to the property boundary if less than 500 feet, will be established around the nest site. The buffer will be staked and flagged. No construction will be permitted within the buffer during the breeding season of January 15 - June 15 or until the young have fledged.

Palm Springs Pocket Mouse. To avoid impacts to the Palm Springs pocket mouse and its habitat in the Upper Mission Creek/Big Morongo Canyon and Willow Hole Conservation Areas, Flood Control-related construction activities will comply with the following avoidance and minimization measures.

- **Clearing:** For construction that would involve disturbance to Palm Springs pocket mouse habitat, activity should be phased to the extent feasible and practicable so that suitable habitat islands are no farther than 300 feet apart at any given time to allow pocket mice to disperse between habitat patches across nonsuitable habitat (i.e., unvegetated and/or compacted soils). Prior to project construction, a biological monitor familiar with this species should assist construction crews in planning access routes to avoid impacts to occupied habitat as much as feasible (i.e., placement of preferred routes on project plans and incorporation of methods to avoid as much suitable habitat/soil disturbance as possible). Furthermore, during construction activities, the biological monitor will ensure that connected, naturally vegetated areas with sandy soils and typical native vegetation remain intact to the extent feasible and practicable. Finally, construction that involves clearing of habitat should be avoided during the peak breeding season (approximately March to May), and activity should be limited as much as possible during the rest of the breeding season (January to February and June to August).
- **Revegetation:** Clearing of native vegetation (e.g., creosote, rabbitbrush, burrobush, cheesebush) should be followed by revegetation, including natural reestablishment and other means, resulting in habitat types of equal or superior biological value for Palm Springs pocket mouse.
- **Trapping/Holding:** All trapping activity should be conducted in accordance with accepted protocols and by a qualified biologist who possesses a Memorandum of Understanding with CDFG for live-trapping of heteromyid species in Southern California.
- **Translocation:** Should translocation between distinct population groups be necessary, as determined through the Adaptive Management and Monitoring Program, activity should be conducted by a qualified biologist who possesses a Memorandum of Understanding with CDFG for live-trapping of heteromyid species in Southern California. Trapping and subsequent translocation activity should be conducted in accordance with accepted protocols. Translocation programs should be coordinated by or conducted by the CVCC and/or RMOC to determine the appropriate trapping, holding, marking, and handling methods and potential translocation sites.

Land Use Adjacency Guidelines

The purpose of Land Use Adjacency Guidelines is to avoid or minimize indirect effects from Development adjacent to or within the Conservation Areas. Adjacent means sharing a common boundary with any parcel in a Conservation Area. Such indirect effects are commonly referred to as edge effects, and may include noise, lighting, drainage, intrusion of people, and the introduction of non-native plants and non-native predators such as dogs and cats. Edge effects will also be addressed through reserve management activities such as fencing. The following Land Use Adjacency Guidelines shall be considered by the Permittees in their review of individual public and private Development projects adjacent to or within the Conservation Areas to minimize edge effects and shall be implemented where applicable.

Drainage

Proposed Development adjacent to or within a Conservation Area shall incorporate plans to ensure that the quantity and quality of runoff discharged to the adjacent Conservation Area is not altered in an adverse way when compared with existing conditions. Storm water systems shall be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant materials or other elements that might degrade or harm biological resources or ecosystem processes within the adjacent Conservation Area.

Toxics

Land uses proposed adjacent to or within a Conservation Area that use chemicals or generate bio-products such as manure that are potentially toxic or may adversely affect wildlife and plant species, Habitat, or water quality shall incorporate measures to ensure that application of such chemicals does not result in any discharge to the adjacent Conservation Area.

Lighting

For proposed Development adjacent to or within a Conservation Area, lighting shall be shielded and directed toward the developed area. Landscape shielding or other appropriate methods shall be incorporated in project designs to minimize the effects of lighting adjacent to or within the adjacent Conservation Area in accordance with the guidelines to be included in the Implementation Manual.

Noise

Proposed Development adjacent to or within a Conservation Area that generates noise in excess of 75 dBA Leq hourly shall incorporate setbacks, berms, or walls, as appropriate, to minimize the effects of noise on the adjacent Conservation Area in accordance with the guidelines to be included in the Implementation Manual.

Invasives

Invasive, non-native plant species shall not be incorporated in the landscape for land uses adjacent to or within a Conservation Area. Landscape treatments within or adjacent to a Conservation Area shall incorporate native plant materials to the maximum extent Feasible; recommended native species are listed in Table 1. The plants listed in Table 2 shall not be used

Appendix C

within or adjacent to a Conservation Area. This list may be amended from time to time through a Minor Amendment with Wildlife Agency Concurrence.

Barriers

Land uses adjacent to or within a Conservation Area shall incorporate barriers in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping in a Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls and/or signage.

Grading/Land Development

Manufactured slopes associated with site Development shall not extend into adjacent land in a Conservation Area.

Table 1: Coachella Valley Native Plants Recommended for Landscaping¹

BOTANICAL NAME	COMMON NAME
Trees	
<i>Washingtonia filifera</i>	California Fan Palm
<i>Cercidium floridum</i>	Blue Palo Verde
<i>Chilopsis linearis</i>	Desert Willow
<i>Olneya tesota</i>	Ironwood Tree
<i>Prosopis glandulosa</i> var. <i>torreyana</i>	Honey Mesquite
Shrubs	
<i>Acacia greggii</i>	Cat's Claw Acacia
<i>Ambrosia dumosa</i>	Burro Bush
<i>Atriplex canescens</i>	Four Wing Saltbush
<i>Atriplex lentiformis</i>	Quailbush
<i>Atriplex polycarpa</i>	Cattle Spinach
<i>Baccharis sergiloides</i>	Squaw Water-weed
<i>Bebia juncea</i>	Sweet Bush
<i>Cassia (Senna) covesii</i>	Desert Senna
<i>Condalia parryi</i>	Crucilllo
<i>Crossosoma bigelovii</i>	Crossosoma
<i>Dalea emoryi</i>	Dye Weed
<i>Dalea (Psorothamnus) schottii</i>	Indigo Bush
<i>Datura meteloides</i>	Jimson Weed
<i>Encelia farinosa</i>	Brittle Bush
<i>Ephedra aspera</i>	Mormon Tea
<i>Eriogonum fasciculatum</i>	California Buckwheat
<i>Eriogonum wrightii membranaceum</i>	Wright's Buckwheat
<i>Fagonia laevis</i>	(No Common Name)
<i>Gutierrezia sarothrae</i>	Matchweed
<i>Haplopappus acradenius</i>	Goldenbush
<i>Hibiscus denudatus</i>	Desert Hibiscus
<i>Hoffmannseggia microphylla</i>	Rush Pea
<i>Hymenoclea salsola</i>	Cheesebush
<i>Hyptis emoryi</i>	Desert Lavender
<i>Isomeris arborea</i>	Bladder Pod
<i>Juniperus californica</i>	California Juniper
<i>Krameria grayi</i>	Ratany
<i>Krameria parvifolia</i>	Little-leaved Ratany
<i>Larrea tridentate</i>	Creosote Bush
<i>Lotus rigidus</i>	Desert Rock Pea
<i>Lycium andersonii</i>	Box Thorn
<i>Petalonyx linearis</i>	Long-leaved Sandpaper Plant
<i>Petalonyx thurberi</i>	Sandpaper Plant
<i>Peucephyllum schottii</i>	Pygmy Cedar
<i>Prunus fremontii</i>	Desert Apricot
<i>Rhus ovata</i>	Sugar-bush
<i>Salazaria mexicana</i>	Paper-bag Bush
<i>Salvia apiana</i>	White Sage
<i>Salvia eremostachya</i>	Santa Rosa Sage

Appendix C

BOTANICAL NAME	COMMON NAME
<i>Salvia vaseyi</i>	Wand Sage
<i>Simmondsia chinensis</i>	Jojoba
<i>Sphaeralcea ambigua</i>	Globemallow (Desert Mallow)
<i>Sphaeralcea ambigua rosacea</i>	Apricot Mallow
<i>Trixis californica</i>	Trixis
<i>Zauschneria californica</i>	California Fuchsia
Groundcovers	
<i>Mirabilis bigelovii</i>	Wishbone Bush (Four O'Clock)
<i>Mirabilis tenuiloba</i>	White Four O'Clock (Thin-lobed)
Vines	
<i>Vitis girdiana</i>	Desert Grape
Accent	
<i>Muhlenbergia rigens</i>	Deer Grass
Herbaceous Perennials²	
<i>Adiantum capillus-veneris</i>	Maiden-hair Fern (w)
<i>Carex alma</i>	Sedge (w)
<i>Dalea parryi</i>	Parry Dalea
<i>Eleocharis montevidensis</i>	Spike Rush (w)
<i>Equisetum laevigatum</i>	Horsetail (w)
<i>Juncus bufonis</i>	Toad Rush (w)
<i>Juncus effuses</i>	Juncus (w)
<i>Juncus macrophyllus</i>	Juncus (w)
<i>Juncus mexicanus</i>	Mexican Rush (w)
<i>Juncus xiphioides</i>	Juncus (w)
<i>Notholaena parryi</i>	Parry Cloak Fern
<i>Pallaea mucronata</i>	Bird-foot Fern
Cacti and Succulents	
<i>Agave deserti</i>	Desert Agave
<i>Asclepias albicans</i>	Desert Milkweed (Buggy-whip)
<i>Asclepias subulata</i>	Ajamete
<i>Dudleya arizonica</i>	Live-forever
<i>Dudleya saxosa</i>	Rock Dudleya
<i>Echinocereus engelmannii</i>	Calico Hedgehog Cactus
<i>Ferocactus acanthodes</i>	Barrel Cactus
<i>Fouquieria splendens</i>	Ocotillo
<i>Mamillaria dioica</i>	Nipple Cactus
<i>Mamillaria tetrancistra</i>	Corkseed Cactus
<i>Nolina parryi</i>	Parry Nolina
<i>Opuntia acanthocarpa</i>	Stag-horn or Deer-horn Cholla
<i>Opuntia bigelovii</i>	Teddy Bear or Jumping Cholla
<i>Opuntia basilaris</i>	Beavertail Cactus
<i>Opuntia echinocarpa</i>	Silver or Golden Cholla
<i>Opuntia ramosissima</i>	Pencil Cholla, Darning Needle Cholla
<i>Yucca schidigera</i>	Mojave Yucca, Spanish Dagger
<i>Yucca whipplei</i>	Our Lord's Candle

¹ Source: "Coachella Valley Native Plants, Excluding Annuals (0 ft. to approximately 3,000 ft. elevation)." Compiled by Dave Heveron, Garden Collections Manager, and Kirk Anderson, Horticulturist, The Living Desert, May, 2000, for the Coachella Valley Mountains Conservancy.

² Common names for herbaceous perennials that are followed by "(w)" indicate a water or riparian species.

Table 2: Prohibited Invasive Ornamental Plants¹

BOTANICAL NAME	COMMON NAME
<i>Acacia</i> spp. (all species except <i>A. greggii</i>)	Acacia (all species except native catclaw acacia)
<i>Arundo donax</i> (✓)	Giant Reed or Arundo Grass
<i>Atriplex semibaccata</i> (✓)	Australian Saltbush
<i>Avena barbata</i>	Slender Wild Oat
<i>Avena fatua</i>	Wild Oat
<i>Brassica tournefortii</i> (✓✓)	African or Saharan Mustard
<i>Bromus madritensis</i> ssp. <i>rubens</i> (✓)	Red Brome
<i>Bromus tectorum</i> (✓✓)	Cheat Grass or Downy Brome
<i>Cortaderia jubata</i> [syn. <i>C. atacamensis</i>]	Jubata Grass or Andean Pampas Grass
<i>Cortaderia dioica</i> [syn. <i>C. selloana</i>]	Pampas Grass
<i>Descurainia sophia</i>	Tansy Mustard
<i>Eichhornia crassipes</i>	Water Hyacinth
<i>Elaeagnus angustifolia</i>	Russian Olive
<i>Foeniculum vulgare</i>	Sweet Fennel
<i>Hirschfeldia incana</i>	Mediterranean or Short-pod Mustard
<i>Lepidium latifolium</i>	Perennial Pepperweed
<i>Lolium multiflorum</i>	Italian Ryegrass
<i>Nerium oleander</i>	Oleander
<i>Nicotiana glauca</i> (✓)	Tree Tobacco
<i>Oenothera berlandieri</i> (#)	Mexican Evening Primrose
<i>Olea europea</i>	European Olive Tree
<i>Parkinsonia aculeata</i> (✓)	Mexican Palo Verde
<i>Pennisetum clandestinum</i>	Kikuyu Grass
<i>Pennisetum setaceum</i> (✓✓)	Fountain Grass
<i>Phoenix canariensis</i> (#)	Canary Island Date Palm
<i>Phoenix dactylifera</i> (#)	Date Palm
<i>Ricinus communis</i> (✓)	Castorbean
<i>Salsola tragus</i> (✓)	Russian Thistle
<i>Schinus molle</i>	Peruvian Pepper Tree or California Pepper
<i>Schinus terebinthifolius</i>	Brazilian Pepper Tree
<i>Schismus arabicus</i>	Mediterranean Grass
<i>Schismus barbatus</i> (✓✓)	Saharan Grass, Abu Mashi
<i>Stipa capensis</i> (✓✓)	No Common Name
<i>Tamarix</i> spp. (all species) (✓✓)	Tamarisk or Salt Cedar
<i>Taeniatherum caput-medusae</i>	Medusa-head
<i>Tribulus terrestris</i>	Puncturevine
<i>Vinca major</i>	Periwinkle
<i>Washingtonia robusta</i>	Mexican fan palm
<i>Yucca gloriosa</i> (#)	Spanish Dagger

¹ Sources: California Exotic Pest Plant Council, United States Department of Agriculture-Division of Plant Health and Pest Prevention Services, California Native Plant Society, Fremontia Vol. 26 No. 4, October 1998, The Jepson Manual; Higher Plants of California, and County of San Diego Department of Agriculture.

indicates species not on CalEPPC October 1999 "Exotic Pest Plants of Greatest Ecological Concern in California" list

✓ indicates species known to be invasive in the Plan Area

✓✓ indicates particularly troublesome invasive species

APPENDIX C



Coachella Valley Conservation Commission Joint Project Review Application

The 30-day Joint Project Review (JPR) timeline does not start until the CVCC receives this completed application as well as the required project information from the Permittee.

Date: 10/7/20

Permittee Name (Jurisdiction): County of Riverside

SECTION 1: PROJECT APPLICANT

A. Project Applicant Name(s)/Applicant's Representative: Mountain View Power

Partners, LLC / Eric Pendergraft

Mailing Address: 690 N. Studebaker Rd.

Street

Long Beach, CA 90803

City

State

ZIP

Daytime Phone No: 562-493-7855

Fax No: 562-493-7886

E-Mail: eric.pendergraft@aes.com

PROPERTY OWNER INFORMATION:

B. Assessor's Parcel Number(s) (APNs): 522-070-027 and 669-020-008

Property Owner Name(s)/Owner's Representative: Gabrych Family Limited

Partnership

Mailing Address: 2425 N. Riverside Drive

Street

Santa Ana, CA 92706

City

State

ZIP

Daytime Phone No: 714-343-4415

Fax No: Not Applicable

E-Mail: j.wianecki@yahoo.com

Coachella Valley Conservation Commission

73-710 Fred Waring Drive, Suite 200, Palm Desert, CA 92260 Phone: (760) 346-1127 Fax: (760) 340-5949

SECTION 2: PROJECT DESCRIPTION

Total Acres of Project Site: 383.4 acres w/in Whitewater Floodplain CA

Total Acres Planned for Development: 18.9 acres (combined permanent and temporary disturbance)

Total Acres Planned for Permanent Conservation: 253.73 acres (Gabrych Set-Aside)

Project Description:

Please provide as complete a description of the project as possible, including proposed development, areas of disturbance, conservation, mitigation areas, restoration, and any offsite improvements. If you need additional space, please submit your complete project description as a Word file.

Refer to Consistency Analysis Memo, included as part of this JPR
application package submittal.

- Attach an electronic file of the area of Disturbance in CAD or ESRI Shapefile format (applications for a single-family dwelling are not required to submit electronic file)
- Attach map(s) as necessary to depict the project location.
- Attach copies of a map delineating:
 - the areas of proposed disturbance on the project site.
 - areas on the project site proposed to be left undisturbed
 - areas of proposed permanent conservation on the project site

The disturbed area is any portion of the earth's surface or natural vegetation that has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural condition pursuant to a legally issued land use, grading or building permit. This definition does not include land that has been restored to a native condition, such that the vegetative ground cover and soil characteristics are equal to surrounding conditions.

Examples of disturbance include but are not limited to: staging areas, areas of side casting, slough, stockpiling, and spillage or otherwise impacted in preparing the property for development; areas to be disturbed in installing septic tanks and leach fields including the expansion area for leach fields; and any off-site improvements such as roads or sewers required as a condition of approval.

Permanent conservation is an undeveloped portion of a parcel that is legally described and permanently protected through an appropriate Legal Instrument that allows long-term monitoring and management in perpetuity.

Coachella Valley Conservation Commission

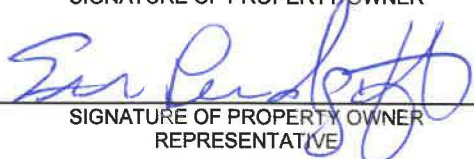
73-710 Fred Waring Drive, Suite 200, Palm Desert, CA 92260 Phone: (760) 346-1127 Fax: (760) 340-5949

SECTION 3

AUTHORITY FOR THIS APPLICATION IS HEREBY GIVEN:

I certify that I am/we are the record owner(s) or authorized agent and that the information filed is true and correct to the best of my knowledge. An authorized agent must submit a letter from the owner(s) indicating authority to sign the application on the owner's behalf. As the owner of record/authorized agent, I hereby authorize the information to be released to Property Owner(s)/Owner's Representative/authorized agent.

Please submit a scanned PDF of your signed application with all project documentation.

_____ PRINTED NAME OF PROPERTY OWNER	_____ SIGNATURE OF PROPERTY OWNER
Eric Pendergraft	
_____ PRINTED NAME OF PROPERTY OWNER REPRESENTATIVE	_____ SIGNATURE OF PROPERTY OWNER REPRESENTATIVE

If the subject property is owned by persons who have not signed as owners above, attach a separate sheet that references the application case number and lists the printed names and signatures of all persons having an interest in the property.

Coachella Valley Conservation Commission

73-710 Fred Waring Drive, Suite 200, Palm Desert, CA 92260 Phone: (760) 346-1127 Fax: (760) 340-5949

Appendix F

Jurisdictional Waters Assessment and Jurisdictional Delineation Report for the Mountain View Wind Repower Project

March 15, 2021

12649.03

Michael Hughes
AES North American Development, LLC
690 North Studebaker Road
Long Beach, CA 90803

Subject: *Jurisdictional Waters Assessment and Jurisdictional Delineation Report for the Mountain View Wind Repower Project, Riverside County, California*

Dear Mr. Hughes:

This report documents the results of a jurisdictional assessment and jurisdictional delineation for the Mountain View Wind Repower Project (project). The project is located primarily in unincorporated Riverside County (Figure 1, Project Location; figures are provided in Attachment A). Mountain View Power Partners, LLC (MVPP) (applicant) is proposing to repower the existing Mountain View I & II wind farms through removal of 93 existing wind turbine generators (WTG), leaving 7 existing WTGs in place, and installing 16 new, higher-capacity WTGs, removal of three existing meteorological (met) towers and installation of one new met tower, and overhead and underground electrical system improvements. A jurisdictional assessment was conducted on approximately 1,092 acres to inform project design (hereafter referred to as jurisdictional assessment review area) and a subsequent formal jurisdictional delineation of approximately 276.05 acres was conducted within the proposed project footprint and 50 foot buffer (hereafter referred to as jurisdictional delineation review area), as depicted in Figure 1.

The applicant has designed the proposed project to avoid impacts to jurisdictional waters. Therefore, this letter report is intended to (1) describe existing jurisdictional waters within the jurisdictional delineation review area, and (2) provide applicable avoidance and minimization measures to jurisdictional waters within the delineation review area, as applicable.

1 Project Location and Description

1.1 Project Location

The proposed project is located predominantly in unincorporated Riverside County, with small areas on Bureau of Land Management (BLM) and the City of Palm Springs lands, all within a region situated in the northwestern portion of the Coachella Valley. The Coachella Valley extends approximately 45-miles southeast of the San Bernardino Mountains and constitutes the western-most portion of the Colorado Desert. The Coachella Valley connects with the great Los Angeles region to the west via the San Geronio Pass. Approximately 1,216.7-acres of existing energy facilities are located within the County of Riverside. State Route 111 (SR-111) and the City of Palm Springs are located south of the proposed project site, and Interstate-10 (I-10) is located to the north (Figure 1). The proposed project is located within the White Water and Desert Hot Springs United States Geological Survey (USGS) Quadrangle, within Sections 13, 16, 17, 18, 19, 20 and 21 of Township 3 South, Ranges 3 and 4 East (Figure 2, USGS Topographic Map). The approximate center of the site corresponds to 33°54'33.26" north latitude and 116°36'55.62" west longitude.

1.2 Project Description

The proposed MVPP project would repower the existing wind farms with 16 new, Vestas V117-3.6- and V117-4.3-megawatt (MW) WTGs while removing 93 existing Mitsubishi 600-kilowatt (kW) WTGs; 7 existing Mitsubishi 600 kW WTGs would remain as part of the repower project. The seven existing WTGs would be upgraded with new and/or refurbished gearboxes, generators, and other components to improve electrical generation efficiency. Six of the existing WTGs that would remain as part of the proposed project (WTG74-09 through WTG74-14) are located on BLM parcel no. 668-310-038 (ROW Grant CACA-42139), and one WTG (WTG74-15) is located on privately owned parcel no. 669-020-008. Via a pending application, the applicant is requesting that BLM extend ROW Grant CACA-42139 to December 31, 2042. BLM, as the lead agency pursuant to the National Environmental Policy Act, is anticipated to apply a Categorical Exclusion for the proposed improvements to existing WTGs within BLM land. Eleven additional existing Mitsubishi WTGs associated with the existing MVPP I & II wind facility, located south of the project site, are authorized by BLM ROW Grant CACA-40557 and not included as part of the proposed project.

Project components include the following: WTGs (including turbine pad, safety features, and transformer contained within WTG unit), the electrical collection system, access roads, one free-standing met tower, and laydown and parking. The 16 new WTGs would have three blades per turbine, a blade length of 57.15 meters (188 feet), and a rotor diameter of 117 meters (384 feet). The total height of the WTG would be 150 meters (492 feet). Each WTG would be installed within an area designated as the turbine pad, and would include Federal Aviation Administration aviation warning lights, parking brake, and a lightning protection system. Each temporary WTG construction work area would require an approximate 2.0- to 2.5-acre area to be cleared and graded, depending on topography. Upon completion of WTG erection, a permanent 0.21-acre gravel apron would remain around each WTG for operations and maintenance activities and fire protection. The WTGs would be connected to the Mountwind Substation through an electrical collection system. The project's electrical collection system would include installation of both overhead and underground electrical infrastructure. Underground circuits would be direct-buried at a minimum depth of 36 inches and a maximum depth of 48 inches, in accordance with applicable requirements, including the National Electrical Code. The trench itself would be 2 feet wide, but the larger, temporary disturbance area could be up to 34 feet wide, which would accommodate temporary soil spoils piles generated from trenching, the trenching machine, and other vehicular traffic traveling adjacent to the electrical collection system trenching activities. The existing onsite overhead electrical collection system would be upgraded. A total of 43 existing, 45-foot-tall utility poles, would be replaced. Most new poles would be 55 feet tall but some would be up to 65 feet tall. Four utility poles would be replaced in-place, requiring a temporary 25-square foot work area at each pole. Thirty-nine utility poles would be replaced immediately adjacent to the existing pole, requiring a temporary 100 square foot work area at each pole. To reduce potential collision and electrocution risks to birds and bats, the applicant would construct the power line in compliance with current Avian Power Line Interaction Committee (APLIC) guidelines (APLIC 2012). These methods ensure a minimum separation between electrical components to prevent simultaneous contact and covering electrical components with protective materials to prevent contact. Implementation of APLIC guidelines would reduce impacts to birds from electrocution and collision. A 10-foot wide spur road would be built to provide vehicle access to 14 of the utility poles.

Where feasible, the existing network of permanent access roads would be retained and reused for the new WTGs. In addition to the existing roads, approximately 6.25 miles of permanent access and maintenance roads would be constructed to provide access and circulation within the project site. Access roads would consist of compacted native material covered by approximately 4 to 6 inches of aggregate material to provide the soil strength needed for heavier equipment. During construction, a 17-foot-wide compacted subgrade shoulder would be developed on

either side of the 16-foot-wide roadways, except for the access roads within the CVMSHCP Whitewater Floodplain Conservation Area (WFCA), which would remain at 16 feet wide to minimize impacts to biological resources and avoid impacts to jurisdictional features. Maximum width for temporary construction roads to support activities would not exceed 50 feet. The new, permanent access road layout would incorporate applicable federal and local standards regarding internal road design and circulation, particularly those provisions related to emergency vehicle access.

One new free-standing lattice-type met tower would be erected within the southwest portion of the project site within the WFCA. The proposed tower would be up to 100 meters (approximately 328 feet) tall and would be equipped with applicable FAA-compliant marking or lighting for aviation safety. Preferred lighting color has not yet been finalized but is anticipated to be in warm tones (e.g., reds or oranges), rather than LED or bright lighting, in order to lower increased predation risk for small mammals. The proposed met tower would be used to monitor and verify wind characteristics at the project site. The met tower would be constructed atop a concrete foundation within a graded work area, including a crane pad for tower assembly and erection. A new 16-foot-wide access road would be constructed to provide access to the proposed met tower. A total of 0.5 acres of new ground disturbance would be required for construction of the proposed met tower and associated components. The three existing lattice met towers, one of which is currently located within the WFCA, would be demolished prior to project construction.

An approximate 17-acre staging area/laydown yard would be developed in the northern portion of the project site, approximately 550 feet south of the western access point. The proposed staging area would be utilized for parking and as a laydown yard to stage WTG components, construction equipment, and construction materials. Steel construction containers would be used to securely store specialized equipment. After construction is completed, the laydown yard would be used as a staging and work area during long-term operation and maintenance of the project.

The project does not include revegetation or restoration of temporary impacts after project completion. However, natural vegetation will be allowed to regenerate in temporary disturbed areas from root systems left intact. Furthermore, if topsoil is removed during construction, the segregated topsoil will be replaced, and the native seed will be allowed to regenerate naturally.

2 Regulatory Background

2.1 Federal Statutes and Regulations – U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, any person or public agency proposing to discharge dredged or fill material into waters of the United States, including jurisdictional wetlands, must obtain a permit from the ACOE. On January 23, 2020, the ACOE and Environmental Protection Agency (EPA) finalized the “Navigable Waters Protection Rule,” which establishes a new definition of “Waters of the U.S.” under the CWA. The new Navigable Waters Protection Rule (Rule) repeals the Obama-era 2015 Clean Water Rule and replaces it with a definition that drastically limits the scope of federal regulation to a much narrower collection of aquatic resource features. This rule became effective on June 22, 2020. Among the greatest changes, the Rule eliminates “significant nexus” determinations to determine if potential tributaries have a significant effect on the “chemical, physical, and biological integrity of downstream traditional navigable waters.” The Rule also redefines the term “adjacent.” For an adjacent wetland to be jurisdictional, it must touch “at least one point or side of a jurisdictional water” or have a direct hydrological surface connection to a traditional navigable waterway. Hydrological connections through groundwater, which have been suggested to maintain federal jurisdiction in the past, are now outside of the scope

of federal purview. Most importantly, the Rule identifies four specific categories of aquatic resource features that will be regulated by the federal government under the CWA, leaving oversight for other “excluded” waterbodies to states and tribes. The four specific categories of aquatic resources regulated under the CWA are:

1. Territorial seas and traditional navigable waters;
2. Perennial and intermittent tributaries;
3. Certain lakes, ponds, and impoundments; and
4. Wetlands that are adjacent to jurisdictional waters.

For non-tidal waters of the United States, the lateral limits of ACOE jurisdiction extend to the ordinary high water mark (OHWM) when no adjacent wetlands are present. As defined in Title 33 Code of Federal Regulations, Part 328.3(c)(6), the OHWM is “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.” If adjacent wetlands are present, the jurisdiction extends to the limit of the wetlands.

Wetlands are “those areas that are inundated or saturated by surface water 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” (Title 33 Code of Federal Regulations, Part 328.3). Wetlands are jurisdictional if they meet this definition and the definition of waters of the United States. Three criteria must be satisfied to classify an area as a wetland under ACOE jurisdiction: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology). The ACOE uses the methodology in the Regional Supplements to the Corps of Engineers Wetland Delineation Manual to determine whether an area meets these three criteria. In the review area, the supplement for the Arid West Region (ACOE 2008a) is used.

ACOE-Regulated Activities

Under Section 404 of the Clean Water Act, the ACOE regulates activities that involve a discharge of dredged or fill material, including but not limited to grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into waters of the United States. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, providing some drainage channel maintenance activities, and excavating without stockpiling.

2.2 State Statutes and Regulations – Regional Water Quality Control Board

The State of California has concurrent jurisdiction with the federal government over Section 401 Water Quality Certification for jurisdictional waters and wetlands of the United States. Where isolated waters and wetlands (not subject to federal jurisdiction) are involved, the state will exert independent jurisdiction via the Porter-Cologne Water Quality Control Act.

Section 401 of the Clean Water Act

Section 401 of the Clean Water Act requires that any applicant for a federal permit for activities that involve a discharge to waters of the United States provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal

Clean Water Act. Therefore, in California, before the U.S. Army Corps of Engineers (“ACOE”) will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification or waiver from the RWQCB.

Under Section 401 of the Clean Water Act, the RWQCB regulates at the state level all activities that are regulated at the federal level by ACOE.

Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state” (California Water Code Section 13260[a]), pursuant to provisions of the state Porter-Cologne Water Quality Control Act. “Waters of the state” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code Section 13050[e]).

Under the Porter-Cologne Water Quality Control Act, the RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into waters of the state, that are not regulated by the ACOE due to a lack of connectivity with a navigable water body.

2.3 State Statutes and Regulations – California Department of Fish and Wildlife

California Fish and Game Code Sections 1600–1616 mandate that “it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.”

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. Furthermore, CDFW jurisdiction extends to riparian habitat and may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high water mark (“OHWM”) to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects.

3 Methods

3.1 Literature Review

The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2020; Historic Aerials 2020); the U.S. Geological Survey 7.5-minute topographic quadrangle (USGS 2020); a Natural Resources Conservation Service soil map (USDA 2020); U.S. Environmental Protection Agency Watershed Assessment, Tracking, and Environmental Results System (EPA 2020), which includes the National Hydrography Dataset; and the National Wetland Inventory (USFWS 2020), and Federal Emergency Management

Agency (FEMA 2020). In addition, *A Review of Stream Processes and Forms in Dryland Watersheds* (Vyverberg 2010) and the *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (CEC 2014) was reviewed.

3.2 Jurisdictional Assessment and Delineation

Dudek conducted a jurisdictional assessment within an approximate 1,092-acre jurisdictional assessment review area in April and August 2020 to inform project design. A subsequent formal jurisdictional waters delineation was conducted in August and September 2020 and January 2021 within the proposed project footprint and 50 foot buffer (jurisdictional delineation review area). Collectively, these areas are herein referred to as 'review area'. Table 1 provides the dates, personnel, hours, survey type/area, and conditions.

Table 1. Survey Information

Date	Personnel	Hours	Survey Type	Conditions (temperature, cloud cover, wind)
4/20/20	Anna Cassady; Britney Strittmater	7:55 a.m. – 4:15 p.m.	Jurisdictional Assessment	59°F–82°F, 0% cc, 5–29 mph winds
4/21/20	Britney Strittmater; Patricia Schuyler	8:30 a.m. – 4:30 p.m.	Jurisdictional Assessment	63°F–79°F, 0% cc, 5-19 mph winds
4/23/20	Britney Strittmater; Patricia Schuyler	8:15 a.m. – 12:35 p.m.	Jurisdictional Assessment	74°F–99°F, 0% cc, 2–6 mph winds
8/13/20	Britney Strittmater	6:05 a.m. – 12:25 p.m.	Jurisdictional Delineation	89°F–108°F, 10-95% cc, 2–8 mph winds
8/18/20	Anna Cassady; Britney Strittmater	6:15 a.m. – 11:30 p.m.	Jurisdictional Assessment ¹ ; Jurisdictional Delineation	88°F–108°F, 35% - 45% cc, 0–1 mph winds
9/18/20	Britney Strittmater	6:30 a.m. – 9:25 a.m.	Jurisdictional Delineation	82°F–93°F, 10% - 30% cc, 3–8 mph winds
01/11/21	Anna Cassady; Britney Strittmater	7:45 a.m. – 2:30 p.m.	Jurisdictional Delineation	50°F–69°F, 3% - 10% cc, 1–5 mph winds

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

¹ Additional parcels were added for proposed project laydown/staging areas and road improvements; therefore, an additional jurisdiction assessment was conducted in August 2020

3.2.1 Jurisdictional Assessment

Dudek conducted a constraints level assessment of potential jurisdictional waters and wetlands within the approximate 1,092-acre jurisdictional assessment review area. All potential waters of the U.S. under the jurisdiction of ACOE and RWQCB, streambeds under the jurisdiction of CDFW, and waters of the State under the jurisdiction of the RWQCB were documented and mapped in order to inform the project design. The focus of the jurisdictional assessment was to map the geographic extent of potential jurisdictional waters and wetlands in order to inform project design; however, the assessment did not include a formal delineation of waters.

The assessment included: (1) conducting transects within the Whitewater River floodplain to document the characteristics of the low flow channel, the active floodplain and the low terrace; (2) review of potential jurisdictional

features within 50 feet of all access roads; and (3) review of proposed turbine locations and any other potential features as viewed on aerial imagery. These tasks are further described below.

Prior to the April 2020 field assessment, Dudek reviewed aerial imagery in tandem with the FEMA 100 year floodplain to assess potential areas that may support jurisdictional resources, including the Whitewater River floodplain. Delineating waters of the United States in arid regions requires taking data points in accordance with the ACOE 2008 Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States (ACOE 2008a). This process involves collecting data within the low flow channel, the active floodplain and the low terrace to determine the site specific characteristics of these three landforms as defined in the 2008 ACOE Field Guide. At the time of the April 2020 jurisdictional assessment, the low flow channel and active floodplain were considered waters of the United States and the low terrace was considered outside of waters of the United States.

Collecting OHWM data along transects throughout the entire alluvial fan is a labor intensive process. Therefore, Dudek conducted four transects beginning at the western extent of the jurisdictional assessment review area within the historic Whitewater River floodplain, moving perpendicular across the floodplain, in order to document the characteristics of the low flow channel, the active floodplain and the low terrace. This approach was conducted to provide data on the characteristics of these landforms. The characteristics that were documented within the four transects were then extrapolated within the jurisdictional assessment review area based on aerial photography and ground truthing. Any area that has characteristics of the low flow channel and active floodplain were assumed to be jurisdictional. Potential jurisdictional waters were mapped for avoidance using aerial photographs and based on ground truthing during the field effort.

Streambeds under the jurisdiction of CDFW were mapped based on a combination of an OHWM and vegetation mapping. The vegetation mapping completed by Tetra Tech was utilized for this effort. Areas supporting desert riparian vegetation were assumed to be under the jurisdiction of CDFW under section 1600 of Fish and Game Code.

It was also assumed that areas located within past disturbance (i.e., grading and related disturbances associated with construction of wind turbines), as shown in historic aerials from 1972 and 1996 (Historic Aerials 2020) and past disturbance (i.e., grading and related disturbances associated with construction of service roads, an overhead electrical system and associated access/spur roads, and 100 WTGs) between 1996 and 2002 (Google Earth 2020), would not be considered jurisdictional resources under the jurisdiction of ACOE, RWQCB, or jurisdictional streambed under CDFW. Refer to Section 4.1 of this report for more information regarding these areas.

3.2.2 Jurisdictional Delineation

The jurisdictional delineation review area was surveyed on foot where potential jurisdictional features were observed during the jurisdictional assessment survey. Dudek surveyed for the following types of features:

- Waters of the state under the jurisdiction of the State Water Resources Control Board, pursuant to Section 401 of the federal Clean Water Act and the Porter-Cologne Water Quality Control Act, as wetlands or drainages
- Streambeds under the jurisdiction of the CDFW, pursuant to Section 1602 of the California Fish and Game Code

Based on the Navigable Waters Protection Rule released in April 2020 that went into effect on June 22, 2020, ephemeral waters are no longer protected waters of the United States; therefore, waters within the jurisdictional delineation review area would not be regulated by ACOE based on the new Rule. However, the ordinary high water mark was delineated as required by the State Water Resources Control Board to delineate waters of the state. Should this Rule be revised at a future date, the delineation will be adequate to identify waters of the United States. Waters of the state were mapped in accordance with the State Wetland Definition and Procedures for Discharges

of Dredged or Fill Material to Waters of the State adopted April 2, 2019. As described in these procedures, wetland waters of the state were mapped based on the procedures in the ACOE's *1987 Wetlands Delineation Manual* and the *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 1987, 2008a). Non-wetland waters were mapped at the OHWM based on the procedures defined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (ACOE 2008b).

CDFW jurisdictional areas were mapped to include the bank of the stream/channel and outer dripline of adjacent riparian vegetation, as set forth under Section 1602 of the California Fish and Game Code.

To aid in the delineation and in conformance with the ACOE 2008 Field Guide, five OHWM datasheets (ODP-1 through ODP-5) were recorded at potential non-wetland waters within the JD review area to determine the OHWM indicators within those features. OHWM datasheets are included as Attachment B. The jurisdictional delineation review area did not contain any features that met the State Water Resources Control Board wetland criteria, and due to the lack of hydrophytic vegetation and hydric soils, wetland determination data forms were not completed.

Streambeds are typically delineated at the width of the channel or lake measured at the top of bank or the extent of associated riparian vegetation beyond the top of bank. For shallow drainages and washes that do not support riparian vegetation, the top-of-bank measurement may be the same as the OHWM measurement. To aid in the delineation, streambeds were delineated based on watercourse characteristics present in the field, which include surface flow, sediment transportation and sorting, physical indicators of channel forms, channel morphology, and riparian habitat associated with a streambed. These characteristics are based on the CDFW guidance document, *A Review of Stream Processes and Forms in Dryland Watersheds* (Vyverberg 2010) and the *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (CEC 2014).

To assist in the determination of isolated waters of the state and CDFW streambeds (collectively "aquatic resources"), and in conformance with the *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (CEC 2014), data were collected using the Episodic Stream Indicator Data Sheet (Appendix G of CEC 2014) at seventeen features. These data collection points are referred to as Mesa Data Stations (MSD-1 through MSD-17). Episodic Stream Indicator Data Sheets are included as Attachment C. The jurisdictional delineation review area was evaluated for evidence of fluvial indicators such as drainage swales, mud cracks, drift, wracking, vegetation-channel alignments, and hydrologic connectivity. The extent of any identified aquatic resources was determined by mapping the areas with fluvial characteristics and topography to the sampled locations. Photos of the aquatic resources were taken and are provided in Attachment D.

The limits of aquatic resources were collected in the field using a Trimble GeoXT GPS unit or ESRI Collector mobile application with sub-meter accuracy. The geographic extents were digitized in geographic information system based on the GPS data and data collected directly onto field maps into a Project-specific geographic information system using ArcGIS software. As discussed in Section 3.2.1 of this report, it was also assumed that areas located within past disturbance (i.e., grading and related disturbances associated with construction of WTGs), as shown in historic aerials from 1972 and 1996 (Historic Aerials 2020) and past disturbance (i.e., grading and related disturbances associated with construction of service roads, an overhead electrical system and associated access/spur roads, and 100 WTGs) between 1996 and 2002 (Google Earth 2020), would not be considered jurisdictional resources

under the jurisdiction of ACOE, RWQCB, or jurisdictional streambed under CDFW. Refer to Section 4.1 of this report for more information regarding these areas.

4 Environmental Setting

4.1 Land Uses

The review area is characterized as an active wind energy facility with associated development (i.e., concrete pads, WTGs, storage yard, and associated dirt roads), a Southern California Gas pipeline easement and associated roads that bisect the site east to west, an overhead electrical system and associated roads that bisect the site east to west, with the remaining portions containing native desert vegetation. The surrounding areas can broadly be described as containing mixed wind energy resources, industrial and commercial properties, and rural residences. Properties to the north of the review area include an Amtrak train station and UP railroad tracks. Beyond the railroad tracks is an apparent storage junk yard, wind energy properties and substation, and vacant native desert land. Properties east of the review area include a wind energy property and substation. Properties to the south include percolation ponds, a switching station, wind energy properties, and vacant native desert land. Lastly, to the west is a wind energy facility, the Whitewater River and vacant native desert land.

Historic aerials depict vegetation clearing and grading for the gas pipeline easement, which bisects the review area east to west, sometime before 1972 (Historic Aerials 2020). Grading for the construction of the gas pipeline easement pushed large amounts of gravel and rock to sides creating berms along the northern and southern portions of the berm that altered hydrology in the area, especially within the southwestern portion of the review area where, historically, an active alluvial fan occurred. Historic aerials also depict vegetation clearing for past development associated with the existing wind energy facility sometime between 1972 and 1996 (Historic Aerials 2020). Google Earth historic imagery depicts that sometime between 1996 and 2002 land was graded to build gravel service roads, an overhead electrical system and associated access/spur roads, and 100 WTGs were installed throughout the review area (Google Earth 2020). During the construction of service roads and overhead electrical system access/spur roads, gravel material was pushed to the sides of the roads creating berms that altered the flow of water. The installation of service roads, overhead electrical system and associated access/spur roads, and WTGs altered the hydrologic function in the area. Fluvial activity is evident in historic aerials from 2002 (Historic Aerials 2020), with multiple large storm events occurring after 2004 as evident in Google Earth imagery (Google Earth 2020). The floodplain from the large storm events extend through the western section of the review area.

4.2 Climate

The review area site is located within the Coachella Valley, which has an arid climate characterized by hot, dry summers, frequent gusty winds predominately from the west, with mild winters. Average temperatures in this area range from approximately 42°F to 108°F. Precipitation occurs primarily in the winter, with additional thunderstorms in the summer, and typically averages approximately 5 inches per year (WRCC 2020; RWQCB 2019).

4.3 Soils

Three soil family series are mapped within the review area: Carsitas family series (Carsitas fine sand, 0%–5% slopes, Carsitas gravelly sand, 0%–9% slopes, and Carsitas cobbly sand 2%–9% slopes), Carrizo family series (Carrizo stony sand, 2%–9% slopes), and Pit family series (gravel pits and dumps). These soils are described in more detail below (USDA 2020) and the spatial distribution of these soils is depicted in Figure 3, Soils.

- **Carrizo Family Series** consists of very deep, excessively drained soils that are formed in mixed ingenious alluvium. Carrizo soils are found on numerous landforms including floodplains, fan piedmonts, and bolson floors at elevations of 270 feet below mean sea level to 2,600 feet above the mean sea level. Vegetation present within this soil series include creosote bush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), and ratany (*Krameria* spp.).
- **Carsitas Family Series** consists of very deep, somewhat excessively drained soils that formed in alluvium derived from granitic and/or gneissic rocks. Carsitas soils are on alluvial fans, fan aprons, valley fills, and remnants of alluvial fans and in drainage ways at elevations of 220 feet below mean sea level to 2,625 feet above mean sea level. These soils have low runoff and high saturated hydraulic connectivity. Carsitas soils are distributed in southeastern California and support irrigated agricultural areas that include citrus and grapes, as well as watershed, wildlife habitat, and recreation. Vegetation in uncultivated areas includes creosote bush, burrobush, barrel cactus (*Ferocactus* sp.), mesquite (*Prosopis* sp.), and blue palo verde (*Parkinsonia* sp.).
- **Pit Family Series** consists of very deep, poorly drained soils that are formed in areas with fine-textured alluvium weathered from extrusive and igneous rocks. Pit soils are found on floodplains and in basins. This soil has cracks of 1 to 5 cm wide and 20 to 26 in deep that remain open for a period from July through October and closed the rest of the year.

4.4 Vegetation

A total of seven vegetation communities and land cover types occur within the review area based on general physiognomy and species composition and include: cheesebush – sweetbush scrub, creosote bush – white bursage scrub, creosote bush scrub, white bursage scrub, disturbed white bursage scrub, disturbed, and developed lands (Tetra Tech 2020). Figure 4, Biological Resources, illustrates the distribution of vegetation communities and land cover types mapped by Tetra Tech (2020) and these communities are further described below.

4.4.1 Cheesebush – Sweetbush Scrub (*Ambrosia salsola* – *Bebbia juncea* Shrubland Alliance)

The cheesebush – sweetbush scrub community is characterized by open and intermittent shrub canopy that is co-dominated by cheesebush (*Ambrosia salsola*) and sweetbush (*Bebbia juncea*). Other species within this community include brittlebush (*Encelia farinosa*), California ephedra (*Ephedra californica*), and emergent trees, such as desert willow (*Chilopsis linearis*) (Tetra Tech 2020). This community was found predominantly within the western portion of the review area. A large portion of the cheesebush – sweetbush scrub community found on site was mildly to moderately disturbed throughout the review area due to non-native species and anthropogenic causes such as roads and vehicle tracks (Tetra Tech 2020).

4.4.2 Creosote Bush- White Bursage Scrub (*Larrea tridentata* – *Ambrosia dumosa* Shrubland Alliance)

The creosote bush – white bursage scrub community is characterized by shrubs of less than 3 meters in height with a two-tiered open to intermittent shrub layer and an absent to intermittent herbaceous layer containing seasonal annuals. This vegetation community is co-dominated by creosote bush and white bursage with Fremont's pincushion (*Chaenactis fremontii*) also present (CNPS 2020, Tetra Tech 2020). This community was found within the western and eastern portions of the review area. The creosote bush white bursage scrub was mildly to moderately disturbed throughout the survey area due to the presence of non-native species and anthropogenic causes such as roads and tire tracks (Tetra Tech 2020).

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

The creosote bush scrub is characterized by shrubs of less than 3 meters in height with a canopy that is open to intermittent and two-tiered. Creosote bush scrub is dominated by creosote bush, with goldenhead (*Acamptopappus sphaerocephalus*), cheesebush, and narrow-leaved cryptantha (*Cryptantha angustifolia*) also present. Within this vegetation community, a herbaceous layer is sparse to intermittent with seasonal annuals. (CNPS 2020, Tetra Tech 2020). This community is predominantly found along the outer boundary of the review area. The creosote bush scrub present is mildly to moderately disturbed throughout, based on non-native species and anthropogenic causes (e.g., roads and tire tracks) (Tetra Tech 2020).

4.4.4 White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance)

The white bursage scrub community is characterized by two tiered open to intermittent shrubs of less than 3 meters in height. White bursage scrub is dominated by white bursage, cheesebush, and white ratany (*Krameria bicolor*). Another species present within this vegetation community include smallseed sandmat (*euphorbia polycarpa*) (CNPS 2020). Within the review area this community is dominated by white bursage, with cheesebush, white ratany, and smallseed sandmat (*Euphorbia polycarpa*) also present (Tetra Tech 2020). The white bursage scrub community is characterized by an open to intermittent shrub layer and an open to intermittent herbaceous layer with seasonal annuals. This community is found within older washes and/or river terraces with sandy, clay-rich soils at elevations ranging from 0 meters amsl to 1,700 meters amsl (Sawyer et al. 2009).

4.4.5 Disturbed - White Bursage Scrub (*Ambrosia dumosa* Shrubland Alliance)

This community consists of white bursage scrub that has been significantly disturbed by anthropogenic causes such as cattle grazing and grading. This community had many of the same characteristics as the white bursage scrub community though contained limited and intermittent white bursage shrubs with desert dandelion (seasonally present), Fremont's pincushion, and non-native species including stinknet (*Oncosiphon piluliferum*). This community was located largely within the middle portion of the review area (Tetra tech 2020).

4.4.6 Developed Land

Developed areas include areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation (Oberbauer et al. 2008). Within the review area, developed areas include substations, concrete, and laydown yards (Tetra Tech 2020).

4.4.7 Disturbed Habitat

This land cover type refers to areas that have been heavily influenced by previous human activity, but lack development (Tetra Tech 2020). Within the review area, disturbed habitat includes primarily dirt roads and in some areas this land cover included areas where vegetation is absent or consisted of non-native species, such as red brome (*Bromus rubens*), redstem stork's bill (*Erodium cicutarium*), and common Mediterranean grass (*Schismus barbatus*) (Tetra Tech 2020).

4.5 Topography

The review area occurs within the northwestern corner of the Coachella Valley and is bounded by the San Jacinto mountain range to the south and the San Bernardino Mountains to the north. The review area is generally flat with

elevations gradually sloping from 1,260 feet above mean sea level (amsl) in the northwest to approximately 800 feet amsl in the southeast.

4.6 Hydrology

The review area is located within the Whitewater River Watershed and Headwaters Whitewater River Sub-Watershed, in which the Whitewater River is the major surface water body (Figure 5, Hydrologic Units). The U.S. Geological Survey topographic quadrangle (Figure 2), and the National Wetland Inventory (USFWS 2020) and National Hydrography Dataset (USGS 2020) show the two nearest major waterbodies as Garnet Wash, approximately 1,500 feet to the north, and the Whitewater River approximately 900 feet west and south of the review area (Figure 6, Hydrology). According to the Water Quality Control Plan for the Colorado River Basin (RWQCB 2019), the runoff resulting from rains and snowmelt within the higher elevations are the major sources of groundwater replenishment and result in several perennial streams in the Coachella Valley Planning Area, with the Whitewater River being the major drainage course. The Whitewater River contains perennial flows in the mountains; however, because of diversions and percolation into the basin this river becomes dry further downstream. The Whitewater River flows through an engineered extension known as the Coachella Valley Storm Water Channel that flows east for approximately 39 miles ultimately terminating at the Salton Sea.

The U.S. Geological Survey topographic quadrangle depicts the Whitewater River floodplain bisecting the western portion of the review area northwest to southeast (Figure 2). The National Hydrography Dataset (USGS 2020) does not depict any features within the review area; however, the National Wetland Inventory (USFWS 2020) depicts two riverine features bisecting the review area north to south. These features originate within the review area and continue to flow south until their confluence with the Whitewater River to the south.

Beneficial uses for unnamed washes (ephemeral streams) within the West Colorado River Basin, in which the review area is located, include groundwater recharge, non-contact recreation, and wildlife habitat (RWQCB 2019).

5 Results of Survey

5.1 Jurisdictional Assessment

The April 2020 jurisdictional assessment identified numerous potential jurisdictional features as waters of the United States and State under the jurisdiction of ACOE and RWQCB, and jurisdictional streambed under the jurisdiction of CDFW. This area received 1.09 inches of rain between April 8 and April 11, 2020, less than two weeks prior to the jurisdictional assessment (Weather Underground 2020). This area typically averages approximately 5 inches per year (WRCC 2020; RWQCB 2019); therefore, the area received approximately 22% of the average annual rainfall within just four days. Areas with fluvial activity exhibiting hydrology indicators were clearly evident and noted during this assessment. This also confirmed areas that clearly lacked fluvial activity.

Potential jurisdictional features mapped included an active alluvial floodplain within the western portion of the jurisdictional assessment review area and several ephemeral single thread channels. The assessment also identified numerous low topographic points and relict swales across the landscape, primarily within the central and eastern portions of the jurisdictional assessment review area that did not exhibit fluvial indicators. In addition, the assessment identified a relict floodplain within the southwestern portion of the jurisdictional assessment review area, immediately south of the gas pipeline easement. This area likely was historically hydrologically part of the active floodplain; however, due to construction of the pipeline and rock berms located north and south, flows have been altered in this area and are currently flowing further to the west where there is a break in the berm.

The locations of potential jurisdictional features and non-jurisdictional features mapped during the jurisdictional assessment are provided in Figure 7a, Jurisdictional Assessment Results.

5.2 Jurisdictional Delineation

5.2.1 Waters of the United States

The jurisdictional delineation review area contains an active alluvial floodplain and two ephemeral low flow, single thread channels that only flow in direct response to precipitation. Based on the Navigable Waters Protection Rule released in April 2020 that went into effect on June 22, 2020, ephemeral waters are no longer protected waters of the United States. Therefore, waters within the jurisdictional delineation review area would not be regulated by the ACOE at the time of this report. The review area did not contain any features that met the ACOE three-parameter wetland criteria and, due to the lack of riparian or hydrophytic vegetation, wetland determination data forms were not completed. There are no waters of the U.S. within the jurisdictional delineation review area.

5.2.1 Waters of the State/CDFW Streambeds

The jurisdictional delineation review area contains an active alluvial floodplain (AFP) and two single thread ephemeral channels (NWW-1 and NWW-2a/2b) which are further described below. These features are depicted on Figure 7b, Jurisdictional Delineation Results. Photos of these features are provided in Attachment D.

Active Alluvial Floodplain

As defined in Appendix G of the *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants*, a floodplain is a relatively flat area associated with a parallel stream in which water and soils from the stream flow when the capacity of the stream is exceeded (CEC 2014). The active alluvial floodplain identified within the review area contained numerous low flow channels (i.e., lowest topographic point within a compound watercourse), and higher elevation active floodplains that receive flows when the parent stream flow capacity is exceeded (CEC 2014).

A large ephemeral active floodplain (AFP) bisects the western portion of the review area from the northwest to southeast. This feature originates from large storm events where capacity of the Whitewater River is exceeded. This feature flows southeast through the review area approximately 0.8 mile, continuing to flow southeast outside of the review area approximately 0.5 mile until it's confluence with the Whitewater River. The active floodplain, as defined by the ACOE 2008 Field Guide for determining the OHWM, was delineated based on OHWM indicators, which included a distinct change in average sediment texture as compared to adjacent uplands, change in vegetation cover, change in elevation, and sediment deposition (ODP-1 and ODP-2). Fluvial indicators such as flow lineation, sediment sheets, sediment sorting, debris wracking, and bar forms were also denoted and used in delineating the active floodplain (MDS-2 through MDS-5 and MDS-12). The southern portion of the alluvial floodplain, near proposed Turbine #4, contains a transitional area that likely only is receiving fluvial activity and overflow during high volume flooding events. This interfluvial area is described as fluvial inactive higher elevation areas located between two adjacent stream channels (Figure 7b-3; CEC 2014).

Based on the presence of OHWM and fluvial indicators, both the low flow channels and active floodplains (AFP) were determined to be waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

NWW-1

NWW-1 is a single thread ephemeral channel that bisects the southwestern portion of the review area (Figure 7b-3). This feature originates from rains and overflow when capacity of the Whitewater River is exceeded. Past disturbance associated within the construction of the existing WTGs occurs immediately to the west, and associated existing roads to the west and south were not considered jurisdictional as discussed in Section 3.2.1 of this report. Upland areas to the east of NWW-1 contained a distinct change in sediment (i.e., sandy soils lacking boulders and cobbles found in active floodplains within the review area) and contained upland indicators such as woody debris in place, surface rounding, and bioturbation; therefore, these were determined to not be part of the active floodplain. NWW-1 flows northwest to southeast approximately 307 feet through the southwestern portion of the review area, and continues south as sheetflow across the gravel road, and then south (as part of the low flow channel within the active floodplain) until it's confluence with the Whitewater River. OHWM indicators included a distinct change in average sediment texture as compared to adjacent uplands, change in vegetation cover, and sediment deposition (ODP-6). Fluvial indicators included sediment sheets and sediment sorting (MDS-4). The OHWM averages 5 feet to 10 feet in width.

This feature also contained defined banks with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the channel as measured at the top of banks is the same as the OHWM measurement.

Based on the presence of an OHWM and fluvial indicators, NWW-1 was delineated as non-wetland waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

NWW-2

NWW-2 is single thread, unvegetated ephemeral channel occurring within the northern portions of the review area (Figure 7b-2 and 7b-5). This feature originates outside of the review area from rains to the northwest and flows northwest to southeast through the review area. NWW-2a bisects the jurisdictional delineation review area northeast of proposed Turbine #5. This feature flows southeast approximately 78 feet through the jurisdictional delineation review area, then continues east approximately 0.4 mile where it flows across a north/south trending road. Flows then continue east approximately 0.1 mile to Garnet Road where flows continue along the southern shoulder of the road approximately 0.4 mile before flowing southeast across the landscape again. Flows continue approximately 0.2 mile before entering the jurisdictional delineation review area NWW-2b, crossing a dirt road, and continuing east approximately 0.2 miles before dissipating as sheetflow. OHWM indicators included a defined bed and bank, distinct change in average sediment texture as compared to adjacent uplands, change in vegetation cover and change in vegetation species (i.e., absence of vegetation), shelving, and sediment deposition (ODP-4 and ODP-5). Fluvial indicators included sediment sorting, sediment trails, vegetation-channel alignments, and drainage swales (MDS-6 and MDS-16). The average width of OHWM within NWW-2a was approximately 7 feet, and the average width of OHWM within NWW-2b ranged from 5 feet in the upstream portions, to 24 feet east of the dirt road.

This feature also contained defined banks with the limits of the streambed mapped at the top of bank. Due to the shallow nature of NWW-2a and NWW-2b, the width of the channel as measured at the top of bank is the same as the OHWM measurement.

Based on the presence of an OHWM and fluvial indicators, NWW-2a and NWW-2b were delineated as non-wetland waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

5.2.2 Non-Regulated Features

Relic Channels/Swales/Floodplain relict

As defined in Appendix G of the *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants*, a relict channel is an old channel made by processes no longer locally operative with an absence of fluvial activity (CEC 2014). Relict features are derived from abandoned channels; these channels historically have been isolated from its water source by human constructs resulting in the absence of processes responsible for its formation; therefore, becoming a relict feature in the landscape (CEC 2014).

The review area contains numerous relict channels and swales (MDS-1, MDS-7 through MDS-11, MDS-13, and MDS-14) and relict floodplain (MDS-17) that have been isolated over time from its water source (i.e., Whitewater River). Anthropogenic influences on these features have altered the flows and functions. As noted in Section 4.1 of this report, construction of a gas pipeline occurred sometime before 1972, which pushed large amounts of gravel and rocks to the north and south of the pipeline creating berms that altered natural flows within the review area. For example, north of MDS-17, a significant berm of gravel and large boulders occurs south of the gas pipeline. This berm has altered hydrology and is no longer allowing flows to continue south at this location. Instead, flows have been redirected to the west where there is a break in the berm and flows continue to flow south just outside of the project boundary as seen in Figure 7B-3. Therefore, areas south of the gas pipeline in this location were considered a relict floodplain as flows are no longer active which has resulted in the absence of processes responsible for its formation; therefore, becoming a relict feature in the landscape. In addition, previous disturbance associated with the existing wind energy facility and overhead electrical system, occurring sometime between 1996 and 2002, including construction of gravel roads, spur roads, and turbine pads, also altered flows and hydrology within the review area with similar associated berms created. These past disturbances have isolated these features, through construction of berms, from the original water source, and processes responsible for its formation have been abandoned. These relict features contained no fluvial indicators. Upland terrestrial indicators commonly observed throughout these features included bioturbation, relict swales, surface rounding, and woody debris in place.

Due to lack of OHWM, lack of a defined bed and bank, and lack of fluvial indicators, relict channels/swales/floodplain within the review area are not considered waters of the state under RWQCB jurisdiction or streambed under CDFW jurisdiction. These features also do not support beneficial uses or riparian resources.

Coppice Dunes

As defined in Appendix G of the *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants*, coppice dunes include areas of accumulation of wind-blown sand around and beneath vegetation and are included as an upland indicator (CEC 2014). The area identified within the review area as coppice dunes (documented along MDS-4) exhibited a very high accumulation of wind-blown sands and lacked fluvial indicators (e.g., sediment sorting, sediment trails, etc.) previously observed in the higher elevation active floodplain to the east. This area may have historically supported overflow from large storm events associated with the Whitewater floodplain; however, with anthropogenic disturbances immediately surrounding the area, including operational WTGs and associated gravel roads to the west and south, and construction of a gas pipeline with associated berms along the northern and southern extents, this area is no longer receiving fluvial activity.

Due to lack of OHWM, lack of a defined bed and bank, and lack of fluvial indicators, coppice dunes are not considered waters of the state under RWQCB jurisdiction or streambed under CDFW jurisdiction.

5.3 Jurisdictional Delineation Conclusion

The results of the jurisdictional delineation concluded there are approximately 7.24 acres (6,274 linear feet) of non-wetland waters of the state under the jurisdiction of RWQCB and streambed under CDFW jurisdiction. Table 2 summarizes the total acreage of these features within the jurisdictional delineation review area. The features are depicted on Figure 7b-2 through 7b-4, Jurisdictional Delineation Results.

Table 2. Non-Wetland Waters of the State (RWQCB) and Jurisdictional Streambed (CDFW) within the Jurisdictional Delineation Review Area

Feature	Total Acres/ Linear Feet	OHWI Indicators	Dominant Vegetation	Latitude/Longitude
AFP	7.02/5,391	Change in sediment, change in vegetation species, change in vegetation cover, and sediment sorting/deposition	Cheesebush – Sweetbush Scrub	33.914215 -116.628573
NWW-1	0.15/416	Change in sediment, change in vegetation cover and species, sediment deposition, defined bed and bank	Cheesebush – Sweetbush Scrub	33.908559, -116.627848
NWW-2a	0.01/94	Change in sediment, change in vegetation cover and species, sediment deposition, shelving	Disturbed – White Bursage Scrub	33.915399, -116.622208
NWW-2b	0.06/373	Change in sediment, change in vegetation cover, sediment deposition, and defined bed and bank	Disturbed – White Bursage Scrub	33.911581, -116.605980
Total*	7.24/6,274			

Notes: RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; OHWI = original high water mark; AFP = active floodplain; LFC = low flow channel.

* Acreage may not total due to rounding.

6 Impacts

Permanent impacts associated with the proposed project would occur from the new turbine pads, laydown yard, and the proposed access roads, in addition to the new spur roads and access roads to the overhead collection system utility poles. Temporary impacts associated with the proposed project would occur from temporary work areas for construction of the WTGs (e.g., cane pads, equipment laydown, and temporary access roads), the overhead and underground electrical infrastructure, and the decommissioning of 93 existing WTGs.

The site plan has gone through numerous iterations to avoid impacts to jurisdictionals and the proposed project was designed to avoid impacts to jurisdictional waters as depicted on Figure 8, Impacts. Therefore, project implementation would not result in any impacts to jurisdictional waters.

7 Conclusion and Recommendations

The proposed project includes repowering of the existing 66.6 MW Mountain View I & II wind energy facilities through removal of 93 existing WTGs and construction of 16 new WTGs, removal of three existing meteorological (met) towers installation of one new met tower, and overhead and underground electrical system improvements. The proposed project was designed to avoid impacts to jurisdictional waters; therefore, implementation of the proposed project would not result in impacts to jurisdictional waters as discussed in Section 6 of this report. However, due to the close proximity of proposed work areas near jurisdictional waters, the following avoidance and minimization measures shall be implemented during ground disturbing activities:

MM-BIO-1 Avoidance and Minimization to Jurisdictional Waters.

The following avoidance and minimization measures will be implemented when ground disturbing activities occur within 50-feet of waters of the state and/or jurisdictional streambeds:

- Jurisdictional waters to be avoided shall be fenced or flagged as an environmentally sensitive areas prior to ground disturbance.
- A biological monitor shall be present during activities to ensure avoidance of jurisdictional waters.
- Best management practices shall be implemented to avoid indirect impacts to jurisdictional waters, including:
 - Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.
 - Spoil sites shall not be located within jurisdictional waters or in locations that may be subject to high storm flows, where spoils might be washed back into drainages.
 - Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous, resulting from project-related activities, shall be prevented from entering jurisdictional waters.
 - Equipment maintenance shall occur outside of jurisdictional waters and in such a manner that no petroleum products or other pollutants from the equipment enters on- or off-site state-jurisdictional waters either directly or indirectly.

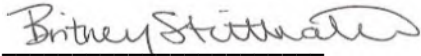
Should impacts, modifications, or improvements to jurisdictional waters be required as part of project construction, consultation will be undertaken with the applicable resource agencies to determine if permits and/or mitigation would be required. A Waste Discharge Requirement from the RWQCB would be required if waters of the state are impacted, as there is no federal action (such as a 404 permit) for the project at the time of this report. A notification of a Streambed Alteration Agreement to CDFW also would be required prior to modification of jurisdictional streambeds. Applications for any of these permits would require demonstration of avoidance and minimization of aquatic resources to the maximum extent practicable, and compensatory mitigation would be required for permanent loss of waters or functions and values of waters.

Mr. Michael Hughes

Subject: *Jurisdictional Waters Assessment and Jurisdictional Delineation Report for the Mountain View Wind Repower Project, Riverside County, California*

Should you have any questions regarding this report or require additional information, please do not hesitate to contact me at bstrittmater@dudek.com or 760.685.1231.

Sincerely,



Britney Strittmater
Biologist

Att.: Attachment A, Figures
Attachment B, Ordinary High Water Mark Forms
Attachment C, Episodic Stream Indicator Data Sheets
Attachment D, Photo Documentation

7 References

- ACOE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetland Delineation Manual*. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. Accessed December 2018. http://www.fedcenter.gov/Bookmarks/index.cfm?id=6403&pge_id=1606.
- ACOE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. Accessed December 2018. http://www.usace.army.mil/CECW/Pages/reg_supp.aspx.
- ACOE. 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual*. Cold Region Research and Environmental Laboratory, ERDC/CRREL TR-08-12. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center. August 2008.
- APLIC (Avian Power Line Interaction Committee). 2012. "Reducing Avian Collisions with Power Lines. The State of the Art in 2012." October 2012. Accessed March 15, 2021. https://www.aplic.org/uploads/files/11218/Reducing_Avian_Collisions_2012watermarkLR.pdf.
- CDFW (California Department of Fish and Wildlife). 2019. *California Natural Communities List*. November 8, 2019. Accessed 2020. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline>.
- CEC (California Energy Commission). 2014. *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants*. Prepared by California State University, Fresno, and the California Department of Fish and Wildlife. February 2014.
- EPA (Environmental Protection Agency). 2020. "Watershed Assessment, Tracking & Environmental Results (WATERS)." Last updated February 05, 2014. Accessed 2020. <https://www.epa.gov/waterdata/viewing-waters-data-using-google-earth>.
- Google Earth. 2020. Aerial Photograph. 1:200 scale.
- Historic Aerials. 2020. Aerial Images. www.historicaerials.com.
- Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. March 2008. Accessed April 2020. http://www.sdcanyonlands.org/pdfs/veg_comm_sdcounty_2008_doc.pdf.

Mr. Michael Hughes

Subject: *Jurisdictional Waters Assessment and Jurisdictional Delineation Report for the Mountain View Wind Repower Project, Riverside County, California*

RWQCB (Regional Water Quality Control Board). 2019. *Water Quality Control Plan for the Colorado River Basin*. Revised January 8, 2019. https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/.

Tetra Tech. 2020. *Biological Resources Technical Report for Mountain View Power Partners Wind Repower Project, Riverside County, CA*. Prepared for AES MVPP North American Development, LLC. August 2020.

USDA (U.S. Department of Agriculture). 2020. Web Soil Survey. USDA, Natural Resources Conservation Service, Soil Survey Staff. Accessed April 2019. <http://websoilsurvey.nrcs.usda.gov/>.

USFWS (U.S. Fish and Wildlife Service). 2020. "National Wetland Inventory." Last updated June 25, 2018. Accessed April 2020. <http://www.fws.gov/wetlands/Data/Mapper.html>.

USGS (U.S. Geological Survey). 2020. "National Hydrography Dataset." <https://www.usgs.gov/core-science-systems/ngp/national-hydrography>.

Vyverberg, K. 2010. *A Review of Stream Processes and Forms in Dryland Watersheds*. December 2010.

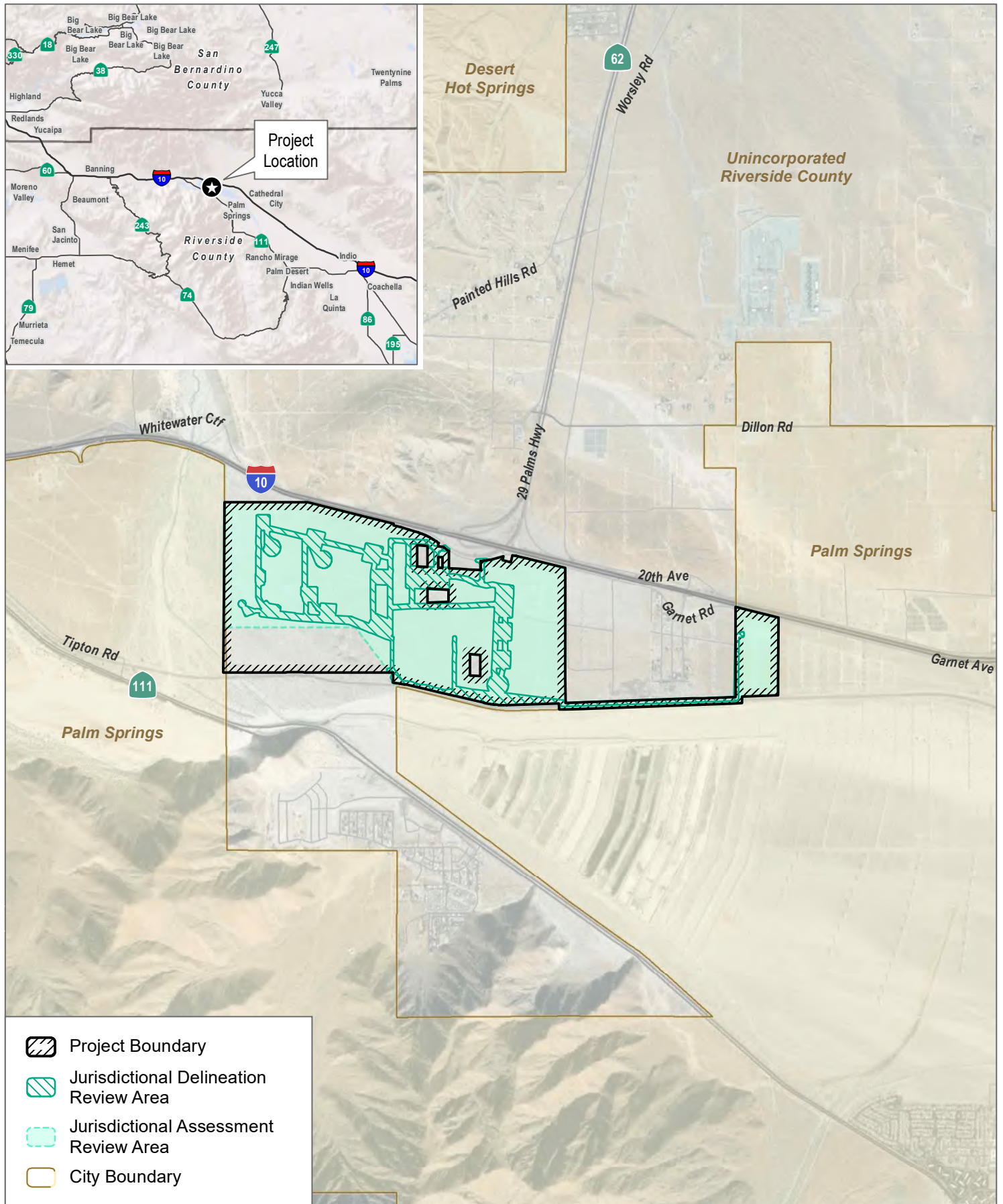
Weather Underground. 2020. "Palm Springs, CA Weather Calendar." <https://www.wunderground.com/calendar/us/ca/palm-springs/KPSP/date/2020-4>

WRCC (Western Regional Climate Center). 2020. "Palm Springs, California (046635)." <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6635>.



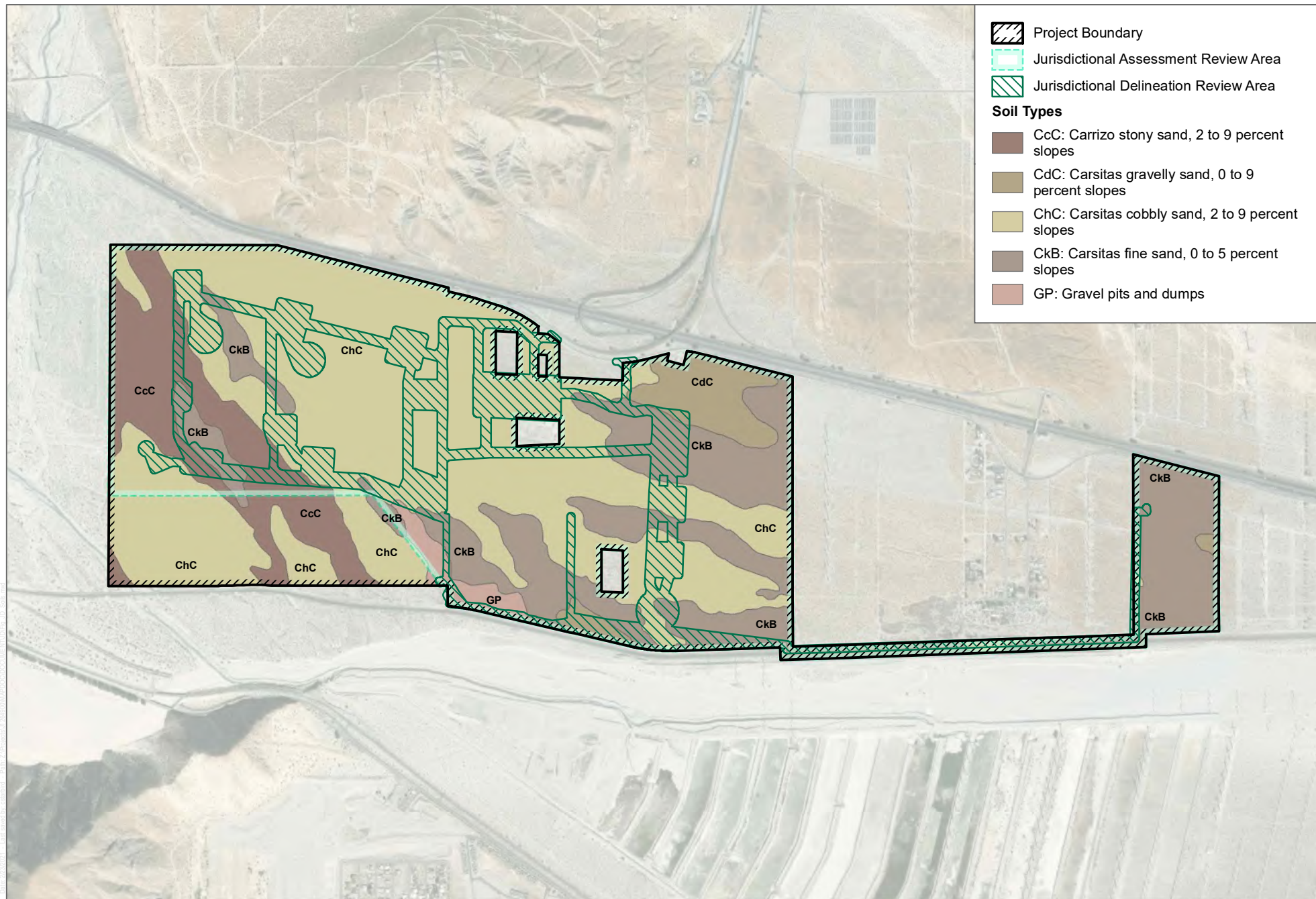
Attachment A

Figures



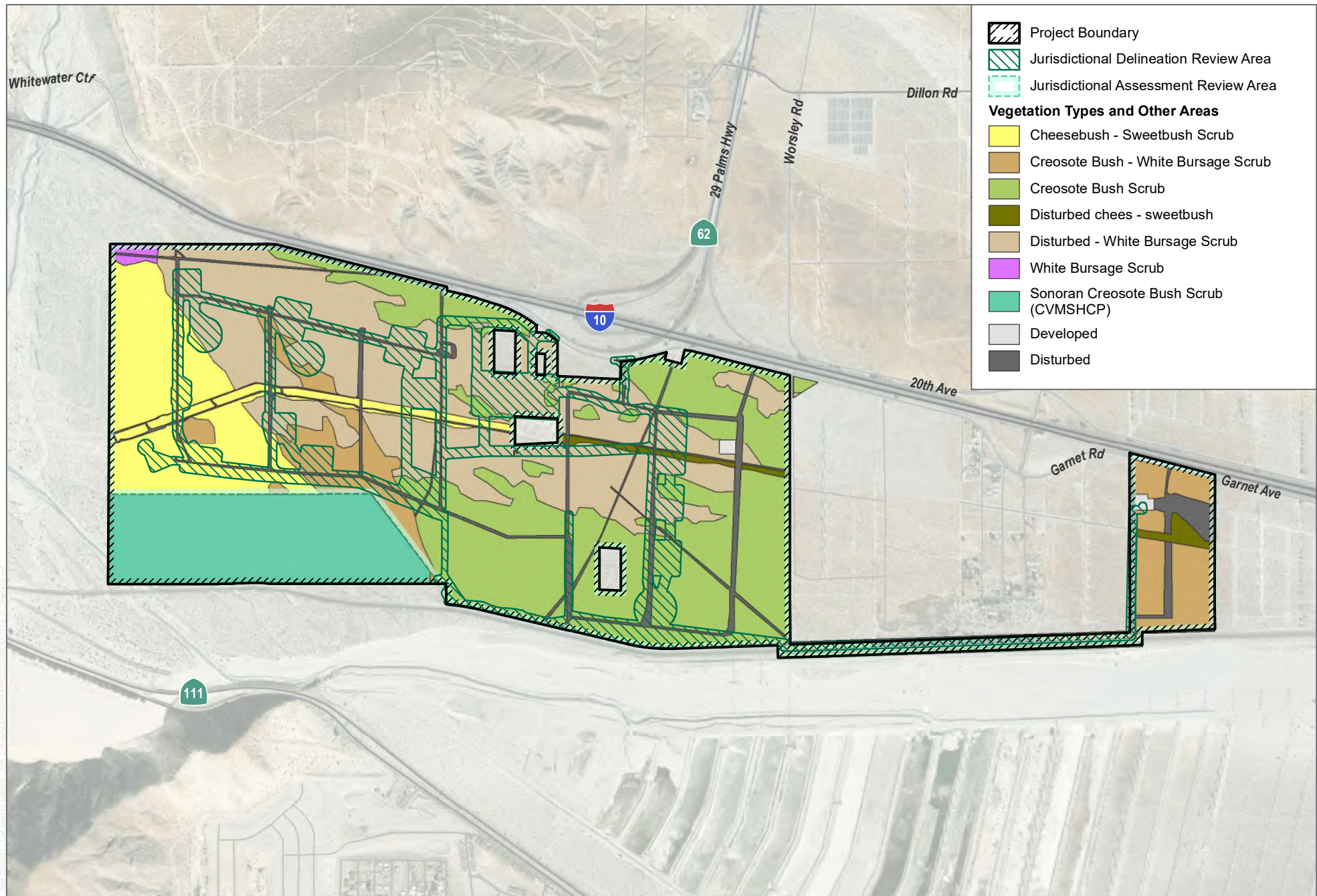
SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016





SOURCE: Aerials by Riverside County 2016, NRCS Soils

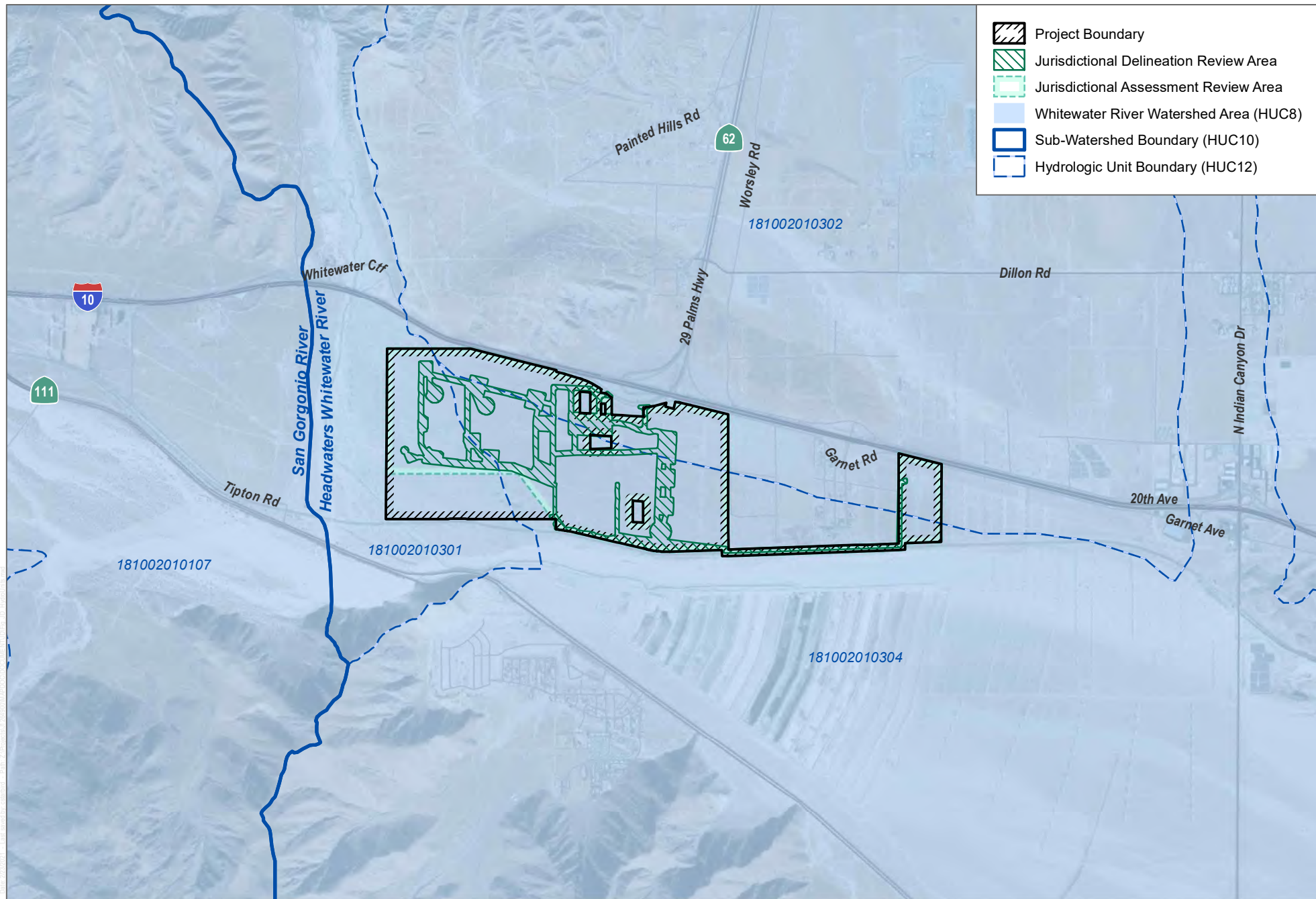
FIGURE 3
Soils Map



SOURCE: Aerials by Riverside County 2016, TetraTech Vegetation 2020, CVAG Vegetation

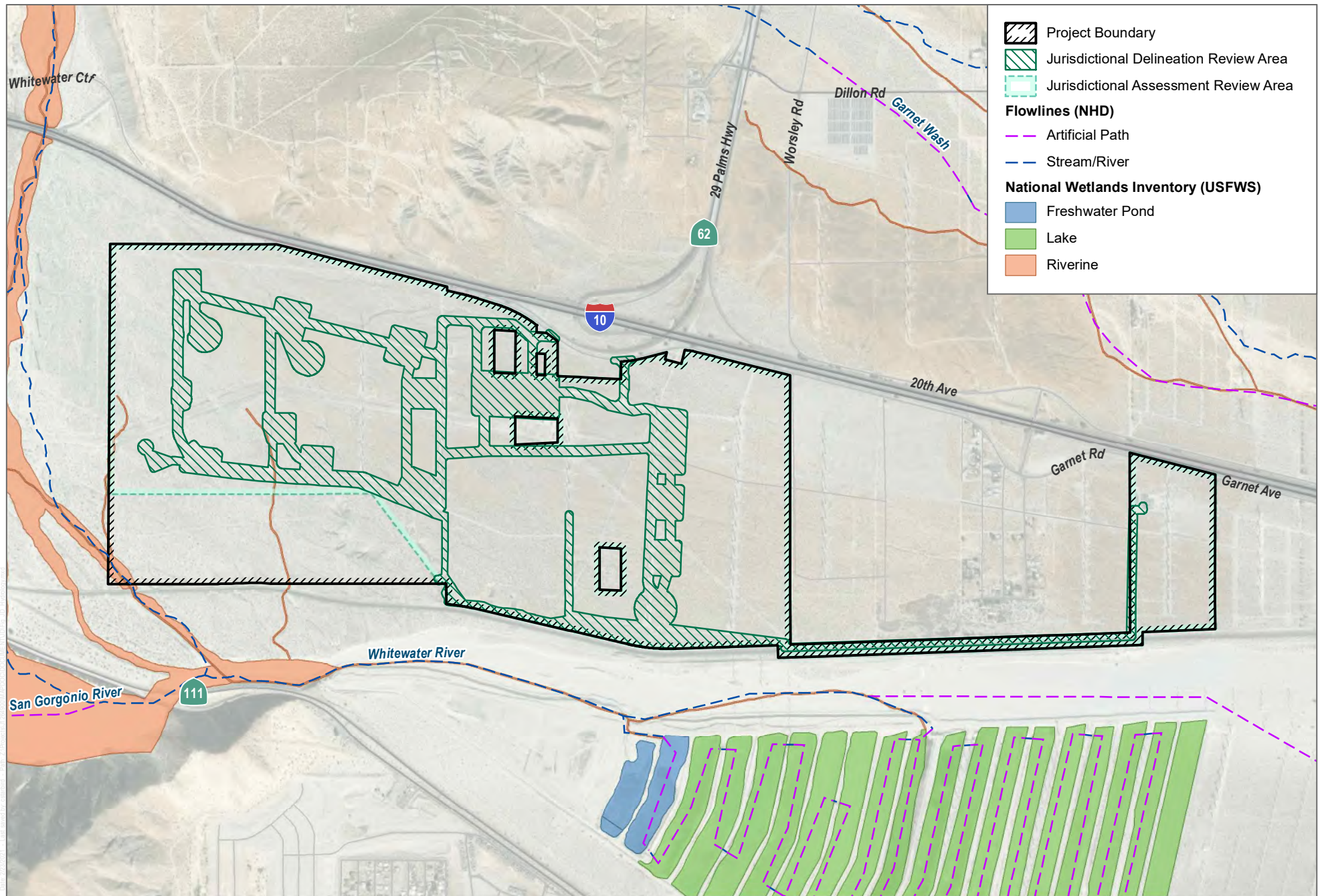
FIGURE 4

Biological Resources



SOURCE: Aerials by Riverside County 2016, USGS

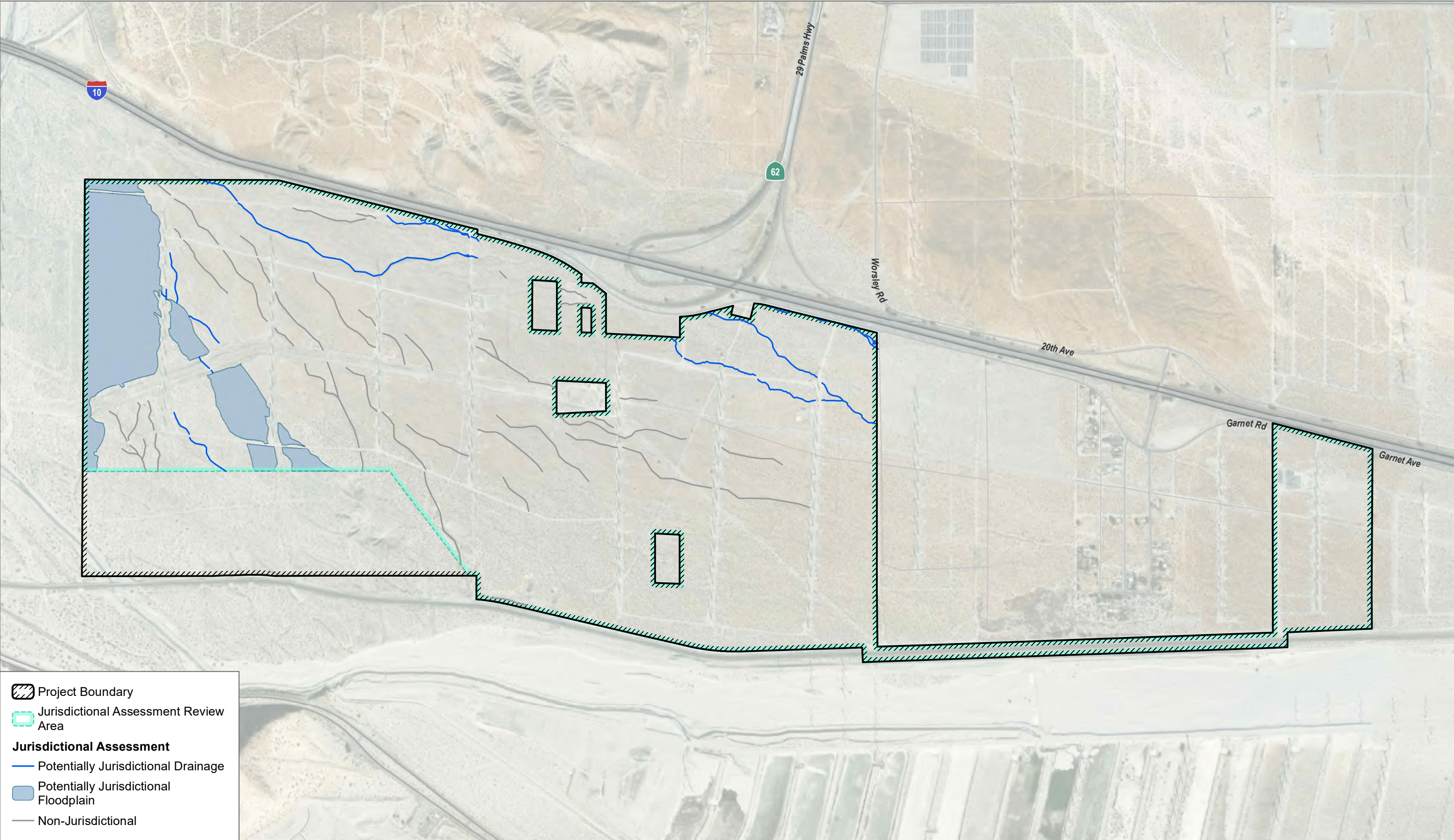
FIGURE 5
Hydrologic Units



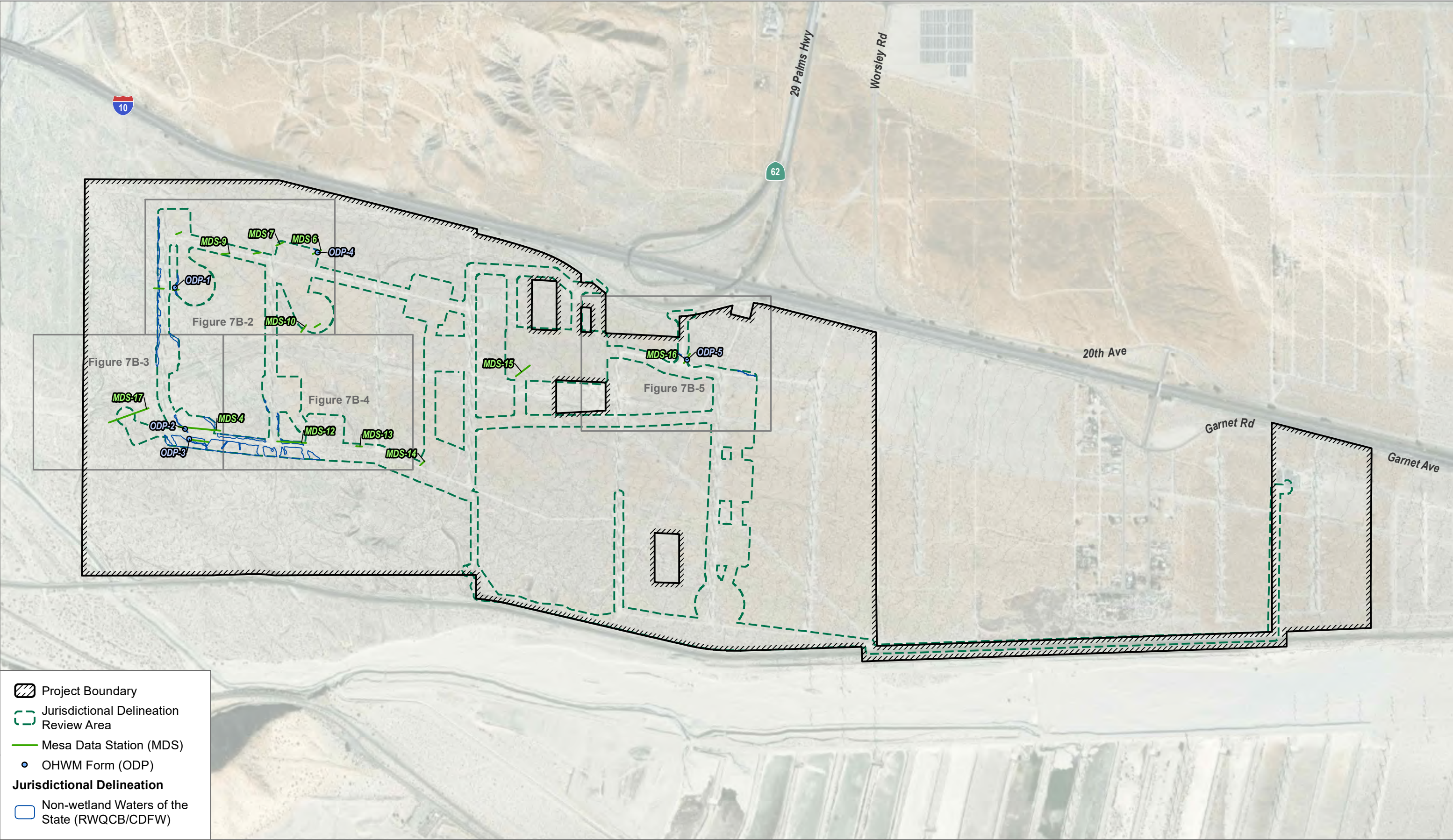
SOURCE: Aerials by Riverside County 2016, USGS

FIGURE 6

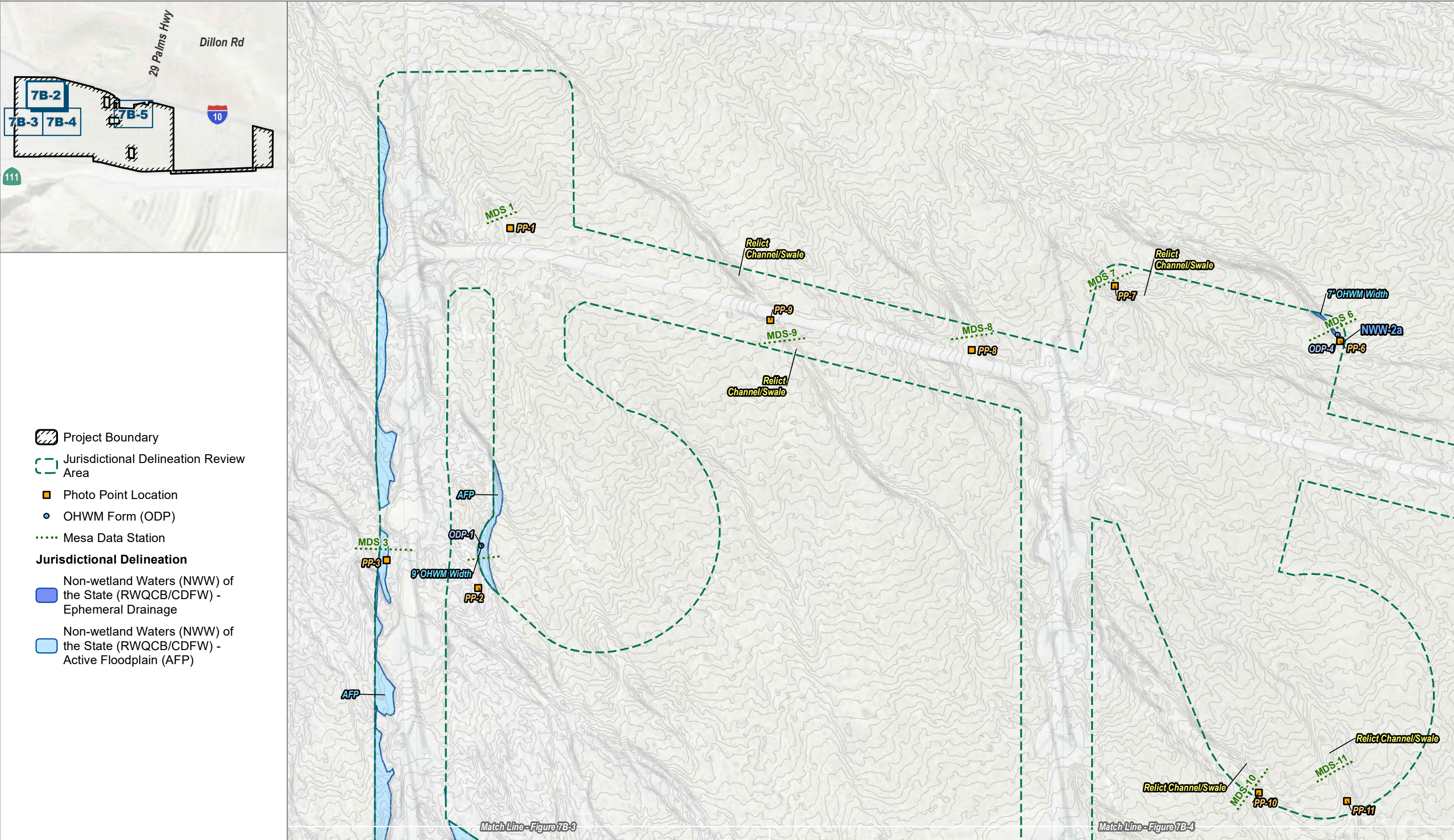
Hydrology



SOURCE: Aerials by Riverside County 2016, USGS



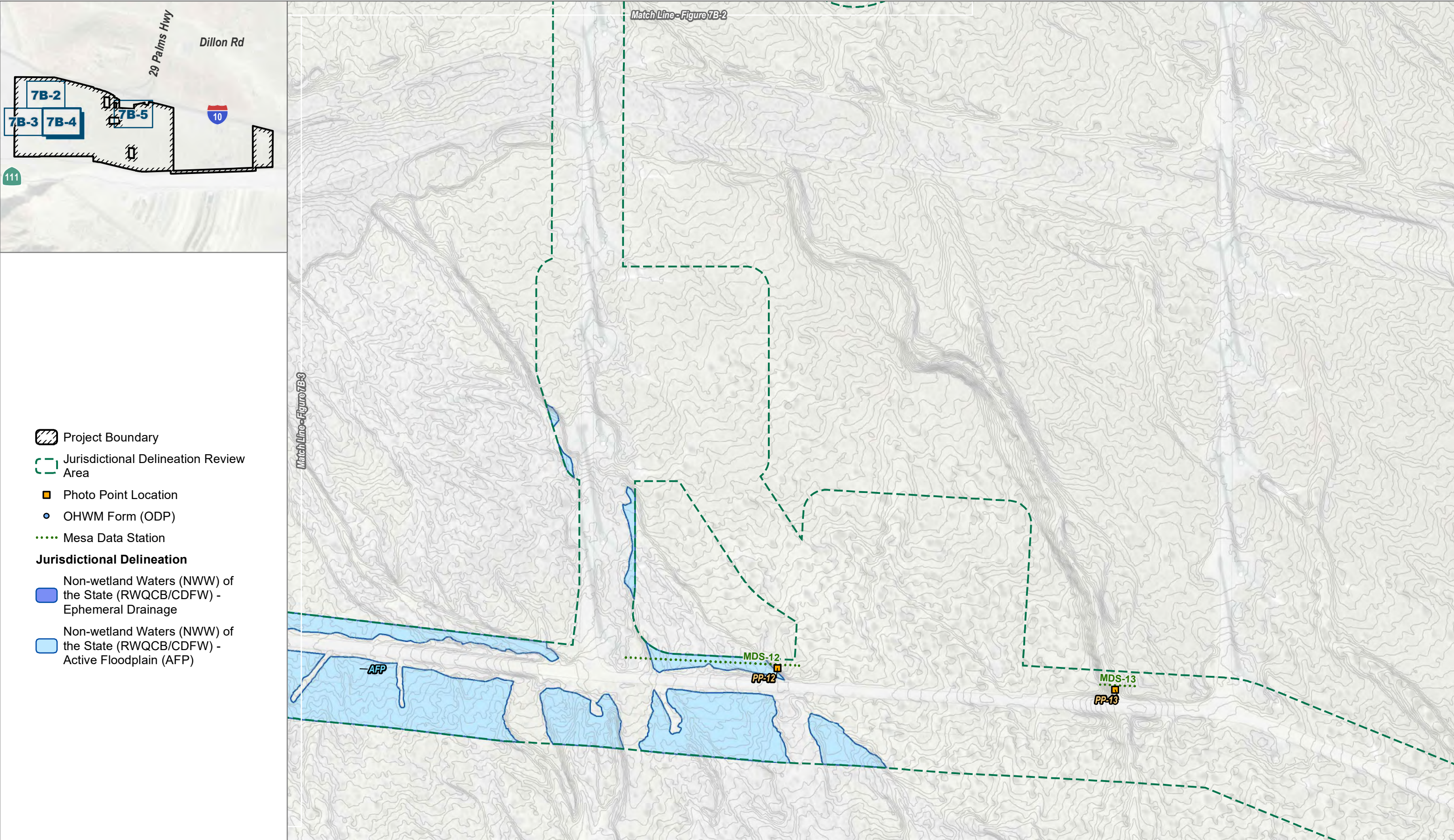
SOURCE: Dudek 2020



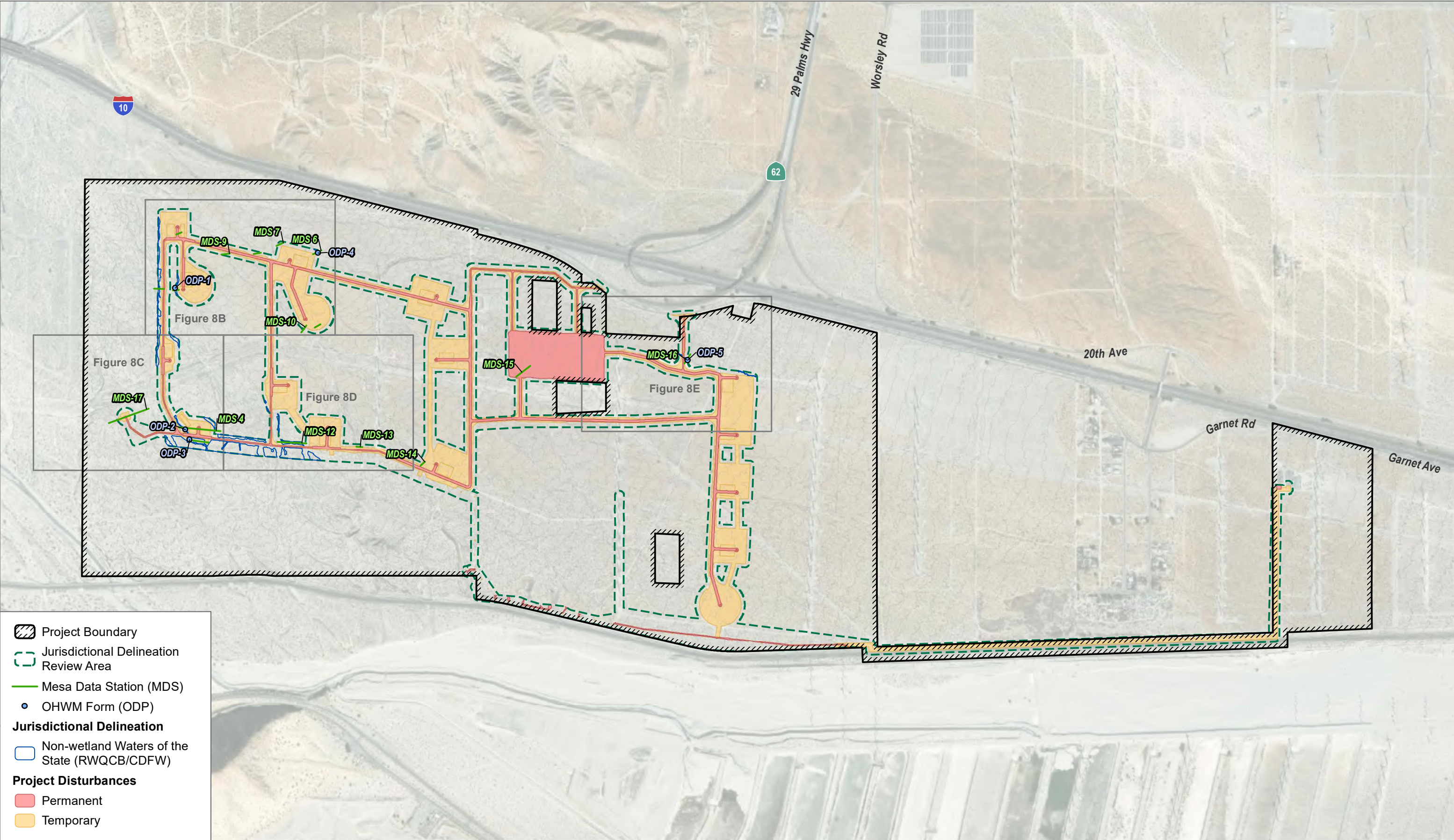
SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016



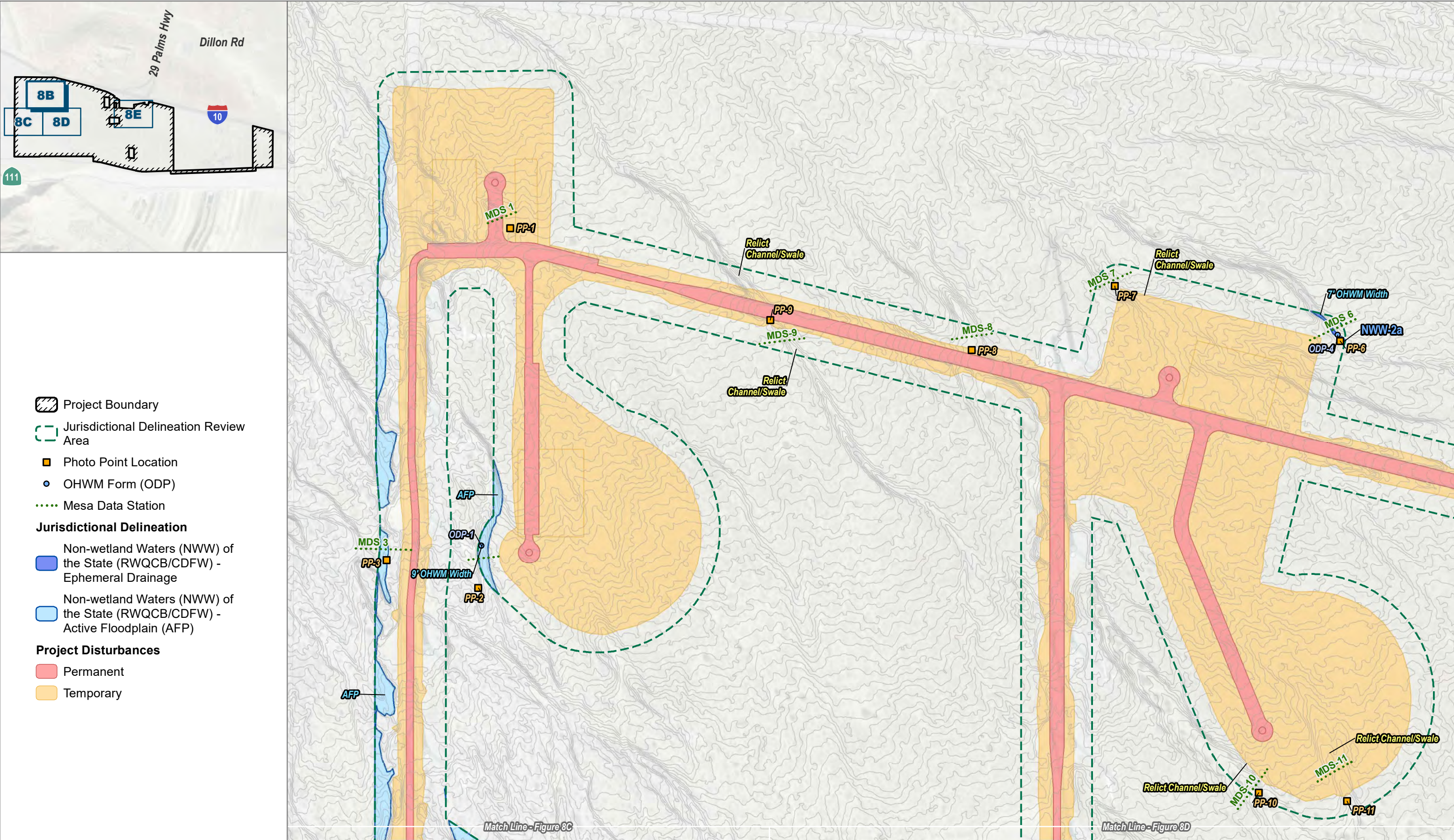
SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016



SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016



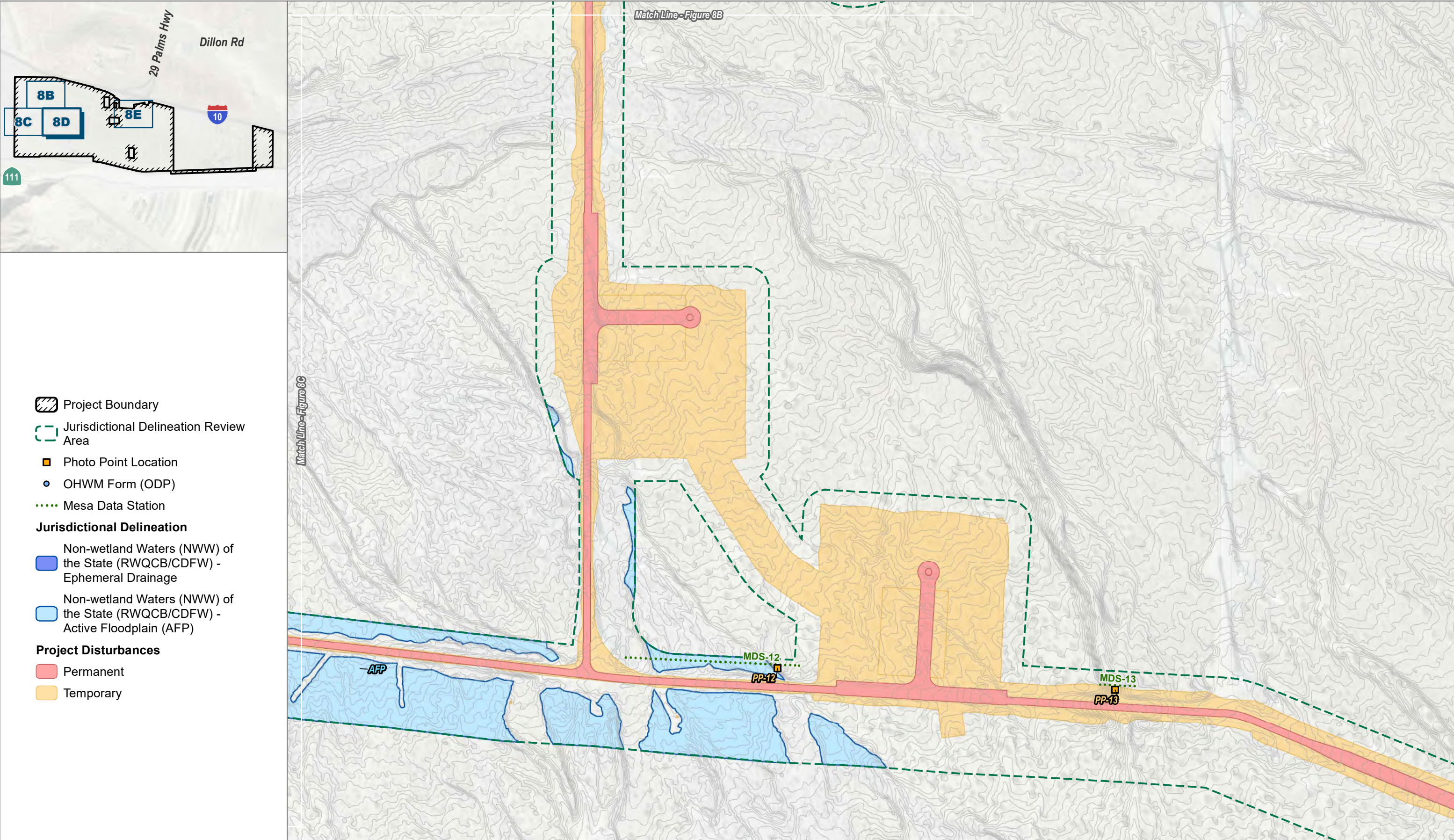
SOURCE: Dudek 2020



SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016



SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016



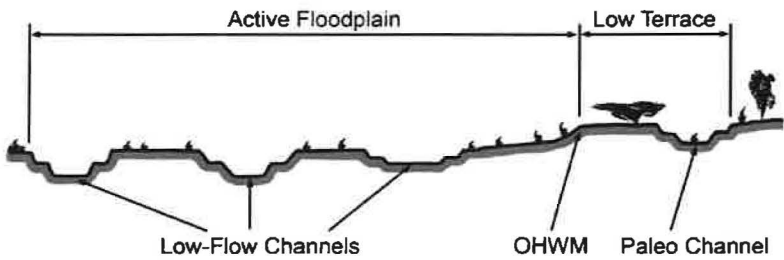
SOURCE: Topo by AES 2020, Aerials by Riverside County 2016, FEMA, SCAG 2016



Attachment B

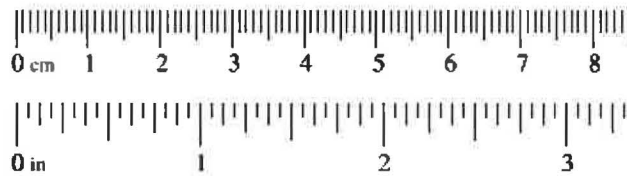
Ordinary High Water Mark Forms

Arid West Ephemeral and Intermittent Streams OTHM Datasheet

Project: AES MVP Project Number: 12449 Stream: ODP-1 Investigator(s): B. Stettin		Date: 8/13/20 Time: Town: Palm Springs State: CA Photo begin file#: PP-2 Photo end file#: PP 2					
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?		Location Details: west of Prop. Turbine # 2 Projection: Datum: Coordinates: 33.914215, -110.628573					
Potential anthropogenic influences on the channel system: Gravel road/wind turbine to west (bermed along E/W sides of gravel road) GE imagery shows road/turbines constr. btw 96-2002							
Brief site description: low flow ephemeral channel and active floodplain (AFP) west of proposed Turbine #2							
Checklist of resources (if available): <table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top; width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </td> <td style="vertical-align: top; width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </td> </tr> </table>				<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event						
Hydrogeomorphic Floodplain Units 							
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHWM and record the indicators. Record the OHWM position via: <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Mapping on aerial photograph</td> <td style="width: 50%;"><input checked="" type="checkbox"/> GPS</td> </tr> <tr> <td><input checked="" type="checkbox"/> Digitized on computer</td> <td><input type="checkbox"/> Other:</td> </tr> </table> 				<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS	<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:
<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS						
<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:						

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



Project ID: AS MUPP Cross section ID: ODP-1 Date: 8/13/20 Time:

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☒ Change in average sediment texture
- ☒ Change in vegetation species
- ☒ Change in vegetation cover

- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Sand

Total veg cover: 4 % Tree: 0 % Shrub: 0 % Herb: 4 %

Community successional stage:

- ☒ NA
- ☒ Early (herbaceous & seedlings)

- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches

- ☐ Soil development
- ☒ Surface relief
- ☒ Other: sed deposition
- ☐ Other: _____
- ☐ Other: _____

Comments:

Ephemeral LFC w/ sand bottom
and absence of veg

Project ID: ASG MUPP Cross section ID: ODP-1 Date: 8/13/20 Time:

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: ODP-1

Characteristics of the floodplain unit:

Average sediment texture: Boulders / cobbles

Total veg cover: 20 % Tree: 0 % Shrub: 15 % Herb: 5 %

Community successional stage:

☐ NA

☒ Early (herbaceous & seedlings)

☒ Mid (herbaceous, shrubs, saplings)

☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☒ Presence of bed and bank

☒ Benches

☐ Soil development

☒ Surface relief

☐ Other: _____

☐ Other: _____

☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

☐ NA

☐ Early (herbaceous & seedlings)

☐ Mid (herbaceous, shrubs, saplings)

☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks

☐ Ripples

☐ Drift and/or debris

☐ Presence of bed and bank

☐ Benches

☐ Soil development

☐ Surface relief

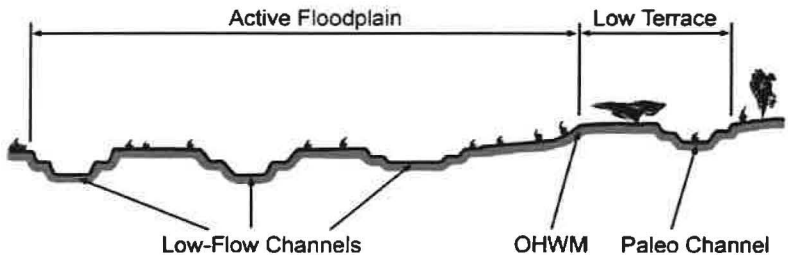
☐ Other: _____

☐ Other: _____

☐ Other: _____

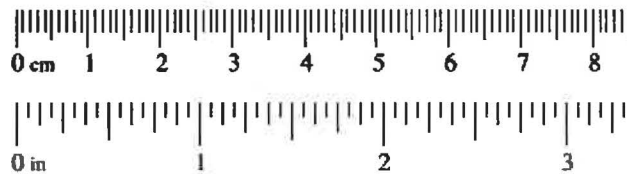
Comments:

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: AES MVPP Project Number: 12649 Stream: ODP-2 Investigator(s): B. Stittmayer		Date: 08/18/20 Time: Town: Palm Springs State: Photo begin file#: PP- Photo end file#: PP-					
Y <input type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?		Location Details: East and north of gravel road Projection: Datum: Coordinates: 33.908948, -116.628100					
Potential anthropogenic influences on the channel system: Turbine and associated road construction btw 1990-2002 (GE imagery) that disrupted flows.							
Brief site description: Single ephemeral thread channel							
Checklist of resources (if available): <table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top; width: 50%;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </td> <td style="vertical-align: top; width: 50%;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </td> </tr> </table>				<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event						
Hydrogeomorphic Floodplain Units 							
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHWM and record the indicators. Record the OHWM position via: <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td><input type="checkbox"/> Mapping on aerial photograph</td> <td><input checked="" type="checkbox"/> GPS</td> </tr> <tr> <td><input checked="" type="checkbox"/> Digitized on computer</td> <td><input type="checkbox"/> Other:</td> </tr> </table> 				<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS	<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:
<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS						
<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:						

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	
0.157	4	Pebble	
		Granule	
0.079	2.00	Very coarse sand	Sand
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	
1/2 0.0088	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625		
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



Project ID: AES mpp Cross section ID: ODP-2 Date: 8/18/20 Time:

Cross section drawing:



OHWM

GPS point: ODP-2

Indicators:

- ☒ Change in average sediment texture
☐ Change in vegetation species
☒ Change in vegetation cover

- ☐ Break in bank slope
☒ Other: Sed deposition
☐ Other:

Comments:

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: ODP-2

Characteristics of the floodplain unit:

Average sediment texture: sand

Total veg cover: 0% Tree: 0% Shrub: 3% Herb: 5%

Community successional stage:

- ☐ NA
☒ Early (herbaceous & seedlings)
☒ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☐ Drift and/or debris
☐ Presence of bed and bank
☐ Benches

- ☐ Soil development
☒ Surface relief
☒ Other:
☐ Other:
☐ Other:

Comments:

Project ID: AES INVPP Cross section ID: ODP-2 Date: _____ Time: _____

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- | | |
|---|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments: _____

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- | | |
|---|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments: _____

Arid West Ephemeral and Intermittent Streams OHW M Datasheet

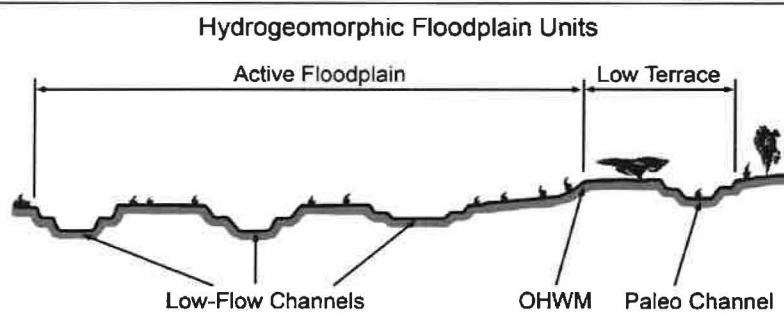
Project: ACS MUPP Date: 8/18/20 Time:
 Project Number: 12649 Town: Palm Spring State: CA
 Stream: ODP-3 Photo begin file#: pp Photo end file#:
 Investigator(s): B. Stittmacher

Y ☒ / N ☐ Do normal circumstances exist on the site? Location Details: South of gravel Rd / Turbine 4
 Y ☐ / N ☐ Is the site significantly disturbed? Projection: Datum:
 Coordinates: 33.908559; -116.627848

Potential anthropogenic influences on the channel system:
Turbine construction and gravel road btw 1996-2002
that disrupted flows. Add'l dist. associated w/ power distribution
line south of gravel road.

Brief site description:
Low flow ephemeral channel and active floodplain (AFP)
South of gravel road and proposed Turbine #4.

Checklist of resources (if available):
☒ Aerial photography ☐ Stream gage data
 Dates: Gage number:
☒ Topographic maps ☐ Period of record:
☐ Geologic maps ☐ History of recent effective discharges
☒ Vegetation maps ☐ Results of flood frequency analysis
☒ Soils maps ☐ Most recent shift-adjusted rating
☐ Rainfall/precipitation maps ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the
☐ Existing delineation(s) for site most recent event exceeding a 5-year event
☐ Global positioning system (GPS)
☐ Other studies



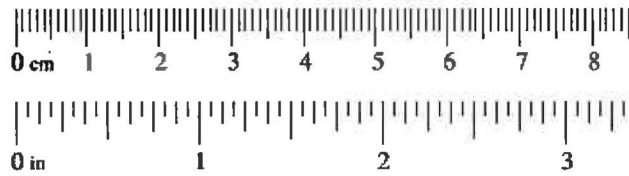
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
 - a) Record the floodplain unit and GPS position.
 - b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
 - c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHW M and record the indicators. Record the OHW M position via:

<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS
<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



Project ID: AFS MVPP Cross section ID: DDP-3 Date: 8/18/20 Time:

Cross section drawing:



OHWM

GPS point: DDP-2

Indicators:

- ☒ Change in average sediment texture
☒ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: DDP-2

Characteristics of the floodplain unit:

Average sediment texture: sand / pebbles

Total veg cover: <1 % Tree: 0 % Shrub: <1 % Herb: <1 %

Community successional stage:

- ☒ NA
☒ Early (herbaceous & seedlings)

- ☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
☐ Ripples
☐ Drift and/or debris
☒ Presence of bed and bank
☐ Benches

- ☐ Soil development
☒ Surface relief
☒ Other: sed deposition
☐ Other: _____
☐ Other: _____

Comments:

Project ID: AFS MUPP Cross section ID: ODP-3 Date: 8/18/20 Time: _____

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: ODP-2

Characteristics of the floodplain unit:

Average sediment texture: Boulders/cobbles

Total veg cover: 20 % Tree: 0 % Shrub: 15 % Herb: 5 %

Community successional stage:

- ☐ NA ☒ Mid (herbaceous, shrubs, saplings)
☒ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks ☐ Soil development
☐ Ripples ☒ Surface relief
☐ Drift and/or debris ☐ Other: _____
☒ Presence of bed and bank ☐ Other: _____
☒ Benches ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

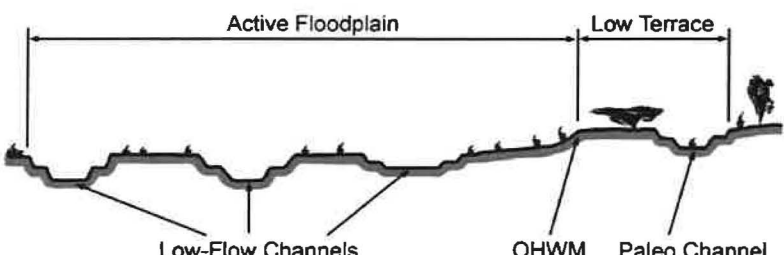
- ☐ NA ☐ Mid (herbaceous, shrubs, saplings)
☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks ☐ Soil development
☐ Ripples ☐ Surface relief
☐ Drift and/or debris ☐ Other: _____
☐ Presence of bed and bank ☐ Other: _____
☐ Benches ☐ Other: _____

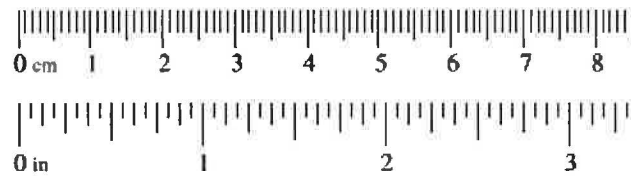
Comments:

Arid West Ephemeral and Intermittent Streams OHHM Datasheet

Project: AES MVPP Project Number: 12649 Stream: ODP-4 Investigator(s): B Stittmayer		Date: 8/13/20 Time: Town: Palm Springs State: CA Photo begin file#: PP-6 Photo end file#: PP-6					
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?		Location Details: east of Proposed Turbine # 5 Projection: Datum: Coordinates: 33.915399, -116.622200					
Potential anthropogenic influences on the channel system: 1-10, gravel road, and barbedwire to the North Gravel road to the South.							
Brief site description: Single Thread ephemeral channel (NNW-2)							
Checklist of resources (if available): <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </td> </tr> </table>				<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event						
Hydrogeomorphic Floodplain Units 							
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHWM and record the indicators. Record the OHWM position via: <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Mapping on aerial photograph</td> <td><input checked="" type="checkbox"/> GPS</td> </tr> <tr> <td><input checked="" type="checkbox"/> Digitized on computer</td> <td><input type="checkbox"/> Other:</td> </tr> </table> 				<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS	<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:
<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS						
<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:						

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class
10.08	256	Boulder
2.56	64	Cobble
0.157	4	Pebble
		Granule
0.079	2.00	Very coarse sand
0.039	1.00	Coarse sand
0.020	0.50	Medium sand
1/2 0.0098	0.25	Fine sand
1/4 0.005	0.125	Very fine sand
1/8 0.0025	0.0625	Coarse silt
1/16 0.0012	0.031	Medium silt
1/32 0.00061	0.0156	Fine silt
1/64 0.00031	0.0078	Very fine silt
1/128 0.00015	0.0039	Clay
		Mud



Project ID: AES MNP Cross section ID: ODP-4 Date: 8/13/20 Time:

Cross section drawing:



OHWM

GPS point: ODP-3

Indicators:

- ☒ Change in average sediment texture
- ☒ Change in vegetation species
- ☒ Change in vegetation cover

- ☐ Break in bank slope
- ☒ Other: shelving
- ☒ Other: sediment deposition

Comments:

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: ODP-3

Characteristics of the floodplain unit:

Average sediment texture: sand/granule/pebble
Total veg cover: % Tree: 0 % Shrub: <1 % Herb: <1 %

Community successional stage:

- ☒ NA
- ☒ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☒ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches

- ☐ Soil development
- ☒ Surface relief
- ☒ Other: sed deposition
- ☒ Other: shelving
- ☐ Other:

Comments:

primarily unveg. channel (ephemeral)

Project ID: PES MVPP Cross section ID: DDP-4 Date: 8/13/20 Time: _____

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- | | |
|---|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments: _____

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

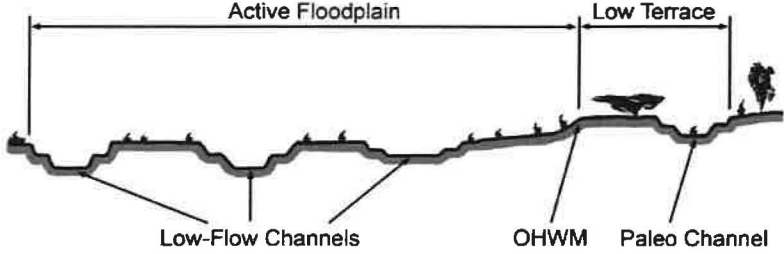
- | | |
|---|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

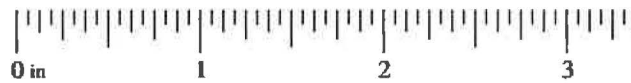
Comments: _____

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: AES MVP Project Number: 12649 Stream: ODP-5 Investigator(s): Anna Cassidy		Date: 8/18/20 Town: Palm Springs Photo begin file#: PP-16 Time: State: CA Photo end file#: PP-16					
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site? Y <input type="checkbox"/> / N <input checked="" type="checkbox"/> Is the site significantly disturbed?		Location Details: South of Garnet Road, E/W of gravel road Projection: Datum: Coordinates: 33.911581; -116.465910					
Potential anthropogenic influences on the channel system: 1-10 and Garnet Road to north, dirt/gravel road to east/west							
Brief site description: Incised, single thread ephemeral channel located upstream and downstream of compacted dirt road. (NW-3)							
Checklist of resources (if available): <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event </td> </tr> </table>				<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
<input checked="" type="checkbox"/> Aerial photography Dates: <input checked="" type="checkbox"/> Topographic maps <input type="checkbox"/> Geologic maps <input checked="" type="checkbox"/> Vegetation maps <input checked="" type="checkbox"/> Soils maps <input type="checkbox"/> Rainfall/precipitation maps <input type="checkbox"/> Existing delineation(s) for site <input type="checkbox"/> Global positioning system (GPS) <input type="checkbox"/> Other studies	<input type="checkbox"/> Stream gage data Gage number: Period of record: <input type="checkbox"/> History of recent effective discharges <input type="checkbox"/> Results of flood frequency analysis <input type="checkbox"/> Most recent shift-adjusted rating <input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event						
Hydrogeomorphic Floodplain Units 							
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM: <ol style="list-style-type: none"> 1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. 2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. 3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. <ol style="list-style-type: none"> a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location. 4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section. 5. Identify the OHWM and record the indicators. Record the OHWM position via: <table style="width: 100%; border: none; margin-top: 5px;"> <tr> <td style="width: 50%;"><input type="checkbox"/> Mapping on aerial photograph</td> <td style="width: 50%;"><input checked="" type="checkbox"/> GPS</td> </tr> <tr> <td><input checked="" type="checkbox"/> Digitized on computer</td> <td><input type="checkbox"/> Other:</td> </tr> </table> 				<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS	<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:
<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS						
<input checked="" type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:						

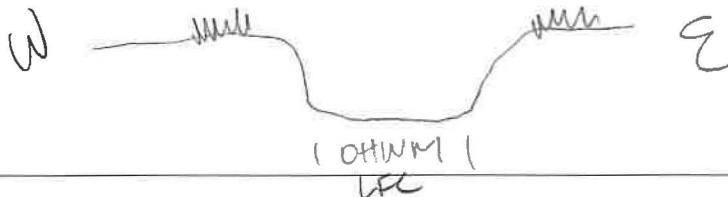
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



Project ID: AES MUPP Cross section ID: ODP-5 Date: 8/12/20 Time:

Cross section drawing:



OHWM

GPS point: ODP-4

Indicators:

- ☒ Change in average sediment texture
- ☒ Change in vegetation species
- ☒ Change in vegetation cover

- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

unvegetated ephemeral channel

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: ODP-4

Characteristics of the floodplain unit:

Average sediment texture: sand

Total veg cover: 41 % Tree: 0 % Shrub: 0 % Herb: 41 %

Community successional stage:

- ☒ NA
- ☒ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☒ Presence of bed and bank
- ☐ Benches

- ☐ Soil development
- ☒ Surface relief
- ☒ Other: sed deposition
- ☒ Other: shelving
- ☐ Other: _____

Comments:

Project ID: AES MUPP Cross section ID: DDP-5 Date: _____ Time: _____

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____% Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- | | |
|---|--|
| <input type="checkbox"/> NA | <input checked="" type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments: _____

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____% Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- | | |
|---|--|
| <input type="checkbox"/> NA | <input type="checkbox"/> Mid (herbaceous, shrubs, saplings) |
| <input type="checkbox"/> Early (herbaceous & seedlings) | <input type="checkbox"/> Late (herbaceous, shrubs, mature trees) |

Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Mudcracks | <input type="checkbox"/> Soil development |
| <input type="checkbox"/> Ripples | <input type="checkbox"/> Surface relief |
| <input type="checkbox"/> Drift and/or debris | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Presence of bed and bank | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Benches | <input type="checkbox"/> Other: _____ |

Comments: _____



Attachment C

Episodic Stream Indicator Data Sheets

Episodic Stream Indicator Data Sheet					page 1 of 4
Site ID: <u>A2S MVPP</u>		Stream ID: <u>MDS-1</u>		Date: <u>8/13/20</u>	
Nearest Town: <u>DALY SPRINGS</u>			County: <u>RIVERSIDE</u>		
Investigators: <u>Brikey Stittmayer</u>					
Base Map					
Aerial Photo #:	Date:	Topographic Map Name:			Date:
GPS Data					
GPS Name:	Datum:	Transect Elevation:	Zone 10 / 11	GPS Error: ± ft / m	
GPS co-ords start of transect:			GPS co-ords end of transect:		
Geomorphic Province (✓one)		Mojave ✓	Sonoran/Colorado	Great Basin	Other:
Landform (✓ all that apply)					
Headwater	Upper fan	Middle fan	Lower fan	Alluvial plain	Axial valley Playa
Channel Form (✓ one)					
Single thread	Braided	Compound	Distributary	Discontinuous	Other: <u>upland swale</u>
Transect was selected to:					
Document fluvial activity & boundaries			Document channel elevations & boundaries		
Document habitat associations			Document a change in watercourse morphology		
✓ Other: <u>DOCUMENT FLUVIAL INACTIVITY *</u>					
Date of most recent runoff event (if known):					
<p>Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:</p> <p style="font-size: 1.2em; margin-left: 40px;">* Fluvial inactivity - relic swale near Turbine #1 appears to have been caused by past dis.</p> <p style="font-size: 1.2em; margin-left: 40px;">+ Anthro Infl: turbine/gravel road to west along w/ rock berm, I-10 to north, gravel road to south</p>					
<p>Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.</p>					
<div style="display: flex; justify-content: space-between;"> Left Right </div>					

Site ID: <u>AES MUPP</u>	Stream ID: <u>MDS - 1</u>	page 2 of 4
--------------------------	---------------------------	-------------

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND			
Terrestrial Indicators		Substrate Particle Size	
		Estimated percentages	
- Av soil horizon	+ Relict bars & swales		
- Biotic soil crusts	- Rock fractured in place	-	% Bedrock / Cemented substrate
+ Bioturbation	- Rock varnish	-	% Boulder ≥ 256 mm
- Caliche: coatings / layers / rubble	- Rock weathering	5	% Cobble ≥ 64 – 256mm
- Carbonate etching	- Rubified rock undersides	10	% Pebble ≥ 4 – 64 mm
- Coppice dunes: active / relict	- Soil development	80	% Granule ≥ 2 – 4 mm
- Deflated surface	+ Surface rounding of landform	5	% Sand ≤ 2 mm
- Pavement	- Woody debris in place		% Silt/Clay Fines
Other:			

GE imagery shows sometime between 1990 and 2002, turbine and road constructed immediately west – this swale feature appears to be related to associated disturbance of past turbine construction.

Fluvial Indicators			
- Bars: sand / gravel	- Mud: cracks / curls / drapes	-	Sediment tails: sand / gravel
- Cut banks	- Organic drift	-	Vegetation-channel alignment
- Drainage swales	- Overturned rocks	-	Water-cut benches
- Exposed roots	- Scour	-	Wrack
- First-order streams	- Sediment ramps: sand / gravel	-	Wrinkle marks
- Flow lineations	- Sediment sorting		
Other:			

no fluvial activity

Vegetation		
Estimated % total vegetative cover (perennial & shrub species combined): <u>3%</u> <u>mainly annuals</u>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <u>Larrea tridentata 2%</u> <u>Ambrosia dumosa 1%</u>	Representative height and width of dominant and co-dominant species: <u>3-4' H</u> <u>2-3' W</u>
Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): <u>N/A</u>		
Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): <u>N/A</u>		
Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences) <u>N/A</u>		

Site ID: AES MUPP

Stream ID: MDS - 1

page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX**Transportation, Deposition & Flow Transition Indicators****Substrate Particle Size**

Bar forms: sand / gravel	Secondary channels	Estimated percentages	
Bifurcated flow	Sediment plastering	% Bedrock / Cemented substrate	
Drainage swales	Sediment ramps: sand / gravel	% Boulder	≥ 256 mm
Flow lineations	Sediment sheets: sand / gravel	% Cobble	≥ 64 – 256 mm
Imbricated gravel	Sediment sorting	% Pebble	≥ 4 – 64 mm
Levee ridges: sand / gravel	Sediment tails: sand / gravel	% Granule	≥ 2 – 4 mm
Mud: cracks / curls / drapes	Vegetation-channel alignments	% Sand	≤ 2 mm
Organic drift	Wrack	% Silt/Clay	Fines
Overtured rocks	Wrinkle marks		
Out-of-channel flow: Lateral floodplain / Terminal floodplain			
Ripples			
Other:			

N/A

Erosion Indicators

Cut banks	Rills	Water-cut benches
Exposed roots	Scour	Water level mark
Headcuts	Secondary channels	
Other:		

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
—	—	—

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

—

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

—

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

—

Episodic Stream Indicator Data Sheet						page 1 of 4	
Site ID: AES MVP		Stream ID: MDS-2			Date: 8/13/20		
Nearest Town: PALM SPRINGS				County: RIVERSIDE			
Investigators: Britney Stittmayer							
Base Map							
Aerial Photo #:		Date:		Topographic Map Name:		Date:	
GPS Data							
GPS Name:		Datum:		Transect Elevation:		Zone 10 / 11 GPS Error: ± ft / m	
GPS co-ords start of transect:				GPS co-ords end of transect:			
Geomorphic Province (✓ one)		Mojave ✓		Sonoran/Colorado		Great Basin Other:	
Landform (✓ all that apply)							
Headwater		Upper fan		Middle fan		Lower fan ✓	
				Alluvial plain ✓		Axial valley	
						Playa	
Channel Form (✓ one)							
Single thread		Braided ✓		Compound		Distributary	
				Discontinuous		Other:	
Transect was selected to:							
✓ Document fluvial activity & boundaries				Document channel elevations & boundaries			
Document habitat associations				Document a change in watercourse morphology			
Other:							
Date of most recent runoff event (if known):							
<p>Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:</p> <p>• Active Alluvial flood plain west of Proposed Turbine #2</p> <p>* ANTHRO INFL: Gravel road/wine turbine to west (bermed along E/W sides of gravel road). GE imagery shows road/turbines constructed btw 1990-2002</p>							
<p>Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.</p>							
<div style="display: flex; justify-content: space-between;"> Left Right </div>							

Site ID: ASS MUPPStream ID: MDS 2

page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND**Terrestrial Indicators**

<input type="checkbox"/> Av soil horizon	<input type="checkbox"/> Relict bars & swales	Substrate Particle Size	
<input type="checkbox"/> Biotic soil crusts	<input type="checkbox"/> Rock fractured in place	Estimated percentages	
<input checked="" type="checkbox"/> Bioturbation	<input type="checkbox"/> Rock varnish	<input type="checkbox"/> % Bedrock / Cemented substrate	
<input type="checkbox"/> Caliche: coatings / layers / rubble	<input checked="" type="checkbox"/> Rock weathering	15 % Boulder	≥ 256 mm
<input type="checkbox"/> Carbonate etching	<input type="checkbox"/> Rubified rock undersides	75 % Cobble	≥ 64 – 256mm
<input type="checkbox"/> Coppice dunes: active / relict	<input checked="" type="checkbox"/> Soil development	10 % Pebble	≥ 4 – 64 mm
<input type="checkbox"/> Deflated surface	<input checked="" type="checkbox"/> Surface rounding of landform	5 % Granule	≥ 2 – 4 mm
<input type="checkbox"/> Pavement	<input checked="" type="checkbox"/> Woody debris in place	21 % Sand	≤ 2 mm
Other:		<input type="checkbox"/> % Silt/Clay	Fines

Fluvial Indicators

<input type="checkbox"/> Bars: sand / gravel	<input type="checkbox"/> Mud: cracks / curls / drapes	<input type="checkbox"/> Sediment tails: sand / gravel
<input type="checkbox"/> Cut banks	<input type="checkbox"/> Organic drift	<input type="checkbox"/> Vegetation-channel alignment
<input type="checkbox"/> Drainage swales	<input type="checkbox"/> Overturned rocks	<input type="checkbox"/> Water-cut benches
<input type="checkbox"/> Exposed roots	<input type="checkbox"/> Scour	<input type="checkbox"/> Wrack
<input type="checkbox"/> First-order streams	<input type="checkbox"/> Sediment ramps: sand / gravel	<input type="checkbox"/> Wrinkle marks
<input type="checkbox"/> Flow lineations	<input type="checkbox"/> Sediment sorting	
Other:		

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): <u>~8%</u>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <u>Ambrosia dumosa 4%</u> <u>Bebbia juncea 2%</u> <u>Ambrosia salicifolia 2%</u>	Representative height and width of dominant and co-dominant species: <u>~3' H</u> <u>~3-4' W</u>
--	--	--

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Lower cover of shrubs (AMBSAL/BEEJUN) in uplands; higher cover of AMBDOUM

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

Larrea tridentata has very low cover (<1%) in uplands but is absent in floodplain

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences):

AMBDOUM higher cover in upland

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators				Substrate Particle Size	
Bar forms: sand / gravel		Secondary channels		Estimated percentages	
Bifurcated flow		Sediment plastering	-	% Bedrock / Cemented substrate	
Drainage swales		Sediment ramps: sand / gravel	40	% Boulder	≥ 256 mm
Flow lineations	X	Sediment sheets: sand / gravel	20	% Cobble	≥ 64 - 256 mm
Imbricated gravel	X	Sediment sorting	10	% Pebble	≥ 4 - 64 mm
Levee ridges: sand / gravel		Sediment tails: sand / gravel	5	% Granule	≥ 2 - 4 mm
Mud: cracks / curls / drapes		Vegetation-channel alignments	30	% Sand	≤ 2 mm
Organic drift		Wrack	-	% Silt/Clay	Fines
Overtured rocks		Wrinkle marks			
Out-of-channel flow:	Lateral floodplain / Terminal floodplain				
Ripples					
Other:					

Higher cover of sand compared to adjacent upland.

Erosion Indicators

Cut banks		Rills		Water-cut benches
Exposed roots		Scour		Water level mark
Headcuts		Secondary channels		
Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): <u>~15%</u>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <u>Bebbia juncea</u> <u>Ambrosia salicifolia</u>	Representative height and width of dominant and co-dominant species: <u>~3' H</u> <u>~2-4' W</u>
---	---	--

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

LFC = absence in veg Floodplain = AMBSAL
BEBJUN

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

LFC = absence of veg

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

same as above

Episodic Stream Indicator Data Sheet						page 1 of 4	
Site ID: <u>AES MUPP</u>		Stream ID: <u>MDS-3</u>			Date: <u>08/13/20</u>		
Nearest Town: <u>PALM SPRINGS</u>				County: <u>RIVERSIDE</u>			
Investigators: <u>Bethany Smithwater</u>							
Base Map							
Aerial Photo #:		Date:		Topographic Map Name:		Date:	
GPS Data							
GPS Name:		Datum:		Transect Elevation:		Zone 10 / 11 GPS Error: ± ft / m	
GPS co-ords start of transect:				GPS co-ords end of transect:			
Geomorphic Province (✓ one)		<input type="checkbox"/> Mojave <input checked="" type="checkbox"/> Sonoran/Colorado		<input type="checkbox"/> Great Basin		Other:	
Landform (✓ all that apply)							
<input type="checkbox"/> Headwater	<input type="checkbox"/> Upper fan	<input type="checkbox"/> Middle fan	<input checked="" type="checkbox"/> Lower fan	<input checked="" type="checkbox"/> Alluvial plain	<input type="checkbox"/> Axial valley	<input type="checkbox"/> Playa	
Channel Form (✓ one)							
<input type="checkbox"/> Single thread	<input type="checkbox"/> Braided	<input checked="" type="checkbox"/> Compound	<input type="checkbox"/> Distributary	<input type="checkbox"/> Discontinuous	Other:		
Transect was selected to:							
<input checked="" type="checkbox"/> Document fluvial activity & boundaries				<input type="checkbox"/> Document channel elevations & boundaries			
<input type="checkbox"/> Document habitat associations				<input type="checkbox"/> Document a change in watercourse morphology			
Other:							
Date of most recent runoff event (if known):							
Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function: <u>* Active Fluvial Floodplain, west of gravel road + Turbine 2</u> <u>* ANTHRO INFL: Gravel road/Turbines to east</u> <u>some areas along road bermed w/ bck from road constr.</u>							
Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.							
<div style="display: flex; justify-content: space-between;"> Left Right </div>							

Site ID: AES MUPP

Stream ID: MDS-3

page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

<input checked="" type="checkbox"/> Av soil horizon	<input checked="" type="checkbox"/> Relict bars & swales	Substrate Particle Size	
<input checked="" type="checkbox"/> Biotic soil crusts	<input checked="" type="checkbox"/> Rock fractured in place	Estimated percentages	
<input checked="" type="checkbox"/> Bioturbation	<input checked="" type="checkbox"/> Rock varnish	% Bedrock / Cemented substrate	
<input checked="" type="checkbox"/> Caliche: coatings / layers / rubble	<input checked="" type="checkbox"/> Rock weathering	% Boulder	≥ 256 mm
<input checked="" type="checkbox"/> Carbonate etching	<input checked="" type="checkbox"/> Rubified rock undersides	% Cobble	≥ 64 – 256mm
<input checked="" type="checkbox"/> Coppice dunes: active / relict	<input checked="" type="checkbox"/> Soil development	% Pebble	≥ 4 – 64 mm
<input checked="" type="checkbox"/> Deflated surface	<input checked="" type="checkbox"/> Surface rounding of landform	% Granule	≥ 2 – 4 mm
<input checked="" type="checkbox"/> Pavement	<input checked="" type="checkbox"/> Woody debris in place	% Sand	≤ 2 mm
Other:		% Silt/Clay	Fines

road to east
upland only includes gravel

Fluvial Indicators

<input checked="" type="checkbox"/> Bars: sand / gravel	<input checked="" type="checkbox"/> Mud: cracks / curls / drapes	<input checked="" type="checkbox"/> Sediment tails: sand / gravel
<input checked="" type="checkbox"/> Cut banks	<input checked="" type="checkbox"/> Organic drift	<input checked="" type="checkbox"/> Vegetation-channel alignment
<input checked="" type="checkbox"/> Drainage swales	<input checked="" type="checkbox"/> Overturned rocks	<input checked="" type="checkbox"/> Water-cut benches
<input checked="" type="checkbox"/> Exposed roots	<input checked="" type="checkbox"/> Scour	<input checked="" type="checkbox"/> Wrack
<input checked="" type="checkbox"/> First-order streams	<input checked="" type="checkbox"/> Sediment ramps: sand / gravel	<input checked="" type="checkbox"/> Wrinkle marks
<input checked="" type="checkbox"/> Flow lineations	<input checked="" type="checkbox"/> Sediment sorting	
Other:		

n/a

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): n/a (gravel road)	Dominant and co-dominant species (if known) and % of total vegetative cover of each: n/a (gravel road)	Representative height and width of dominant and co-dominant species: —
---	---	---

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):
—

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):
—

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences):
—

Site ID: <u>RES M14P</u>	Stream ID: <u>MDS 3</u>	page 3 of 4
--------------------------	-------------------------	-------------

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX					
Transportation, Deposition & Flow Transition Indicators				Substrate Particle Size	
				Estimated percentages	
+	Bar forms: sand / gravel	+	Secondary channels		
-	Bifurcated flow	-	Sediment plastering	-	% Bedrock / Cemented substrate
-	Drainage swales	-	Sediment ramps: sand / gravel	50	% Boulder ≥ 256 mm
-	Flow lineations	+	Sediment sheets: sand / gravel	5	% Cobble ≥ 64 – 256 mm
-	Imbricated gravel	+	Sediment sorting	5	% Pebble ≥ 4 – 64 mm
+	Levee ridges: sand / gravel	-	Sediment tails: sand / gravel	5	% Granule ≥ 2 – 4 mm
-	Mud: cracks / curls / drapes	-	Vegetation-channel alignments	40	% Sand ≤ 2 mm
+	Organic drift	+	Wrack		% Silt/Clay Fines
-	Overtaken rocks	-	Wrinkle marks		
-	Out-of-channel flow: Lateral floodplain / Terminal floodplain				
-	Ripples				
	Other:				
Erosion Indicators					
-	Cut banks	-	Rills	-	Water-cut benches
-	Exposed roots	+	Scour	-	Water level mark
-	Headcuts	+	Secondary channels		
	Other:				
Vegetation					
Estimated % total vegetative cover (perennial & shrub species combined):		Dominant and co-dominant species (if known) and % of total vegetative cover of each:		Representative height and width of dominant and co-dominant species:	
5-15%		Beltbia juncea		2-5' H 2-4' W	
Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):					
absence of veg in LFC					
Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):					
more annuals along LFC, more boulders in APP and less annuals					
Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences):					
see above					

AGS MUPP

MDS - 3

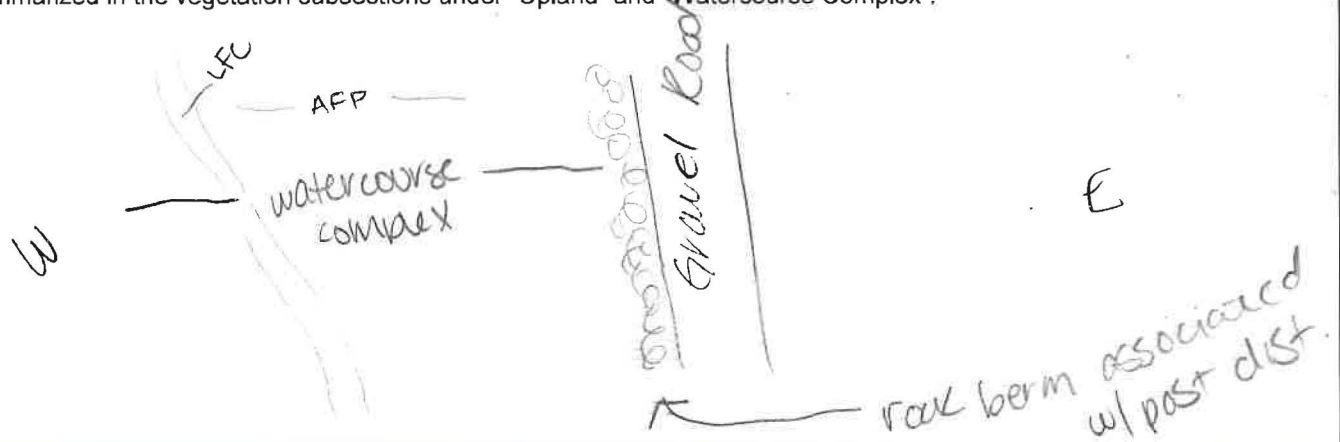
page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

<input type="checkbox"/> Algal crusts	<input checked="" type="checkbox"/>	Sand-filled channels		
<input checked="" type="checkbox"/> Beach ridges	<input checked="" type="checkbox"/>	Springs		
<input type="checkbox"/> Coppice dunes: active / relict	<input type="checkbox"/>	Substrate staining		
<input checked="" type="checkbox"/> Crusts: carbonate / salt / soda	<input checked="" type="checkbox"/>	Vegetation-landscape alignments		
<input checked="" type="checkbox"/> Mud: cracks / curls / polygons	<input type="checkbox"/>			
<input type="checkbox"/> Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

[illegible]

Episodic Stream Indicator Data Sheet

page 1 of 4

Site ID: AES MUPP Stream ID: MDS-4 Date: 08/18/20
 Nearest Town: PALM SPRINGS County: RIVERSIDE
 Investigators: BRITNEY STRITMATER

Base Map

Aerial Photo #: Date: Topographic Map Name: Date:

GPS Data

GPS Name: Datum: Transect Elevation: Zone 10 / 11 GPS Error: ± ft / m
 GPS co-ords start of transect: GPS co-ords end of transect:

Geomorphic Province (✓ one) Mojave ✓ Sonoran/Colorado Great Basin Other:

Landform (✓ all that apply)

Headwater Upper fan Middle fan Lower fan Alluvial plain Axial valley Playa

Channel Form (✓ one)

Single thread Braided Compound Distributary Discontinuous Other:

Transect was selected to:

✓ Document fluvial activity & boundaries Document channel elevations & boundaries
 Document habitat associations Document a change in watercourse morphology

✓ Other: Document fluvial inactivity east of LFC

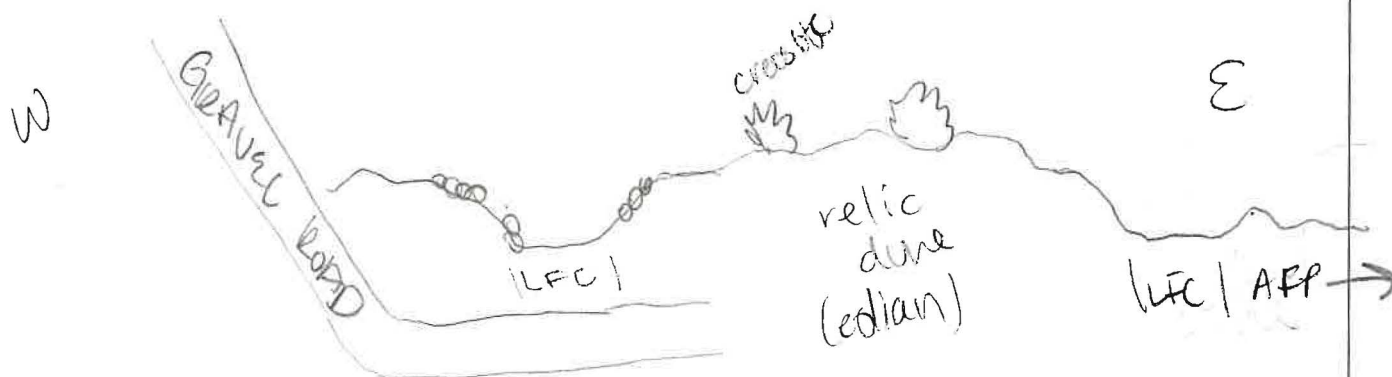
Date of most recent runoff event (if known):

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

likely historic floodplain (relic dunes) but signif altered by anthro influences. single thread (historic LFC) present
 Anthro Inflw: flows have historically been altered/cut off from turbine gravel road const. to west btw 1990-2002 (Google Earth) in addition to SoCal Gas pipeline easement to north.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left Right



Site ID: <u>AES m4PP</u>	Stream ID: <u>MDS 4</u>	page 2 of 4
--------------------------	-------------------------	-------------

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND			
Terrestrial Indicators		Substrate Particle Size	
- Av soil horizon	- Relict bars & swales	Estimated percentages	
- Biotic soil crusts	- Rock fractured in place	% Bedrock / Cemented substrate	
+ Bioturbation	- Rock varnish	% Boulder	≥ 256 mm
- Caliche: coatings / layers / rubble	- Rock weathering	% Cobble	≥ 64 – 256mm
- Carbonate etching	- Rubified rock undersides	% Pebble	≥ 4 – 64 mm
+ Coppice dunes: active / <u>relict</u>	- Soil development	% Granule	≥ 2 – 4 mm
- Deflated surface	+ Surface rounding of landform	% Sand	≤ 2 mm
- Pavement	+ Woody debris in place	% Silt/Clay	Fines
Other:			

Fluvial Indicators			
Bars: sand / gravel	Mud: cracks / curls / drapes	Sediment tails: sand / gravel	
Cut banks	Organic drift	Vegetation-channel alignment	
Drainage swales	Overturned rocks	Water-cut benches	
Exposed roots	Scour	Wrack	
First-order streams	Sediment ramps: sand / gravel	Wrinkle marks	
Flow lineations	Sediment sorting		
Other:			

N/A

Vegetation		
Estimated % total vegetative cover (perennial & shrub species combined): <div style="font-size: 1.5em; text-align: center;">5-15%</div>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <div style="font-size: 1.2em; text-align: center;"> <i>Bolbitis juncea</i> <i>Laurea tridentata</i> </div>	Representative height and width of dominant and co-dominant species: <div style="font-size: 1.2em; text-align: center;"> 3-5' H 2-4' W </div>

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

slightly less cover in uplands than fluvially active areas.

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

creosote Bush (more north of MDS 4)

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences):

creosote Bush

Site ID: AES MUPP

Stream ID: MDS 4

page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX**Transportation, Deposition & Flow Transition Indicators****Substrate Particle Size**

Bar forms: sand / gravel		Secondary channels		Estimated percentages	
<input checked="" type="checkbox"/> Bifurcated flow		<input checked="" type="checkbox"/> Sediment plastering		<input checked="" type="checkbox"/> % Bedrock / Cemented substrate	
<input checked="" type="checkbox"/> Drainage swales		<input checked="" type="checkbox"/> Sediment ramps: sand / gravel		<input checked="" type="checkbox"/> % Boulder	≥ 256 mm
<input checked="" type="checkbox"/> Flow lineations		<input checked="" type="checkbox"/> Sediment sheets: (sand / gravel)		<input checked="" type="checkbox"/> % Cobble	≥ 64 – 256 mm
<input checked="" type="checkbox"/> Imbricated gravel		<input checked="" type="checkbox"/> Sediment sorting		<input checked="" type="checkbox"/> % Pebble	≥ 4 – 64 mm
<input checked="" type="checkbox"/> Levee ridges: sand / gravel		<input checked="" type="checkbox"/> Sediment tails: sand / gravel		<input checked="" type="checkbox"/> % Granule	≥ 2 – 4 mm
<input checked="" type="checkbox"/> Mud: cracks / curls / drapes		<input checked="" type="checkbox"/> Vegetation-channel alignments		<input checked="" type="checkbox"/> % Sand	≤ 2 mm
<input checked="" type="checkbox"/> Organic drift		<input checked="" type="checkbox"/> Wrack		<input checked="" type="checkbox"/> % Silt/Clay	Fines
<input checked="" type="checkbox"/> Overturned rocks		<input checked="" type="checkbox"/> Wrinkle marks			
Out-of-channel flow: Lateral floodplain / Terminal floodplain					
Ripples					
Other:					

LFC likely receiving flows from road runoff to NW area surrounding LFC contains relic dunes

Erosion Indicators

<input checked="" type="checkbox"/> Cut banks	<input checked="" type="checkbox"/> Rills	<input checked="" type="checkbox"/> Water-cut benches
<input checked="" type="checkbox"/> Exposed roots	<input checked="" type="checkbox"/> Scour	<input checked="" type="checkbox"/> Water level mark
<input checked="" type="checkbox"/> Headcuts	<input checked="" type="checkbox"/> Secondary channels	
Other:		

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):

15-25%

Dominant and co-dominant species (if known) and % of total vegetative cover of each:

Bebbia juncea
Ambrosia salicola

Representative height and width of dominant and co-dominant species:

2-4' H
1-3' W

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

absence of veg in LFC or 21%

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

||

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

||

Episodic Stream Indicator Data Sheet						page 1 of 4
Site ID: <u>AFS MUPP</u>		Stream ID: <u>MDP 5</u>			Date: <u>9/13/20</u>	
Nearest Town: <u>PALM SPRINGS</u>				County: <u>RIVERSIDE</u>		
Investigators: <u>Bethney Smithwater</u>						
Base Map						
Aerial Photo #:		Date:		Topographic Map Name:		Date:
GPS Data						
GPS Name:		Datum:		Transect Elevation:		Zone 10 / 11
GPS co-ords start of transect:				GPS co-ords end of transect:		
Geomorphic Province (✓ one) <input type="checkbox"/> Mojave <input checked="" type="checkbox"/> Sonoran/Colorado <input type="checkbox"/> Great Basin <input type="checkbox"/> Other:						
Landform (✓ all that apply)						
<input type="checkbox"/> Headwater		<input type="checkbox"/> Upper fan		<input checked="" type="checkbox"/> Middle fan		<input checked="" type="checkbox"/> Lower fan
<input type="checkbox"/> Alluvial plain		<input type="checkbox"/> Axial valley		<input type="checkbox"/> Playa		
Channel Form (✓ one)						
<input type="checkbox"/> Single thread		<input checked="" type="checkbox"/> Braided		<input type="checkbox"/> Compound		<input type="checkbox"/> Distributary
<input type="checkbox"/> Discontinuous		<input type="checkbox"/> Other:				
Transect was selected to:						
<input checked="" type="checkbox"/> Document fluvial activity & boundaries				<input type="checkbox"/> Document channel elevations & boundaries		
<input type="checkbox"/> Document habitat associations				<input type="checkbox"/> Document a change in watercourse morphology		
<input type="checkbox"/> Other:						
Date of most recent runoff event (if known):						
<p>Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:</p> <p><u>Compound - Fluvial activity of alluvial floodplain</u></p> <p><u>Anthro Infl:</u> <u>gravel road constr/turbine b/w 1996-2002 that disrupted flows. Additional road creation/disturbance for power distribution</u> <u>Transect south of gravel road</u></p>						
<p>Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.</p> <div style="text-align: center; margin-top: 20px;"> Left Right </div>						

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators		Substrate Particle Size	
<input type="checkbox"/> Av soil horizon	<input type="checkbox"/> Relict bars & swales	Estimated percentages	
<input type="checkbox"/> Biotic soil crusts	<input type="checkbox"/> Rock fractured in place	% Bedrock / Cemented substrate	
<input checked="" type="checkbox"/> Bioturbation	<input type="checkbox"/> Rock varnish	% Boulder	≥ 256 mm
<input type="checkbox"/> Caliche: coatings / layers / rubble	<input type="checkbox"/> Rock weathering	% Cobble	≥ 64 – 256mm
<input type="checkbox"/> Carbonate etching	<input type="checkbox"/> Rubified rock undersides	% Pebble	≥ 4 – 64 mm
<input type="checkbox"/> Coppice dunes: active / relict	<input checked="" type="checkbox"/> Soil development	% Granule	≥ 2 – 4 mm
<input type="checkbox"/> Deflated surface	<input checked="" type="checkbox"/> Surface rounding of landform	% Sand	≤ 2 mm
<input type="checkbox"/> Pavement	<input checked="" type="checkbox"/> Woody debris in place	% Silt/Clay	Fines
Other:			

Fluvial Indicators

<input type="checkbox"/> Bars: sand / gravel	<input type="checkbox"/> Mud: cracks / curls / drapes	<input type="checkbox"/> Sediment tails: sand / gravel
<input type="checkbox"/> Cut banks	<input type="checkbox"/> Organic drift	<input type="checkbox"/> Vegetation-channel alignment
<input type="checkbox"/> Drainage swales	<input type="checkbox"/> Overturned rocks	<input type="checkbox"/> Water-cut benches
<input type="checkbox"/> Exposed roots	<input type="checkbox"/> Scour	<input type="checkbox"/> Wrack
<input type="checkbox"/> First-order streams	<input type="checkbox"/> Sediment ramps: sand / gravel	<input type="checkbox"/> Wrinkle marks
<input type="checkbox"/> Flow lineations	<input type="checkbox"/> Sediment sorting	
Other:		

n/a

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): <u>5-15%</u>	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species: <u>3-5' H</u> <u>2-4' W</u>
--	--	--

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Less shrub cover in uplands

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

more annuals present in upland

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

11

Site ID: <u>AES MUPP</u>	Stream ID: <u>MDS 5</u>	page 3 of 4
--------------------------	-------------------------	-------------


Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX			
Transportation, Deposition & Flow Transition Indicators		Substrate Particle Size	
<input checked="" type="checkbox"/> Bar forms: sand / gravel <input type="checkbox"/> Bifurcated flow <input type="checkbox"/> Drainage swales <input type="checkbox"/> Flow lineations <input type="checkbox"/> Imbricated gravel <input type="checkbox"/> Levee ridges: sand / gravel <input type="checkbox"/> Mud: cracks / curls / drapes <input type="checkbox"/> Organic drift <input type="checkbox"/> Overtumed rocks <input type="checkbox"/> Out-of-channel flow: Lateral floodplain / Terminal floodplain <input type="checkbox"/> Ripples <input type="checkbox"/> Other:	<input type="checkbox"/> Secondary channels <input type="checkbox"/> Sediment plastering <input type="checkbox"/> Sediment ramps: sand / gravel <input checked="" type="checkbox"/> Sediment sheets: sand / gravel <input checked="" type="checkbox"/> Sediment sorting <input type="checkbox"/> Sediment tails: sand / gravel <input type="checkbox"/> Vegetation-channel alignments <input type="checkbox"/> Wrack <input type="checkbox"/> Wrinkle marks 	Estimated percentages <input type="checkbox"/> % Bedrock / Cemented substrate <input checked="" type="checkbox"/> % Boulder ≥ 256 mm <input checked="" type="checkbox"/> % Cobble ≥ 64 – 256 mm <input type="checkbox"/> % Pebble ≥ 4 – 64 mm <input type="checkbox"/> % Granule ≥ 2 – 4 mm <input checked="" type="checkbox"/> % Sand ≤ 2 mm <input type="checkbox"/> % Silt/Clay Fines	

Erosion Indicators		
<input type="checkbox"/> Cut banks <input type="checkbox"/> Exposed roots <input type="checkbox"/> Headcuts <input type="checkbox"/> Other:	<input type="checkbox"/> Rills <input type="checkbox"/> Scour <input type="checkbox"/> Secondary channels	<input type="checkbox"/> Water-cut benches <input type="checkbox"/> Water level mark

N/A

Vegetation		
Estimated % total vegetative cover (perennial & shrub species combined): <div style="font-size: 1.5em;">15-25%</div>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <div style="font-size: 1.2em;"> <i>Begonia juncea</i> <i>Ambrosia salicifolia</i> </div>	Representative height and width of dominant and co-dominant species: <div style="font-size: 1.5em;"> 2-4' H 3-4' W </div>
Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): <div style="text-align: center; font-size: 1.2em;">absence of veg in LFC</div>		
Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): <div style="text-align: center; font-size: 1.2em;">absence of veg in LFC</div>		
Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences): <div style="text-align: center; font-size: 1.2em;">more <i>Begonia</i> / <i>Ambrosia</i> in AFP</div>		

Episodic Stream Indicator Data Sheet						page 1 of 4
Site ID: <u>AES MVPP</u>		Stream ID: <u>MDS -10</u>			Date: <u>8/13/20</u>	
Nearest Town:				County:		
Investigators: <u>Britney Stittmater</u>						
Base Map						
Aerial Photo #:		Date:		Topographic Map Name:		Date:
GPS Data						
GPS Name:		Datum:		Transect Elevation:		Zone 10 / 11
GPS co-ords start of transect:				GPS co-ords end of transect:		
Geomorphic Province (✓one)		Mojave ✓		Sonoran/Colorado		Great Basin
Other:						
Landform (✓ all that apply)						
Headwater		Upper fan		Middle fan		Lower fan
Alluvial plain		Axial valley		Playa		
Channel Form (✓ one)						
✓ Single thread		Braided		Compound		Distributary
Discontinuous		Other:				
Transect was selected to:						
✓ Document fluvial activity & boundaries				Document channel elevations & boundaries		
Document habitat associations				Document a change in watercourse morphology		
Other:						
Date of most recent runoff event (if known):						
<p>Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:</p> <p><u>Single thread ephemeral channel (NWU-2)</u></p> <p><u>Barbed wire fence and gravel road / I-10 to north,</u></p> <p><u>additional gravel road to south</u></p>						
<p>Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.</p> <div style="margin-top: 20px;"> <div style="display: flex; justify-content: space-between;"> Left Right </div>  </div>						

Site ID: ASS MUPPStream ID: MDS-12

page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND**Terrestrial Indicators****Substrate Particle Size**

- Av soil horizon	+	Relict bars & swales		Estimated percentages	
- Biotic soil crusts	-	Rock fractured in place	8	% Bedrock / Cemented substrate	
+		Rock varnish	10	% Boulder	≥ 256 mm
- Caliche: coatings / layers / rubble	+	Rock weathering	5	% Cobble	≥ 64 - 256mm
- Carbonate etching	-	Rubified rock undersides	80	% Pebble	≥ 4 - 64 mm
- Coppice dunes: active / relict	+	Soil development	4	% Granule	≥ 2 - 4 mm
- Deflated surface	+	Surface rounding of landform	1	% Sand	≤ 2 mm
- Pavement	+	Woody debris in place	0	% Silt/Clay	Fines
Other:					

Fluvial Indicators

- Bars: sand / gravel	-	Mud: cracks / curls / drapes	-	Sediment tails: sand / gravel
- Cut banks	-	Organic drift	-	Vegetation-channel alignment
- Drainage swales	-	Overturned rocks	-	Water-cut benches
- Exposed roots	-	Scour	-	Wrack
- First-order streams	-	Sediment ramps: sand / gravel	-	Wrinkle marks
- Flow lineations	-	Sediment sorting		
Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):

~3%

Dominant and co-dominant species (if known) and % of total vegetative cover of each:

Ambrosia dumosa 3%
Erodium cicutarium 25%

Representative height and width of dominant and co-dominant species:

1-1.5' H
 ~1' W

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Less cover in watercomplex - Higher annual cover in upland

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

Ambrosia dumosa absent in water complex; *Beldia juncea* absent in upland

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

Beldia juncea absent in adjacent upland
 more annual/herbaceous cover in upland

Site ID: <u>AES MVRP</u>	Stream ID: <u>MDS-10</u>	page 3 of 4
--------------------------	--------------------------	-------------

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX			
Transportation, Deposition & Flow Transition Indicators		Substrate Particle Size	
<input type="checkbox"/> Bar forms: sand / gravel <input type="checkbox"/> Bifurcated flow <input checked="" type="checkbox"/> Drainage swales <input type="checkbox"/> Flow lineations <input type="checkbox"/> Imbricated gravel <input type="checkbox"/> Levee ridges: sand / gravel <input type="checkbox"/> Mud: cracks / curls / drapes <input type="checkbox"/> Organic drift <input type="checkbox"/> Overturned rocks <input type="checkbox"/> Out-of-channel flow: Lateral floodplain / Terminal floodplain <input type="checkbox"/> Ripples <input type="checkbox"/> Other:	<input type="checkbox"/> Secondary channels <input checked="" type="checkbox"/> Sediment plastering <input type="checkbox"/> Sediment ramps: sand / gravel <input type="checkbox"/> Sediment sheets: sand / gravel <input checked="" type="checkbox"/> Sediment sorting <input checked="" type="checkbox"/> Sediment tails: sand / gravel <input checked="" type="checkbox"/> Vegetation-channel alignments <input type="checkbox"/> Wrack <input type="checkbox"/> Wrinkle marks	Estimated percentages <input type="checkbox"/> % Bedrock / Cemented substrate <input type="checkbox"/> % Boulder ≥ 256 mm <input type="checkbox"/> % Cobble ≥ 64 – 256 mm <input type="checkbox"/> % Pebble ≥ 4 – 64 mm <input type="checkbox"/> % Granule ≥ 2 – 4 mm <input type="checkbox"/> % Sand ≤ 2 mm <input type="checkbox"/> % Silt/Clay Fines	

not a very active fluvial channel, but still displaying some fluvial indicators.

Erosion Indicators		
<input checked="" type="checkbox"/> Cut banks <input type="checkbox"/> Exposed roots <input type="checkbox"/> Headcuts <input type="checkbox"/> Other:	<input type="checkbox"/> Rills <input type="checkbox"/> Scour <input type="checkbox"/> Secondary channels	<input type="checkbox"/> Water-cut benches <input type="checkbox"/> Water level mark

Vegetation		
Estimated % total vegetative cover (perennial & shrub species combined): <div style="font-size: 1.5em;">41%</div>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <div style="font-size: 1.2em;">Schishmvs barbatus 41%</div>	Representative height and width of dominant and co-dominant species: <div style="font-size: 1.5em;">3" H 1" W</div>
Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): <div style="text-align: center;">—</div>		
Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): <div style="text-align: center;">—</div>		
Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences) <div style="font-size: 1.2em;">Absence of veg in low-flow channel Bebbia juncea in adjacent floodplain</div>		

Episodic Stream Indicator Data Sheet						page 1 of 4	
Site ID: AES MVPP		Stream ID: MDS-7			Date: 8/13/20		
Nearest Town: PALM SPRINGS				County: RIVERSIDE			
Investigators: Britney Stittmacher							
Base Map							
Aerial Photo #:		Date:		Topographic Map Name:			Date:
GPS Data							
GPS Name:		Datum:		Transect Elevation:		Zone 10 / 11 GPS Error: ± ft / m	
GPS co-ords start of transect:				GPS co-ords end of transect:			
Geomorphic Province (✓one)		Mojave ✓		Sonoran/Colorado		Great Basin Other:	
Landform (✓ all that apply)							
Headwater		Upper fan		Middle fan		Lower fan	
Alluvial plain		Axial valley		Playa			
Channel Form (✓ one)							
Single thread		Braided		Compound		Distributary	
Discontinuous		Other:					
Transect was selected to:							
Document fluvial activity & boundaries				Document channel elevations & boundaries			
Document habitat associations				Document a change in watercourse morphology			
✓ Other: Document inactive/non-fluvial relic/remnant channel							
Date of most recent runoff event (if known):							
<p>Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:</p> <p>• Abandoned / relic / remnant channel low topographic relief, uplands / swales</p> <p>• 1-10 / barb-wire fencing to North Gravel road to south</p>							
<p>Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.</p>							
<div style="display: flex; justify-content: space-between;"> Left Right </div> <div style="text-align: center; margin-top: 20px;"> </div>							

Site ID: AES MVPP

Stream ID: MDS-7

page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

- Av soil horizon	+	Relict bars & swales	Substrate Particle Size	
- Biotic soil crusts	+	Rock fractured in place	Estimated percentages	
+ Bioturbation	-	Rock varnish	% Boulder	≥ 256 mm
- Caliche: coatings / layers / rubble	+	Rock weathering	% Cobble	≥ 64 - 256mm
- Carbonate etching	-	Rubified rock undersides	% Pebble	≥ 4 - 64 mm
- Coppice dunes: active / relict	+	Soil development	% Granule	≥ 2 - 4 mm
+ Deflated surface	+	Surface rounding of landform	% Sand	≤ 2 mm
Pavement	+	Woody debris in place	% Silt/Clay	Fines
Other:				

rodent/mammal burrows w/in relict/remnant channel.
 game trail w/in relict/remnant channel

Fluvial Indicators

- Bars: sand / gravel	-	Mud: cracks / curls / drapes	-	Sediment tails: sand / gravel
- Cut banks	-	Organic drift	-	Vegetation-channel alignment
- Drainage swales	-	Overtaken rocks	-	Water-cut benches
- Exposed roots	-	Scour	-	Wrack
- First-order streams	-	Sediment ramps: sand / gravel	-	Wrinkle marks
- Flow lineations	-	Sediment sorting	-	
Other:				

NO fluvial indicators

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): ~2%	Dominant and co-dominant species (if known) and % of total vegetative cover of each: Belted juniper 1% Ambrosia dumosa 1%	Representative height and width of dominant and co-dominant species: 2.5' H 2' W
---	---	--

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

N/A

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

N/A

Site ID: <u>AES MVP</u>	Stream ID: <u>MDS-7</u>	page 3 of 4
<p>Note presence or absence of each indicator within a <u>minimum</u> distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.</p>		
WATERCOURSE or WATERCOURSE COMPLEX		
Transportation, Deposition & Flow Transition Indicators		Substrate Particle Size
Bar forms: sand / gravel	Secondary channels	Estimated percentages
Bifurcated flow	Sediment plastering	% Bedrock / Cemented substrate
Drainage swales	Sediment ramps: sand / gravel	% Boulder ≥ 256 mm
Flow lineations	Sediment sheets: sand / gravel	% Cobble ≥ 64 – 256 mm
Imbricated gravel	Sediment sorting	% Pebble ≥ 4 – 64 mm
Levee ridges: sand / gravel	Sediment tails: sand / gravel	% Granule ≥ 2 – 4 mm
Mud: cracks / curls / drapes	Vegetation-channel alignments	% Sand ≤ 2 mm
Organic drift	Wrack	% Silt/Clay Fines
Overtured rocks	Wrinkle marks	
Out-of-channel flow: Lateral floodplain / Terminal floodplain		
Ripples		
Other:		
N/A		
Erosion Indicators		
Cut banks	Rills	Water-cut benches
Exposed roots	Scour	Water level mark
Headcuts	Secondary channels	
Other:		
N/A		
Vegetation		
Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):		
Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):		
Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)		

5-8

Episodic Stream Indicator Data Sheet						page 1 of 4	
Site ID: AES M/PP		Stream ID: MDS 8			Date: 08/13/20		
Nearest Town: PALM SPRINGS				County: RIVERSIDE			
Investigators: Anthony Stathmator							
Base Map							
Aerial Photo #:		Date:		Topographic Map Name:			Date:
GPS Data							
GPS Name:		Datum:		Transect Elevation:		Zone 10 / 11	GPS Error: ± ft / m
GPS co-ords start of transect:				GPS co-ords end of transect:			
Geomorphic Province (✓ one)		Mojave ✓		Sonoran/Colorado		Great Basin Other:	
Landform (✓ all that apply)							
Headwater		Upper fan		Middle fan		Lower fan	
Alluvial plain		Axial valley		Playa			
Channel Form (✓ one)							
Single thread		Braided		Compound		Distributary	
Discontinuous		Other: swale					
Transect was selected to:							
Document fluvial activity & boundaries				Document channel elevations & boundaries			
Document habitat associations				Document a change in watercourse morphology			
✓ Other: Document Fluvial Inactivity - abandoned / relic channel							
Date of most recent runoff event (if known):							
<p>Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:</p> <p>* Fluvial inactivity = abandoned / relic channel</p> <p>* Anthro Infl: gravel road bisects inactive swale I-10 to North</p>							
<p>Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.</p> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> Left Right </div> <div style="text-align: center; margin-top: 20px;"> </div>							

Site ID: AES MUPP

Stream ID: MDS 8

page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

Substrate Particle Size

Terrestrial Indicators		Substrate Particle Size	
Av soil horizon	+	Relict bars & swales	Estimated percentages
Biotic soil crusts	-	Rock fractured in place	% Bedrock / Cemented substrate
Bioturbation	-	Rock varnish	% Boulder ≥ 256 mm
Caliche: coatings / layers / rubble	-	Rock weathering	% Cobble ≥ 64 - 256mm
Carbonate etching	-	Rubified rock undersides	% Pebble ≥ 4 - 64 mm
Coppice dunes: active / relict	-	Soil development	% Granule ≥ 2 - 4 mm
Deflated surface	+	Surface rounding of landform	% Sand ≤ 2 mm
Pavement	-	Woody debris in place	% Silt/Clay Fines
Other:			

overall surface rounding - fluvial inactivity

Fluvial Indicators

Bars: sand / gravel	-	Mud: cracks / curls / drapes	-	Sediment tails: sand / gravel
Cut banks	-	Organic drift	-	Vegetation-channel alignment
Drainage swales	-	Overturned rocks	-	Water-cut benches
Exposed roots	-	Scour	-	Wrack
First-order streams	-	Sediment ramps: sand / gravel	-	Wrinkle marks
Flow lineations	-	Sediment sorting		
Other:				

N/A - no fluvial indicators

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):

Dominant and co-dominant species (if known) and % of total vegetative cover of each:

Representative height and width of dominant and co-dominant species:

21%
mainly annuals

Ambrosia dumosa

1' H
1' W

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

N/A

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

N/A

Site ID: <u>AES MWPP</u>	Stream ID: <u>MDS 8</u>	page 3 of 4
<p>Note presence or absence of each indicator within a <u>minimum</u> distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.</p>		
WATERCOURSE or WATERCOURSE COMPLEX		
Transportation, Deposition & Flow Transition Indicators		Substrate Particle Size
<input type="checkbox"/> Bar forms: sand / gravel <input type="checkbox"/> Bifurcated flow <input type="checkbox"/> Drainage swales <input type="checkbox"/> Flow lineations <input type="checkbox"/> Imbricated gravel <input type="checkbox"/> Levee ridges: sand / gravel <input type="checkbox"/> Mud: cracks / curls / drapes <input type="checkbox"/> Organic drift <input type="checkbox"/> Overturned rocks <input type="checkbox"/> Out-of-channel flow: Lateral floodplain / Terminal floodplain <input type="checkbox"/> Ripples <input checked="" type="checkbox"/> Other:	<input type="checkbox"/> Secondary channels <input type="checkbox"/> Sediment plastering <input type="checkbox"/> Sediment ramps: sand / gravel <input type="checkbox"/> Sediment sheets: sand / gravel <input type="checkbox"/> Sediment sorting <input type="checkbox"/> Sediment tails: sand / gravel <input type="checkbox"/> Vegetation-channel alignments <input type="checkbox"/> Wrack <input type="checkbox"/> Wrinkle marks	Estimated percentages <input type="checkbox"/> % Bedrock / Cemented substrate <input type="checkbox"/> % Boulder ≥ 256 mm <input type="checkbox"/> % Cobble ≥ 64 – 256 mm <input type="checkbox"/> % Pebble ≥ 4 – 64 mm <input type="checkbox"/> % Granule ≥ 2 – 4 mm <input type="checkbox"/> % Sand ≤ 2 mm <input type="checkbox"/> % Silt/Clay <input type="checkbox"/> Fines
<p><i>abandoned levee channel no longer functionally part of alluvial floodplain</i></p>		
Erosion Indicators		
<input type="checkbox"/> Cut banks <input type="checkbox"/> Exposed roots <input type="checkbox"/> Headcuts <input type="checkbox"/> Other:	<input type="checkbox"/> Rills <input type="checkbox"/> Scour <input type="checkbox"/> Secondary channels	<input type="checkbox"/> Water-cut benches <input type="checkbox"/> Water level mark
<p>N/A</p>		
Vegetation		
Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
N/A	N/A	N/A
Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):		
Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):		
Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)		

Episodic Stream Indicator Data Sheet						page 1 of 4	
Site ID: AES MVPP		Stream ID: MDS-9			Date: 8/13/20		
Nearest Town: PALM SPRINGS				County: RIVERSIDE			
Investigators: Entney Stittmayer							
Base Map							
Aerial Photo #:		Date:		Topographic Map Name:			Date:
GPS Data							
GPS Name:		Datum:		Transect Elevation:		Zone 10 / 11	GPS Error: ± ft / m
GPS co-ords start of transect:				GPS co-ords end of transect:			
Geomorphic Province (✓one)		<input type="checkbox"/> Mojave		<input checked="" type="checkbox"/> Sonoran/Colorado		<input type="checkbox"/> Great Basin	
Landform (✓ all that apply)							
<input type="checkbox"/> Headwater		<input type="checkbox"/> Upper fan		<input type="checkbox"/> Middle fan		<input type="checkbox"/> Lower fan	
<input type="checkbox"/> Alluvial plain		<input type="checkbox"/> Axial valley		<input type="checkbox"/> Playa			
Channel Form (✓ one)							
<input type="checkbox"/> Single thread		<input type="checkbox"/> Braided		<input type="checkbox"/> Compound		<input type="checkbox"/> Distributary	
<input type="checkbox"/> Discontinuous		Other: upland swale					
Transect was selected to:							
<input type="checkbox"/> Document fluvial activity & boundaries				<input type="checkbox"/> Document channel elevations & boundaries			
<input type="checkbox"/> Document habitat associations				<input type="checkbox"/> Document a change in watercourse morphology			
✓ Other: document fluvial inactivity - abandoned / relic							
Date of most recent runoff event (if known):							
<p>Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:</p> <p>* Abandoned / relic / remnant low topographic relief - Upland swale</p> <p>* Anthro Infl: I-ID north, numerous dirt roads to north all that likely altered / disrupted flows</p>							
<p>Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.</p> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 20px;"> Left Right </div> <div style="text-align: center; margin-top: 20px;"> </div>							

Site ID: AES mvpv

Stream ID: MDS-9

page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

Substrate Particle Size

- Av soil horizon	+	Relict bars & swales	Estimated percentages	
- Biotic soil crusts	-	Rock fractured in place	-	% Bedrock / Cemented substrate
+ Bioturbation	-	Rock varnish		% Boulder ≥ 256 mm
- Caliche: coatings / layers / rubble	-	Rock weathering		% Cobble ≥ 64 - 256mm
- Carbonate etching	-	Rubified rock undersides		% Pebble ≥ 4 - 64 mm
- Coppice dunes: active / relict	-	Soil development		% Granule ≥ 2 - 4 mm
- Deflated surface	+	Surface rounding of landform		% Sand ≤ 2 mm
- Pavement	-	Woody debris in place		% Silt/Clay Fines
Other:				

High cover of annuals w/in relict swale

Fluvial Indicators

- Bars: sand / gravel	- Mud: cracks / curls / drapes	- Sediment tails: sand / gravel
- Cut banks	- Organic drift	- Vegetation-channel alignment
- Drainage swales	- Overturned rocks	- Water-cut benches
- Exposed roots	- Scour	- Wrack
- First-order streams	- Sediment ramps: sand / gravel	- Wrinkle marks
- Flow lineations	- Sediment sorting	
Other:		

No fluvial indicators

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):

31

Dominant and co-dominant species (if known) and % of total vegetative cover of each:

Carrea tridentata
Ambrosia dumosa

Representative height and width of dominant and co-dominant species:

2-4' H
1-3' W

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

N/A

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

N/A

Site ID: <u>AGS MVP</u>	Stream ID: <u>MDS-9</u>	page 3 of 4
<p>Note presence or absence of each indicator within a <u>minimum</u> distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.</p>		
WATERCOURSE or WATERCOURSE COMPLEX		
Transportation, Deposition & Flow Transition Indicators		Substrate Particle Size
Bar forms: sand / gravel	Secondary channels	Estimated percentages
Bifurcated flow	Sediment plastering	% Bedrock / Cemented substrate
Drainage swales	Sediment ramps: sand / gravel	% Boulder ≥ 256 mm
Flow lineations	Sediment sheets: sand / gravel	% Cobble ≥ 64 – 256 mm
Imbricated gravel	Sediment sorting	% Pebble ≥ 4 – 64 mm
Levee ridges: sand / gravel	Sediment tails: sand / gravel	% Granule ≥ 2 – 4 mm
Mud: cracks / curls / drapes	Vegetation-channel alignments	% Sand ≤ 2 mm
Organic drift	Wrack	% Silt/Clay Fines
Overtuned rocks	Wrinkle marks	
Out-of-channel flow: Lateral floodplain / Terminal floodplain		
Ripples		
Other:		
N/A		
Erosion Indicators		
Cut banks	Rills	Water-cut benches
Exposed roots	Scour	Water level mark
Headcuts	Secondary channels	
Other:		
N/A		
Vegetation		
Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
—	—	—
Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):		
—		
Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):		
—		
Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)		
—		

Episodic Stream Indicator Data Sheet

page 1 of 4

Site ID: PES MVPP Stream ID: MDS - 10 Date: 8/18
 Nearest Town: PALM SPRINGS County: _____
 Investigators: BRITNEY STRITTMATER

Base Map

Aerial Photo #: _____ Date: _____ Topographic Map Name: _____ Date: _____

GPS Data

GPS Name: _____ Datum: _____ Transect Elevation: _____ Zone 10 / 11 GPS Error: ± _____ ft / m
 GPS co-ords start of transect: _____ GPS co-ords end of transect: _____

Geomorphic Province (✓one) _____ Mojave ☒ Sonoran/Colorado _____ Great Basin _____ Other: _____

Landform (✓ all that apply)

Headwater ☐ Upper fan ☐ Middle fan ☐ Lower fan ☐ Alluvial plain ☐ Axial valley ☐ Playa ☐

Channel Form (✓ one)

Single thread ☐ Braided ☐ Compound ☐ Distributary ☐ Discontinuous ☐ Other: _____

Transect was selected to:

Document fluvial activity & boundaries _____ Document channel elevations & boundaries _____
 Document habitat associations _____ Document a change in watercourse morphology _____
 ✓ Other: DOCUMENT FLUVIAL INACTIVITY - RELIC

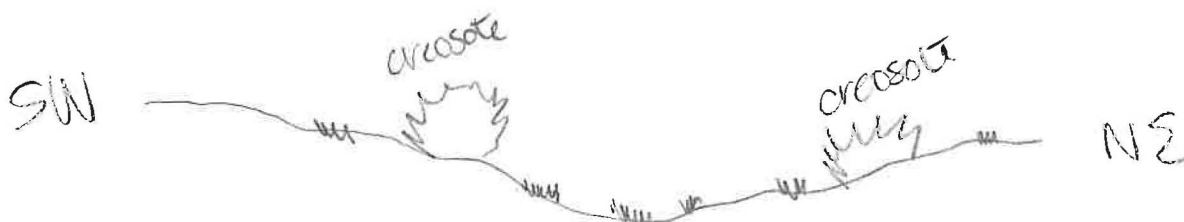
Date of most recent runoff event (if known): _____

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

- * Fluvial inactivity - relic swale / topographic low point characterized by topo relief and round bottom
- * Anthro inflw - gravel road / past turbine construction to west and north. 1-10 also to North

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left _____ Right _____



Site ID: AGS MVPPStream ID: MDS -10

page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND**Terrestrial Indicators**

- Av soil horizon	+	Relict bars & swales	Substrate Particle Size Estimated percentages	
- Biotic soil crusts	-	Rock fractured in place	% Bedrock / Cemented substrate	
+ Bioturbation	-	Rock varnish	% Boulder	≥ 256 mm
- Caliche: coatings / layers / rubble	-	Rock weathering	% Cobble	≥ 64 – 256mm
- Carbonate etching	-	Rubified rock undersides	5 % Pebble	≥ 4 – 64 mm
- Coppice dunes: active / relict	-	Soil development	5 % Granule	≥ 2 – 4 mm
- Deflated surface	+	Surface rounding of landform	90 % Sand	≤ 2 mm
- Pavement	+	Woody debris in place	% Silt/Clay	Fines
+ Other: <u>game trails</u>				

Fluvial Indicators

- Bars: sand / gravel	- Mud: cracks / curls / drapes	- Sediment tails: sand / gravel
- Cut banks	- Organic drift	- Vegetation-channel alignment
- Drainage swales	- Overturned rocks	- Water-cut benches
- Exposed roots	- Scour	- Wrack
- First-order streams	- Sediment ramps: sand / gravel	- Wrinkle marks
- Flow lineations	- Sediment sorting	
- Other:		

none

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): <u>35%.</u>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <u>Larrea tridentata 25%</u>	Representative height and width of dominant and co-dominant species: <u>4-5' H</u> <u>3-4' W</u>
---	--	--

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Higher cover of Larrea tridentata in swale

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences):

N/A

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators		Substrate Particle Size	
Bar forms: sand / gravel	Secondary channels	Estimated percentages	
Bifurcated flow	Sediment plastering	% Bedrock / Cemented substrate	
Drainage swales	Sediment ramps: sand / gravel	% Boulder	≥ 256 mm
Flow lineations	Sediment sheets: sand / gravel	% Cobble	≥ 64 – 256 mm
Imbricated gravel	Sediment sorting	% Pebble	≥ 4 – 64 mm
Levee ridges: sand / gravel	Sediment tails: sand / gravel	% Granule	≥ 2 – 4 mm
Mud: cracks / curls / drapes	Vegetation-channel alignments	% Sand	≤ 2 mm
Organic drift	Wrack	% Silt/Clay	Fines
Overturned rocks	Wrinkle marks		
Out-of-channel flow: Lateral floodplain / Terminal floodplain			
Ripples			
Other:			

none

Erosion Indicators

Cut banks	Rills	Water-cut benches
Exposed roots	Scour	Water level mark
Headcuts	Secondary channels	
Other:		

none

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
N/A	N/A	N/A

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

N/A

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

N/A

Episodic Stream Indicator Data Sheet

page 1 of 4

Site ID: AES MVPP

Stream ID: MDS-11

Date: 8/10/20

Nearest Town: PALM SPRINGS

County:

Investigators: B. Stithmeyer

Base Map

Aerial Photo #:

Date:

Topographic Map Name:

Date:

GPS Data

GPS Name:

Datum:

Transect Elevation:

Zone 10 / 11

GPS Error: ± ft / m

GPS co-ords start of transect:

GPS co-ords end of transect:

Geomorphic Province (✓ one)

Mojave

✓

Sonoran/Colorado

Great Basin

Other:

Landform (✓ all that apply)

Headwater

Upper fan

Middle fan

Lower fan

Alluvial plain

Axial valley

Playa

Channel Form (✓ one)

Single thread

Braided

Compound

Distributary

Discontinuous

Other:

Transect was selected to:

Document fluvial activity & boundaries

Document channel elevations & boundaries

Document habitat associations

Document a change in watercourse morphology

Other:

Document Fluvial inactivity / relic

Date of most recent runoff event (if known):

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

* Fluvial inactivity - relic shale characterized by topo relief and round bottom.

* Anthro Infl. - gravel road / turbine development to west and north. 1-10 also to north.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left _____ Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators		Substrate Particle Size	
- Av soil horizon	+	Relict bars & swales	Estimated percentages
- Biotic soil crusts	-	Rock fractured in place	% Bedrock / Cemented substrate
+ Bioturbation	-	Rock varnish	% Boulder ≥ 256 mm
- Caliche: coatings / layers / rubble	-	Rock weathering	% Cobble ≥ 64 – 256mm
- Carbonate etching	-	Rubified rock undersides	% Pebble ≥ 4 – 64 mm
- Coppice dunes: active / relict	-	Soil development	5 % Granule ≥ 2 – 4 mm
- Deflated surface	+	Surface rounding of landform	95 % Sand ≤ 2 mm
- Pavement	+	Woody debris in place	% Silt/Clay Fines
+ Other: <u>game trails</u>			

Fluvial Indicators

Bars: sand / gravel	Mud: cracks / curls / drapes	Sediment tails: sand / gravel
Cut banks	Organic drift	Vegetation-channel alignment
Drainage swales	Overturned rocks	Water-cut benches
Exposed roots	Scour	Wrack
First-order streams	Sediment ramps: sand / gravel	Wrinkle marks
Flow lineations	Sediment sorting	
Other:		

none

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): <div style="text-align: center; font-size: 1.5em;">21</div> <u>mainly annuals</u>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <u>Larrea tridentata</u> 21 <u>Begonia vumkea</u> 21 <u>Schismus</u> 25-50%	Representative height and width of dominant and co-dominant species: <u>Shrubs</u> 2-3' H, 3-4" W <u>Annuals</u> 4-8" H, 2-4" W
Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): <div style="text-align: center; font-size: 1.2em;">no differences in composition</div>		
Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): <div style="text-align: center; font-size: 1.5em;">N/A</div>		
Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences): <div style="text-align: center; font-size: 1.5em;">N/A</div>		

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators		Substrate Particle Size	
Bar forms: sand / gravel	Secondary channels	Estimated percentages	
Bifurcated flow	Sediment plastering	% Bedrock / Cemented substrate	
Drainage swales	Sediment ramps: sand / gravel	% Boulder	≥ 256 mm
Flow lineations	Sediment sheets: sand / gravel	% Cobble	≥ 64 – 256 mm
Imbricated gravel	Sediment sorting	% Pebble	≥ 4 – 64 mm
Levee ridges: sand / gravel	Sediment tails: sand / gravel	% Granule	≥ 2 – 4 mm
Mud: cracks / curls / drapes	Vegetation-channel alignments	% Sand	≤ 2 mm
Organic drift	Wrack	% Silt/Clay	Fines
Overtured rocks	Wrinkle marks		
Out-of-channel flow: Lateral floodplain / Terminal floodplain			
Ripples			
Other:			

none

Erosion Indicators

Cut banks	Rills	Water-cut benches
Exposed roots	Scour	Water level mark
Headcuts	Secondary channels	
Other:		

none

Vegetation

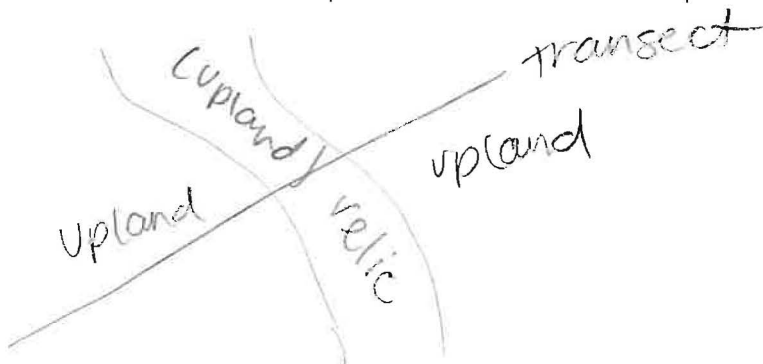
Estimated % total vegetative cover (perennial & shrub species combined): <div style="text-align: center; font-size: 1.5em;">N/A</div>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <div style="text-align: center; font-size: 1.5em;">N/A</div>	Representative height and width of dominant and co-dominant species: <div style="text-align: center; font-size: 1.5em;">N/A</div>
Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): <div style="text-align: center; font-size: 1.5em;">N/A</div>		
Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): <div style="text-align: center; font-size: 1.5em;">N/A</div>		
Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences): <div style="text-align: center; font-size: 1.5em;">N/A</div>		

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

- Algal crusts	- Sand-filled channels		
- Beach ridges	- Springs		
- Coppice dunes: active / relict	- Substrate staining		
- Crusts: carbonate / salt / soda	- Vegetation-landscape alignments		
- Mud: cracks / curls / polygons			
Other:			

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under “Upland” and “Watercourse Complex”.



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

[illegible]

Episodic Stream Indicator Data Sheet					page 1 of 4	
Site ID: AES MVPP		Stream ID: MDS-12			Date: 8/18/20	
Nearest Town: Palm Springs				County:		
Investigators: BRITNEY STRITTMATER						
Base Map						
Aerial Photo #:		Date:		Topographic Map Name:		Date:
GPS Data						
GPS Name:		Datum:		Transect Elevation:		Zone 10 / 11 GPS Error: ± ft / m
GPS co-ords start of transect:				GPS co-ords end of transect:		
Geomorphic Province (✓ one)		Mojave ✓		Sonoran/Colorado		Great Basin Other:
Landform (✓ all that apply)						
Headwater	Upper fan	Middle fan	Lower fan ✓	Alluvial plain	Axial valley	Playa
Channel Form (✓ one)						
Single thread	Braided ✓	Compound	Distributary	Discontinuous	Other:	
Transect was selected to:						
✓ Document fluvial activity & boundaries			Document channel elevations & boundaries			
Document habitat associations			Document a change in watercourse morphology			
Other:						
Date of most recent runoff event (if known):						
<p>Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:</p> <p>* Fluvial activity present, ephemeral compound active floodplain</p> <p>* Anthro Influ: GE imagery shows turbine/road construction (immediately west) sometime btw 1994-2002</p>						
<p>Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.</p>						
<div style="display: flex; justify-content: space-between;"> Left Right </div>						

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

-	Av soil horizon	-	Relict bars & swales	Substrate Particle Size	
-	Biotic soil crusts	-	Rock fractured in place	Estimated percentages	
+	Bioturbation	-	Rock varnish	-	% Bedrock / Cemented substrate
-	Caliche: coatings / layers / rubble	-	Rock weathering	3	% Boulder ≥ 256 mm
-	Carbonate etching	-	Rubified rock undersides	10	% Cobble ≥ 64 – 256mm
-	Coppice dunes: active / relict	+	Soil development	50	% Pebble ≥ 4 – 64 mm
-	Deflated surface	+	Surface rounding of landform	18	% Granule ≥ 2 – 4 mm
-	Pavement	+	Woody debris in place	-	% Sand ≤ 2 mm
	Other:			-	% Silt/Clay Fines

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

none

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
10-15% - shrubs	Larrea tridentata 5% Schinus molle 10%	3-4' H 2-4' W

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

uplands less cover of shrubs than fluvial unit

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

more annuals present in uplands

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences):

Annuals / creosote bush more abundant in uplands.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators				Substrate Particle Size	
<input checked="" type="checkbox"/> Bar forms: sand / gravel	<input checked="" type="checkbox"/> Secondary channels	Estimated percentages			
<input type="checkbox"/> Bifurcated flow	<input type="checkbox"/> Sediment plastering			% Bedrock / Cemented substrate	
<input checked="" type="checkbox"/> Drainage swales	<input checked="" type="checkbox"/> Sediment ramps: sand / gravel	40	% Boulder	≥ 256 mm	
<input type="checkbox"/> Flow lineations	<input checked="" type="checkbox"/> Sediment sheets: sand / gravel	20	% Cobble	≥ 64 – 256 mm	
<input checked="" type="checkbox"/> Imbricated gravel	<input checked="" type="checkbox"/> Sediment sorting	20	% Pebble	≥ 4 – 64 mm	
<input type="checkbox"/> Levee ridges: sand / gravel	<input checked="" type="checkbox"/> Sediment tails: sand / gravel	10	% Granule	≥ 2 – 4 mm	
<input checked="" type="checkbox"/> Mud: cracks / curls / drapes	<input checked="" type="checkbox"/> Vegetation-channel alignments	10	% Sand	≤ 2 mm	
<input type="checkbox"/> Organic drift	<input type="checkbox"/> Wrack	<input checked="" type="checkbox"/>	% Silt/Clay	Fines	
<input checked="" type="checkbox"/> Overturned rocks	<input type="checkbox"/> Wrinkle marks				
<input type="checkbox"/> Out-of-channel flow: Lateral floodplain / Terminal floodplain					
<input type="checkbox"/> Ripples					
<input type="checkbox"/> Other:					

Erosion Indicators

<input checked="" type="checkbox"/> Cut banks	<input type="checkbox"/> Rills	<input type="checkbox"/> Water-cut benches
<input checked="" type="checkbox"/> Exposed roots	<input type="checkbox"/> Scour	<input type="checkbox"/> Water level mark
<input type="checkbox"/> Headcuts	<input type="checkbox"/> Secondary channels	
<input type="checkbox"/> Other:		

none

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <u>Begonia juncea</u>	Representative height and width of dominant and co-dominant species: <u>2-3' H</u> <u>2-3' W</u>
--	---	--

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Higher density in AFP, LFC absence in veg

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

absence of veg in LFC

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

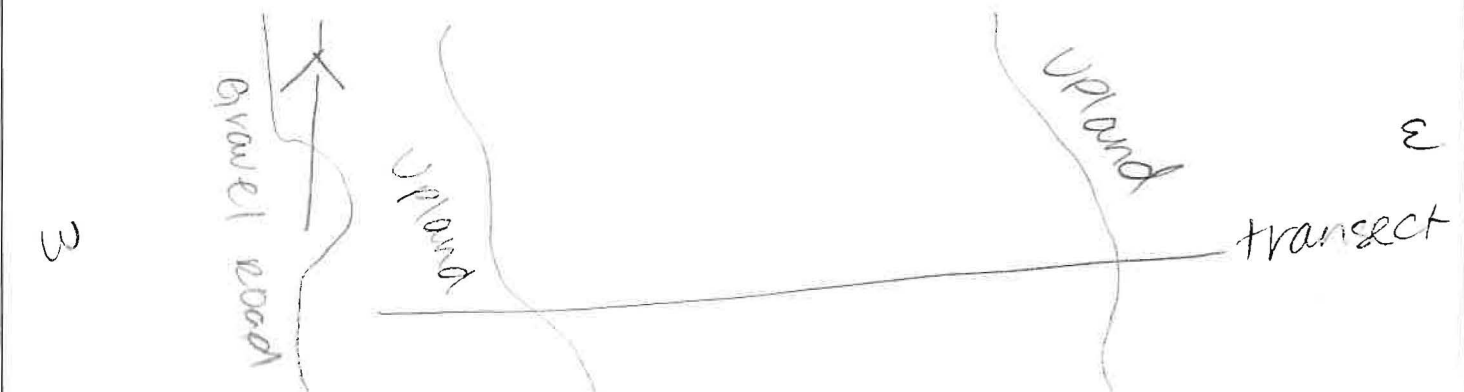
w/A

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

Algal crusts	Sand-filled channels		
Beach ridges	Springs		
Coppice dunes: active / relict	Substrate staining		
Crusts: carbonate / salt / soda	Vegetation-landscape alignments		
Mud: cracks / curls / polygons			
Other:			

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

[illegible]

Site ID: AES MUPD

Stream ID: MDS-13

page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX**Transportation, Deposition & Flow Transition Indicators****Substrate Particle Size**

Bar forms: sand / gravel	Secondary channels	Estimated percentages	
Bifurcated flow	Sediment plastering	% Bedrock / Cemented substrate	
Drainage swales	Sediment ramps: sand / gravel	% Boulder	≥ 256 mm
Flow lineations	Sediment sheets: sand / gravel	% Cobble	≥ 64 – 256 mm
Imbricated gravel	Sediment sorting	% Pebble	≥ 4 – 64 mm
Levee ridges: sand / gravel	Sediment tails: sand / gravel	% Granule	≥ 2 – 4 mm
Mud: cracks / curls / drapes	Vegetation-channel alignments	% Sand	≤ 2 mm
Organic drift	Wrack	% Silt/Clay	Fines
Overtaken rocks	Wrinkle marks		
Out-of-channel flow: Lateral floodplain / Terminal floodplain			
Ripples			
Other:			

none

Erosion Indicators

Cut banks	Rills	Water-cut benches
Exposed roots	Scour	Water level mark
Headcuts	Secondary channels	
Other:		

none

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
N/A	N/A	N/A

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

N/A

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

N/A

Episodic Stream Indicator Data Sheet						page 1 of 4	
Site ID: AFS MVPP		Stream ID: MDS-13			Date: 8/18/20		
Nearest Town: Palm Springs				County: Riverside			
Investigators: B. Strathwater							
Base Map							
Aerial Photo #:		Date:		Topographic Map Name:			Date:
GPS Data							
GPS Name:		Datum:		Transect Elevation:		Zone 10 / 11 GPS Error: ± ft / m	
GPS co-ords start of transect:				GPS co-ords end of transect:			
Geomorphic Province (✓one)		Mojave <input checked="" type="checkbox"/>		Sonoran/Colorado		Great Basin Other:	
Landform (✓ all that apply)							
Headwater		Upper fan		Middle fan		Lower fan	
Alluvial plain		Axial valley		Playa			
Channel Form (✓ one)							
Single thread		Braided		Compound		Distributary	
Discontinuous		Other:					
Transect was selected to:							
Document fluvial activity & boundaries				Document channel elevations & boundaries			
Document habitat associations				Document a change in watercourse morphology			
✓ Other: document relic swale - Fluvial inactivity							
Date of most recent runoff event (if known):							
<p>Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:</p> <p>* Fluvial inactivity - relic swale characterized by topographic relief / round bottom</p> <p>* Gas pipeline easement to North, roads/turbines constructed to West. Past dist. associated w/road constr. and berms N/S</p>							
<p>Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.</p>							
<div style="display: flex; justify-content: space-between;"> Left Right </div> <div style="text-align: center; margin-top: 20px;"> </div>							

Site ID: AES MVP8Stream ID: MDS 43

page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND**Terrestrial Indicators**

- Av soil horizon	+	Relict bars & swales	Substrate Particle Size	
- Biotic soil crusts	-	Rock fractured in place	Estimated percentages	
+ Bioturbation	-	Rock varnish	% Bedrock / Cemented substrate	
- Caliche: coatings / layers / rubble	-	Rock weathering	% Boulder	≥ 256 mm
- Carbonate etching	-	Rubified rock undersides	% Cobble	≥ 64 – 256mm
- Coppice dunes: active / relict	-	Soil development	% Pebble	≥ 4 – 64 mm
- Deflated surface	+	Surface rounding of landform	% Granule	≥ 2 – 4 mm
- Pavement	-	Woody debris in place	% Sand	≤ 2 mm
Other:			% Silt/Clay	Fines

Fluvial Indicators

Bars: sand / gravel	Mud: cracks / curls / drapes	Sediment tails: sand / gravel
Cut banks	Organic drift	Vegetation-channel alignment
Drainage swales	Overtaken rocks	Water-cut benches
Exposed roots	Scour	Wreck
First-order streams	Sediment ramps: sand / gravel	Wrinkle marks
Flow lineations	Sediment sorting	
Other:		

none

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):

31.

Dominant and co-dominant species (if known) and % of total vegetative cover of each:

Larrea tridentata 31%
→ mainly annuals 30%

Representative height and width of dominant and co-dominant species:

2-3' H
3-4' W

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

less shrubs in relic swale w/ more annuals

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences):

N/A

Episodic Stream Indicator Data Sheet

page 1 of 4

Site ID: AS MUPP Stream ID: MDS-14 Date: _____
 Nearest Town: Palm Springs County: Riverside
 Investigators: B. Stittmeyer

Base Map

Aerial Photo #: _____ Date: _____ Topographic Map Name: _____ Date: _____

GPS Data

GPS Name: _____ Datum: _____ Transect Elevation: _____ Zone 10 / 11 GPS Error: \pm _____ ft / m
 GPS co-ords start of transect: _____ GPS co-ords end of transect: _____

Geomorphic Province (☒ one) ☐ Mojave ☒ Sonoran/Colorado ☐ Great Basin Other: _____

Landform (☒ all that apply)

☐ Headwater ☐ Upper fan ☐ Middle fan ☐ Lower fan ☐ Alluvial plain ☐ Axial valley ☐ Playa

Channel Form (☒ one)

☐ Single thread ☐ Braided ☐ Compound ☐ Distributary ☐ Discontinuous Other: RELIC

Transect was selected to:

☐ Document fluvial activity & boundaries ☐ Document channel elevations & boundaries

☐ Document habitat associations ☐ Document a change in watercourse morphology

☒ Other: Document relic swale - FLUVIAL INACTIVITY

Date of most recent runoff event (if known): _____

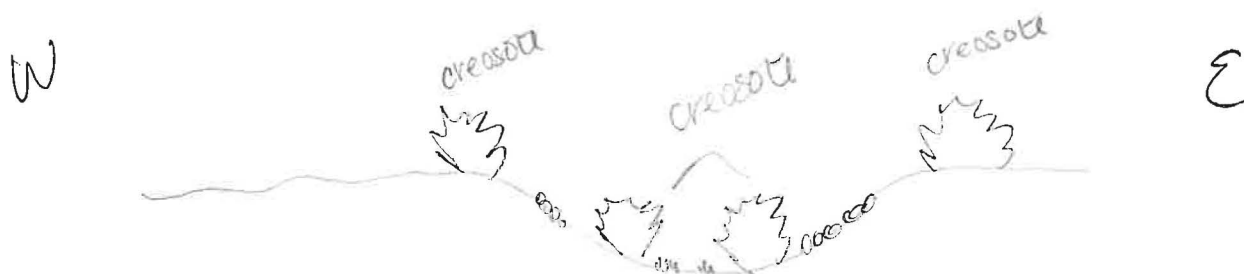
Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Fluvial inactivity - relic channel/swale characterized by topographic relief w/ round bottom

Anthro Infl - gas pipeline easement to north and roads/turbine past construction to west/north altered flows

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left _____ Right _____



Site ID: AES MUPP

Stream ID: MDS-14

page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

- Av soil horizon	+	Relict bars & swales	Substrate Particle Size	
- Biotic soil crusts	-	Rock fractured in place	Estimated percentages	
Bioturbation	-	Rock varnish	% Bedrock / Cemented substrate	
- Caliche: coatings / layers / rubble	-	Rock weathering	% Boulder	≥ 256 mm
- Carbonate etching	-	Rubified rock undersides	% Cobble	≥ 64 – 256mm
- Coppice dunes: active / relict	-	Soil development	% Pebble	≥ 4 – 64 mm
- Deflated surface	+	Surface rounding of landform	% Granule	≥ 2 – 4 mm
- Pavement	+	Woody debris in place	% Sand	≤ 2 mm
Other:			% Silt/Clay	Fines

Fluvial Indicators

Bars: sand / gravel	Mud: cracks / curls / drapes	Sediment tails: sand / gravel
Cut banks	Organic drift	Vegetation-channel alignment
Drainage swales	Overtaken rocks	Water-cut benches
Exposed roots	Scour	Wrack
First-order streams	Sediment ramps: sand / gravel	Wrinkle marks
Flow lineations	Sediment sorting	
Other:		

none

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): 15-25%	Dominant and co-dominant species (if known) and % of total vegetative cover of each: Larrea tridentata 15-25% Schismus 75%	Representative height and width of dominant and co-dominant species: 4-6' H 3-5' W
--	--	--

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Similar composition/cover

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences):

N/A

Site ID: <u>AES MUPP</u>	Stream ID: <u>MDS-14</u>	page 3 of 4
--------------------------	--------------------------	-------------

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

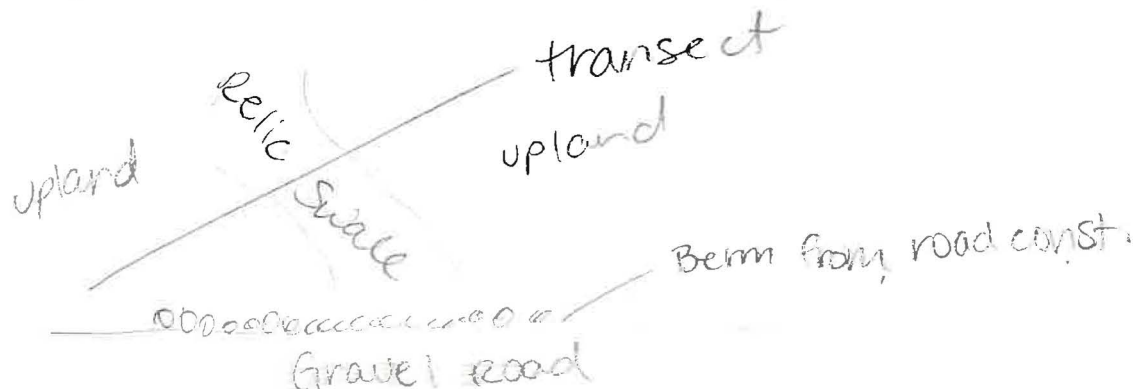
WATERCOURSE or WATERCOURSE COMPLEX			
Transportation, Deposition & Flow Transition Indicators		Substrate Particle Size	
Bar forms: sand / gravel	Secondary channels	Estimated percentages	
Bifurcated flow	Sediment plastering	% Bedrock / Cemented substrate	
Drainage swales	Sediment ramps: sand / gravel	% Boulder	≥ 256 mm
Flow lineations	Sediment sheets: sand / gravel	% Cobble	≥ 64 – 256 mm
Imbricated gravel	Sediment sorting	% Pebble	≥ 4 – 64 mm
Levee ridges: sand / gravel	Sediment tails: sand / gravel	% Granule	≥ 2 – 4 mm
Mud: cracks / curls / drapes	Vegetation-channel alignments	% Sand	≤ 2 mm
Organic drift	Wrack	% Silt/Clay	Fines
Overtaken rocks	Wrinkle marks		
Out-of-channel flow: Lateral floodplain / Terminal floodplain			
Ripples			
Other:			
None			
Erosion Indicators			
Cut banks	Rills	Water-cut benches	
Exposed roots	Scour	Water level mark	
Headcuts	Secondary channels		
Other:			
None			
Vegetation			
Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:	
N/A	N/A	N/A	
Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):			
N/A			
Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):			
N/A			
Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences):			
N/A			

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

✓ Algal crusts	✗ Sand-filled channels		
✓ Beach ridges	✓ Springs		
✓ Coppice dunes: active / relict	✓ Substrate staining		
✓ Crusts: carbonate / salt / soda	✓ Vegetation-landscape alignments		
✓ Mud: cracks / curls / polygons			
Other:			

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

[illegible]

Episodic Stream Indicator Data Sheet

page 1 of 4

Site ID: AES MNPP Stream ID: MDS-15 Date: 8/18/20
 Nearest Town: Palm Springs County: Riverside
 Investigators:

Base Map

Aerial Photo #: Date: Topographic Map Name: Date:

GPS Data

GPS Name: Datum: Transect Elevation: Zone 10 / 11 GPS Error: \pm ft / m

GPS co-ords start of transect: GPS co-ords end of transect:

Geomorphic Province (☒ one) Mojave ☒ Sonoran/Colorado Great Basin Other:

Landform (☒ all that apply)

Headwater Upper fan Middle fan Lower fan Alluvial plain Axial valley Playa

Channel Form (☒ one)

Single thread Braided Compound Distributary Discontinuous Other: swale

Transect was selected to:

Document fluvial activity & boundaries Document channel elevations & boundaries
 Document habitat associations Document a change in watercourse morphology
☒ Other: Document relict swale

Date of most recent runoff event (if known):

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Relict swale characterized by topographic relief and a round bottom.

Barbed wire fence to south and dirt access roads downstream to southeast.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

S Left Right N



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

<input type="checkbox"/> Av soil horizon	<input checked="" type="checkbox"/> Relict bars & swales	Substrate Particle Size	
<input type="checkbox"/> Biotic soil crusts	<input type="checkbox"/> Rock fractured in place	Estimated percentages	
<input checked="" type="checkbox"/> Bioturbation	<input type="checkbox"/> Rock varnish	% Bedrock / Cemented substrate	
<input type="checkbox"/> Caliche: coatings / layers / rubble	<input type="checkbox"/> Rock weathering	% Boulder	≥ 256 mm
<input type="checkbox"/> Carbonate etching	<input type="checkbox"/> Rubified rock undersides	% Cobble	≥ 64 – 256mm
<input type="checkbox"/> Coppice dunes: active / relict	<input type="checkbox"/> Soil development	% Pebble	≥ 4 – 64 mm
<input type="checkbox"/> Deflated surface	<input checked="" type="checkbox"/> Surface rounding of landform	% Granule	≥ 2 – 4 mm
<input type="checkbox"/> Pavement	<input checked="" type="checkbox"/> Woody debris in place	% Sand	≤ 2 mm
<input checked="" type="checkbox"/> Other: game trails		% Silt/Clay	Fines

Fluvial Indicators

<input type="checkbox"/> Bars: sand / gravel	<input type="checkbox"/> Mud: cracks / curls / drapes	<input type="checkbox"/> Sediment tails: sand / gravel
<input type="checkbox"/> Cut banks	<input type="checkbox"/> Organic drift	<input type="checkbox"/> Vegetation-channel alignment
<input type="checkbox"/> Drainage swales	<input type="checkbox"/> Overturned rocks	<input type="checkbox"/> Water-cut benches
<input type="checkbox"/> Exposed roots	<input type="checkbox"/> Scour	<input type="checkbox"/> Wrack
<input type="checkbox"/> First-order streams	<input type="checkbox"/> Sediment ramps: sand / gravel	<input type="checkbox"/> Wrinkle marks
<input type="checkbox"/> Flow lineations	<input type="checkbox"/> Sediment sorting	
<input type="checkbox"/> Other:		

None

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
45%	Carrea tridentata 5% Schismus barbatus 40%	1.5m x 2m 10cm x 10cm

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Similar composition and cover within relict swale and outside

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences):

N/A

Site ID: AES MNPP

Stream ID:

MDS-15

page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX**Transportation, Deposition & Flow Transition Indicators****Substrate Particle Size**

Transportation, Deposition & Flow Transition Indicators			Substrate Particle Size	
Bar forms: sand / gravel		Secondary channels	Estimated percentages	
Bifurcated flow		Sediment plastering	% Bedrock / Cemented substrate	
Drainage swales		Sediment ramps: sand / gravel	% Boulder	≥ 256 mm
Flow lineations		Sediment sheets: sand / gravel	% Cobble	≥ 64 – 256 mm
Imbricated gravel		Sediment sorting	% Pebble	≥ 4 – 64 mm
Levee ridges: sand / gravel		Sediment tails: sand / gravel	% Granule	≥ 2 – 4 mm
Mud: cracks / curls / drapes		Vegetation-channel alignments	% Sand	≤ 2 mm
Organic drift		Wrack	% Silt/Clay	Fines
Overturned rocks		Wrinkle marks		
Out-of-channel flow:	Lateral floodplain /	Terminal floodplain		
Ripples				
Other:				

None

Erosion Indicators

Cut banks	Rills	Water-cut benches
Exposed roots	Scour	Water level mark
Headcuts	Secondary channels	
Other:		

None

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
N/A	N/A	N/A

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

N/A

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

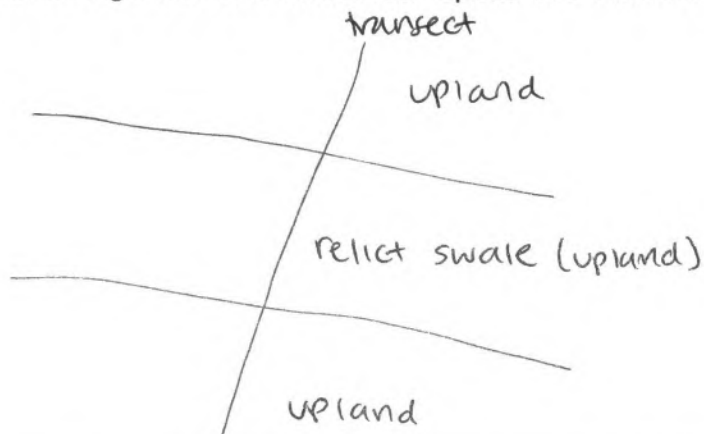
N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

N/A

Algal crusts		Sand-filled channels		
Beach ridges		Springs		
Coppice dunes: active / relict		Substrate staining		
Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
Mud: cracks / curls / polygons				
Other:				

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

[illegible]

Episodic Stream Indicator Data Sheet

page 1 of 4

Site ID: AES MVPP Stream ID: MDS-16 Date: 8/18/20
 Nearest Town: Palm Springs County: Riverside
 Investigators: Anna Cassidy

Base Map

Aerial Photo #: Date: Topographic Map Name: Date:

GPS Data

GPS Name: Datum: Transect Elevation: Zone 10 / 11 GPS Error: \pm ft / m
 GPS co-ords start of transect: GPS co-ords end of transect:

Geomorphic Province (☒ one) Mojave ☒ Sonoran/Colorado Great Basin Other:

Landform (☒ all that apply)

Headwater Upper fan Middle fan ☒ Lower fan Alluvial plain Axial valley Playa

Channel Form (☒ one)

☒ Single thread Braided Compound Distributary Discontinuous Other:

Transect was selected to:

☒ Document fluvial activity & boundaries Document channel elevations & boundaries
 Document habitat associations Document a change in watercourse morphology
 Other:

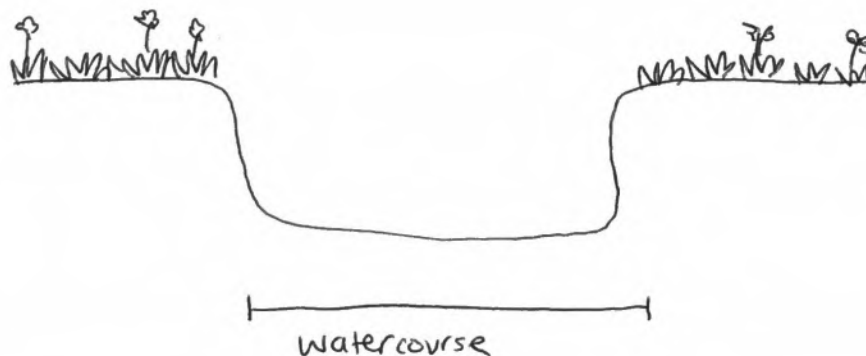
Date of most recent runoff event (if known):

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

incised, single thread ephemeral channel located upstream and downstream of compacted dirt road.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

N S
 Left Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

Terrestrial Indicators		Substrate Particle Size	
Av soil horizon	Relict bars & swales	Estimated percentages	
Biotic soil crusts	Rock fractured in place	0	% Bedrock / Cemented substrate
✓ Bioturbation	Rock varnish	0	% Boulder ≥ 256 mm
Caliche: coatings / layers / rubble	Rock weathering	0	% Cobble ≥ 64 – 256mm
Carbonate etching	Rubified rock undersides	30	% Pebble ≥ 4 – 64 mm
Coppice dunes: active / relict	Soil development	30	% Granule ≥ 2 – 4 mm
Deflated surface	Surface rounding of landform	40	% Sand ≤ 2 mm
Pavement	Woody debris in place	0	% Silt/Clay Fines
✓ Other: game trails			

Fluvial Indicators

Bars: sand / gravel	Mud: cracks / curls / drapes	Sediment tails: sand / gravel
Cut banks	Organic drift	Vegetation-channel alignment
Drainage swales	Overturned rocks	Water-cut benches
Exposed roots	Scour	Wrack
First-order streams	Sediment ramps: sand / gravel	Wrinkle marks
Flow lineations	Sediment sorting	
Other:		

None

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): 60%	Dominant and co-dominant species (if known) and % of total vegetative cover of each: Schismus barbatus 35% Malacothrix glabrata 20%	Representative height and width of dominant and co-dominant species: 10 cm x 10 cm 20 cm x 20 cm
---	---	--

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Watercourse has an absence of vegetation. All vegetation is in uplands.

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

Malacothrix glabrata located in uplands only.

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

Higher abundance of Malacothrix glabrata and Schismus barbatus in uplands.

Site ID: AES MUPP

Stream ID:

MDS-16

page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX**Transportation, Deposition & Flow Transition Indicators****Substrate Particle Size**

Transportation, Deposition & Flow Transition Indicators		Substrate Particle Size	
Bar forms: sand / gravel	Secondary channels	Estimated percentages	
Bifurcated flow	Sediment plastering	0	% Bedrock / Cemented substrate
✓ Drainage swales	Sediment ramps: sand / gravel	0	% Boulder ≥ 256 mm
Flow lineations	Sediment sheets: sand / gravel	0	% Cobble ≥ 64 – 256 mm
Imbricated gravel	✓ Sediment sorting	30	% Pebble ≥ 4 – 64 mm
Levee ridges: sand / gravel	✓ Sediment tails: (sand) gravel	20	% Granule ≥ 2 – 4 mm
Mud: cracks / curls / drapes	✓ Vegetation-channel alignments	40	% Sand ≤ 2 mm
Organic drift	Wrack	10	% Silt/Clay Fines
Overturned rocks	Wrinkle marks		
Out-of-channel flow: Lateral floodplain / Terminal floodplain			
Ripples			
Other:			

Erosion Indicators

✓ Cut banks	Rills	Water-cut benches
Exposed roots	Scour	Water level mark
Headcuts	Secondary channels	
Other:		

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): 41%	Dominant and co-dominant species (if known) and % of total vegetative cover of each: None	Representative height and width of dominant and co-dominant species: N/A
---	--	---

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

All vegetation is located within uplands.

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

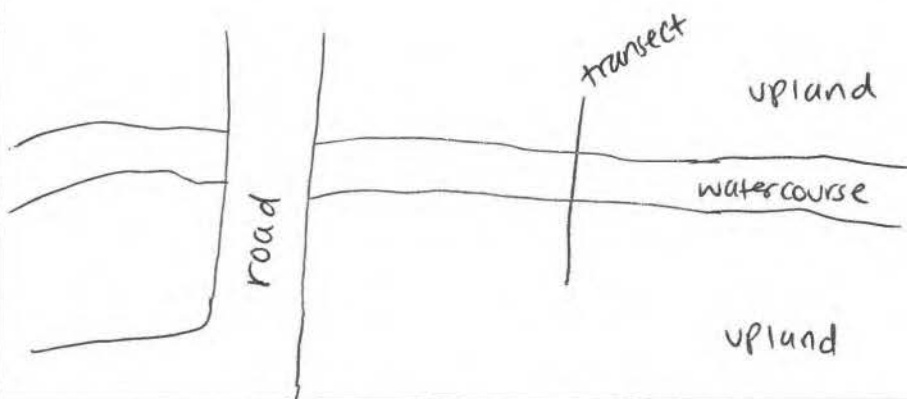
N/A

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

Algal crusts	Sand-filled channels
Beach ridges	Springs
Coppice dunes: active / relict	Substrate staining
Crusts: carbonate / salt / soda	✓ Vegetation-landscape alignments
Mud: cracks / curls / polygons	
Other:	

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

[illegible]

Episodic Stream Indicator Data Sheet

page 1 of 4

Site ID: AES MUPP Stream ID: MDS - 17 Date: 09/18/20
 Nearest Town: PALM SPRINGS County: RIVERSIDE
 Investigators: Britney Stittmeyer

Base Map

Aerial Photo #: Date: Topographic Map Name: Date:

GPS Data

GPS Name: Datum: Transect Elevation: Zone 10 / 11 GPS Error: ± ft / m
 GPS co-ords start of transect: GPS co-ords end of transect:

Geomorphic Province (✓ one) Mojave ✓ Sonoran/Colorado Great Basin Other:

Landform (✓ all that apply)

Headwater Upper fan Middle fan Lower fan Alluvial plain Axial valley Playa

Channel Form (✓ one)

Single thread Braided Compound Distributary Discontinuous Other:

Transect was selected to:

Document fluvial activity & boundaries Document channel elevations & boundaries
 Document habitat associations Document a change in watercourse morphology
 ✓ Other: Document Fluvial Inactivity

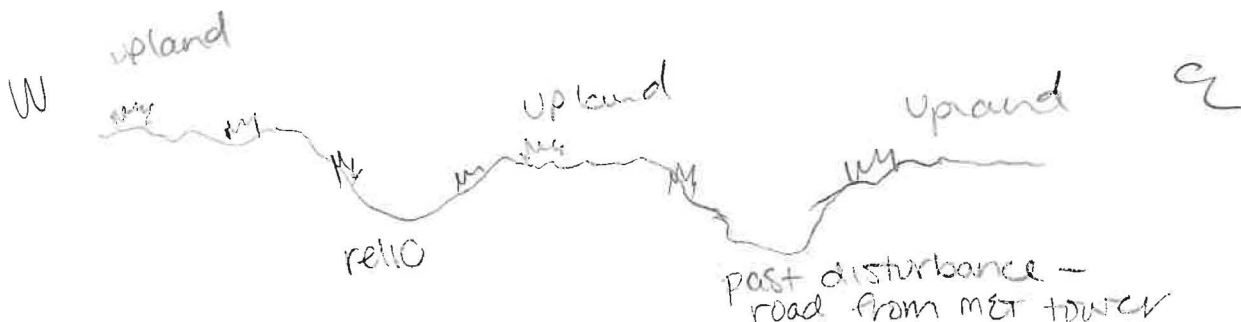
Date of most recent runoff event (if known):

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Fluvial Inactivity - historically area likely part of floodplain however gas easement to north and berms have altered hydrology in area and areas south of this are no longer connected and are no longer part of active watercourse.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluvies, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators				Substrate Particle Size	
				Estimated percentages	
-	Av soil horizon	-	Relict bars & swales		
-	Biotic soil crusts	-	Rock fractured in place	-	% Bedrock / Cemented substrate
+	Bioturbation	-	Rock varnish	10	% Boulder ≥ 256 mm
-	Caliche: coatings / layers / rubble	-	Rock weathering	8	% Cobble ≥ 64 – 256mm
-	Carbonate etching	-	Rubified rock undersides	30	% Pebble ≥ 4 – 64 mm
-	Coppice dunes: active / relict	-	Soil development	50	% Granule ≥ 2 – 4 mm
-	Deflated surface	+	Surface rounding of landform	7	% Sand ≤ 2 mm
-	Pavement	+	Woody debris in place	-	% Silt/Clay Fines
Other:					

Fluvial Indicators

-	Bars: sand / gravel	-	Mud: cracks / curls / drapes	-	Sediment tails: sand / gravel
-	Cut banks	-	Organic drift	-	Vegetation-channel alignment
-	Drainage swales	-	Overturned rocks	-	Water-cut benches
-	Exposed roots	-	Scour	-	Wrack
-	First-order streams	-	Sediment ramps: sand / gravel	-	Wrinkle marks
-	Flow lineations	-	Sediment sorting		
Other:					

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): <div style="font-size: 1.5em; text-align: center;">8%</div>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <i>Beldia juncea</i> 5% <i>Ambrosia Salvia</i> 3%	Representative height and width of dominant and co-dominant species: <div style="text-align: center;"> 2-3' H 1-3' W </div>
---	--	---

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

N/A

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

N/A

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (-) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators			Substrate Particle Size	
<input checked="" type="checkbox"/> Bar forms: sand / gravel	<input checked="" type="checkbox"/> Secondary channels	Estimated percentages		
<input checked="" type="checkbox"/> Bifurcated flow	<input checked="" type="checkbox"/> Sediment plastering	% Bedrock / Cemented substrate		
<input checked="" type="checkbox"/> Drainage swales	<input checked="" type="checkbox"/> Sediment ramps: sand / gravel	% Boulder	≥ 256 mm	
<input checked="" type="checkbox"/> Flow lineations	<input checked="" type="checkbox"/> Sediment sheets: sand / gravel	% Cobble	≥ 64 – 256 mm	
<input checked="" type="checkbox"/> Imbricated gravel	<input checked="" type="checkbox"/> Sediment sorting	% Pebble	≥ 4 – 64 mm	
<input checked="" type="checkbox"/> Levee ridges: sand / gravel	<input checked="" type="checkbox"/> Sediment tails: sand / gravel	% Granule	≥ 2 – 4 mm	
<input checked="" type="checkbox"/> Mud: cracks / curls / drapes	<input checked="" type="checkbox"/> Vegetation-channel alignments	% Sand	≤ 2 mm	
<input checked="" type="checkbox"/> Organic drift	<input checked="" type="checkbox"/> Wrack	% Silt/Clay	Fines	
<input checked="" type="checkbox"/> Overturned rocks	<input checked="" type="checkbox"/> Wrinkle marks			
<input checked="" type="checkbox"/> Out-of-channel flow: Lateral floodplain / Terminal floodplain				
<input checked="" type="checkbox"/> Ripples				
<input checked="" type="checkbox"/> Other:				

N/A

Erosion Indicators

<input checked="" type="checkbox"/> Cut banks	<input checked="" type="checkbox"/> Rills	<input checked="" type="checkbox"/> Water-cut benches
<input checked="" type="checkbox"/> Exposed roots	<input checked="" type="checkbox"/> Scour	<input checked="" type="checkbox"/> Water level mark
<input checked="" type="checkbox"/> Headcuts	<input checked="" type="checkbox"/> Secondary channels	
<input checked="" type="checkbox"/> Other:		

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined): <div style="text-align: center; font-size: 1.5em;">N/A</div>	Dominant and co-dominant species (if known) and % of total vegetative cover of each: <div style="text-align: center; font-size: 1.5em;">N/A</div>	Representative height and width of dominant and co-dominant species: <div style="text-align: center; font-size: 1.5em;">N/A</div>
--	--	--

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

—

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

—

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

—



Attachment D

Photo Documentation



PP-1: Northwest-Facing View. Relic swale, fluvial inactivity. Past disturbance shown between 1996 and 2002 (Google Earth 2020). See Mesa Data Sheet (MDS)-1.



PP-2: North-Facing View (upstream) of ephemeral (compound) active floodplain, low flow channel in foreground. See MDS-2 and Ordinary High Water Mark Data Sheet (ODP)-1.



PP-3: Northwest-Facing View of ephemeral (compound) active alluvial floodplain located west of gravel road. See MDS-3.



PP-4: Northwest-Facing View (upstream) of NWW-1, a low flow (single thread) ephemeral channel and adjacent relic dunes. See MDS-4 and ODP-2.

	
<p>PP-5: East-Facing View (downstream) of ephemeral (compound) active alluvial floodplain, with low flow channel in foreground. See MDS-5 and ODP-3.</p>	<p>PP-6: Southeast-Facing View (downstream) of NWW-2a, a low flow (single thread) channel. See MDS-6 and ODP-4.</p>
	
<p>PP-7: Southeast-Facing View of low topographic feature; fluvial inactivity. Relic/Abandoned feature now displaying game trails, bioturbation, and lack of hydrologic indicators. See MDS-7.</p>	<p>PP-8: Northwest-Facing View of low topographic feature; fluvial inactivity. Relic/Abandoned feature with surface rounding and lack of hydrologic indicators. See MDS-8.</p>



PP-9: Southeast-Facing View of low topographic feature; fluvial inactivity. Relic/Abandoned feature with bioturbation, surface rounding and lack of hydrologic indicators. See MDS-9.



PP-10: Northwest-Facing View of low topographic feature; fluvial inactivity. Relic/Abandoned feature with bioturbation, surface rounding and lack of hydrologic indicators. See MDS-10.



PP-11: North-Facing View of low topographic feature; fluvial inactivity. Relic/Abandoned feature with bioturbation, surface rounding, and lack of hydrologic indicators. See MDS-11.



PP-12: Northwest-Facing View (upstream) of ephemeral (compound) active floodplain with uplands in background. See MDS-12.



PP-13: North-Facing View of low topographic feature; fluvial inactivity. Relic/Abandoned feature with surface rounding and lack of hydrologic indicators. See MDS-13.



PP-14: Northwest-Facing View of low topographic feature; fluvial inactivity. Relic/Abandoned feature with surface rounding and lack of hydrologic indicators. See MDS-14.



PP-15: Northwest-Facing View of low topographic feature; fluvial inactivity. Relic/Abandoned feature with surface rounding and lack of hydrologic indicators. See MDS-15.



PP-16: East-Facing View (downstream) of NWW-2b, a low flow (single thread) channel with defined bed and bank, shelving, and sediment deposition. See MDS-16 and ODP-5.



PP-17: West-Facing View of uplands; fluvial inactivity with upland indicators including bioturbation, woody debris in place, and lack of hydrologic indicators. See MDS-17.

Appendix G

Golden Eagle Morality Report

Golden Eagle Mortality Report

Date eagle found: May 6, 2020 by biologists contracted by AES Corporation.

Date eagle recovered: May 8, 2020 by Peter Sanzenbacher with U.S. Fish and Wildlife Service.

Exact location found and recovered: 33.909780°; -116.623920° (Garmin GPS; decimal degrees, NAD 83).

Location description: The golden eagle mortality was found approximately 9 miles east of Cabazon at the Mountain View Wind Project in the San Gorgonio Wind Resource Area, Riverside County, California. The eagle was found approximately 25 meters to the east-southeast of the nearest wind turbine (Turbine M71-10), an operational Mitsubishi 600 kW model turbine with a 60-meter hub height, and approximately 30 meters from the nearest access road. The eagle was in an area of rocky creosote scrub habitat that was similar to surrounding areas.

Condition of the eagle when recovered: The carcass was intact with no signs of scavenging. The carcass was highly desiccated, indicating that the mortality likely occurred multiple weeks prior to detection. The eagle was positioned on its back when found.

The eagle did not have any identifying markers. i.e., no leg band, patagial tag, etc.

Age: Adult based on plumage (photos examined by Todd Katzner [USGS]).

Sex: Male based on general size evaluation, but no morphometrics taken.

Narrative and chain of custody:

May 6, 2020 - Biologists conducting survey work for AES Corporation (AES) at one of its Mountain View Wind Projects in the San Gorgonio Wind Resource Area found a dead golden eagle. The biologists reported the eagle to site personnel. The eagle was left in place and covered with a wooden box to prevent scavenging or other disturbance.

May 7, 2020 - Monica Dick, Environmental Specialist with AES, contacted the U.S. Fish and Wildlife Service (Service) to report the dead eagle and spoke with Tom Dietsch of the Service's Office of Migratory Birds. Dr. Dietsch reported the dead eagle to Glenn Yeck with the Service's Office of Law Enforcement (OLE) and then coordinated with Peter Sanzenbacher with the Palm Spring Fish and Wildlife Office to retrieve the eagle.

May 8, 2020 – Mr. Sanzenbacher requested and received written permission from Dan Crum at OLE and Clark Winchell at the Carlsbad Fish and Wildlife Office to go into the field and retrieve the dead eagle. Driving in separate vehicles, Mr. Sanzenbacher and Jesse Lopez, Team Leader Operations with AES, arrived at the location of the eagle. Mr. Sanzenbacher recorded the GPS location of the eagle, took photos, and then placed the eagle in a cooler and departed the site.

Mr. Sanzenbacher contacted Krysta Rogers of the California Department of Fish and Wildlife – Wildlife Investigations Unit (CDFW) and coordinated shipping the eagle to Ms. Rogers for examination.

Mr. Sanzenbacher attached a Service 'Eagle Recovery Tag' (#00510) to the eagle.

May 12, 2020 –Mr. Sanzenbacher shipped the eagle FedEx overnight to Ms. Rogers at CDFW. Following examination Ms. Rogers will ship the eagle remains to the Service's National Eagle Repository in Denver, Colorado for final disposition.

Maps: GoogleEarth imagery



Figure 1. Overview map of location of golden eagle mortality at the Mountain View Wind Project found on May 6 and recovered on May 8, 2020.

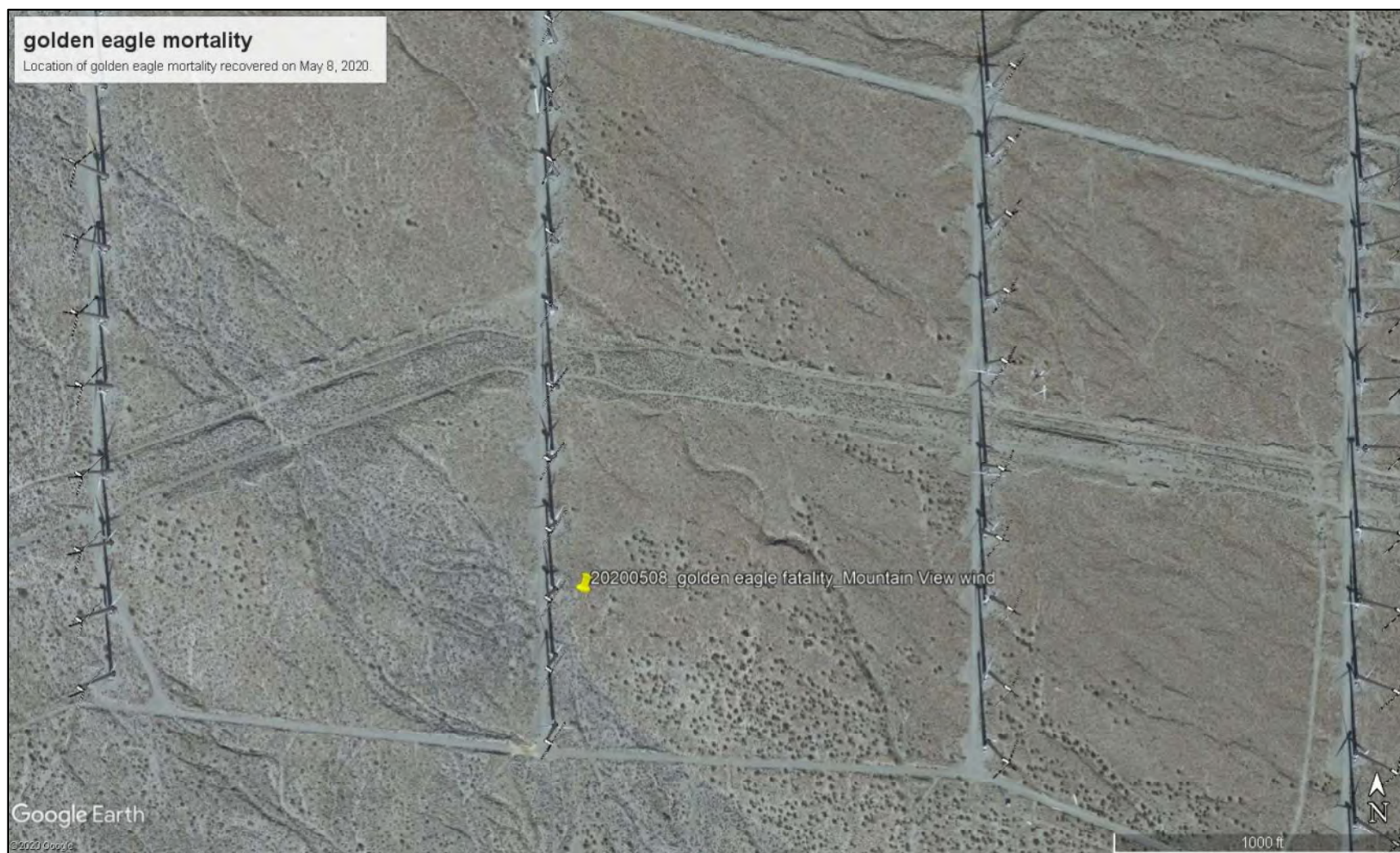


Figure 2. Location of golden eagle mortality at the Mountain View Wind Project found on May 6 and recovered on May 8, 2020.

Photos: See below (compressed versions). Full-resolution copies of photos provided to Tom Dietsch.



Figure 3. Golden eagle mortality as found at the Mountain View Wind Project on May 6, 2020.



Figure 4. Golden eagle mortality as found facing nearest turbine to west-northwest at the Mountain View Wind Project on May 6, 2020.



Figure 5. Full view of golden eagle mortality found at the Mountain View Wind Project on May 6, 2020.



Figure 6. Head view of golden eagle mortality found at the Mountain View Wind Project on May 6, 2020.



Figure 7. Spread wing of golden eagle mortality found at the Mountain View Wind Project on May 6, 2020.



Figure 8. Spread tail of golden eagle mortality found at the Mountain View Wind Project on May 6, 2020.

Appendix H

Compendium of Plant Species Observed

Vascular Species

Eudicots

APOCYNACEAE—DOGBANE

Funastrum cynanchoides var. *hartwegii*—Hartweg's twinevine

* *Nerium oleander*—oleander

ASTERACEAE—SUNFLOWER

Acamptopappus sphaerocephalus—rayless goldenhead

Ambrosia acanthicarpa—flatspine bur ragweed

Ambrosia dumosa—white bursage

Ambrosia salsola—cheesebush

Bebbia juncea—sweetbush

Brickellia desertorum—desert brickellbush

Chaenactis fremontii—pincushion flower

Chaenactis glabriuscula—yellow pincushion

Chaenactis stevioides—Esteve's pincushion

Dicoria canescens—desert twinbugs

Encelia actoni—Acton's brittle brush

Encelia farinosa—brittle bush

Erigeron sp.—fleabane

Isocoma acradenia—alkali goldenbush

* *Lactuca serriola*—prickly lettuce

Logfia depressa—dwarf cottonrose

Malacothrix glabrata—smooth desertdandelion

* *Oncosiphon piluliferum*—stinknet

Palafoxia arida—desert palafox

Psathyrotes ramosissima—velvet turtleback

Rafinesquia neomexicana—New Mexico plumeseed

Stephanomeria pauciflora—brownplume wirelettuce

BIGNONIACEAE—BIGNONIA

Chilopsis linearis—desert-willow

BORAGINACEAE—BORAGE

Amsinckia tessellata—bristly fiddleneck

Cryptantha angustifolia—Panamint cryptantha

Cryptantha barbigera—bearded cryptantha

Cryptantha circumscissa—cushion cryptantha

Cryptantha intermedia—Clearwater cryptantha
Cryptantha micrantha—redroot cryptantha
Pectocarya linearis—sagebrush combseed
Pectocarya penicillata—sleeping combseed
Pectocarya recurvata—curvenut combseed
Tiquilia plicata—fanleaf crinklemat

BRASSICACEAE—MUSTARD

* *Brassica tournefortii*—Tournefort's mustard

CACTACEAE—CACTUS

Cylindropuntia echinocarpa—Wiggins' cholla
Echinocereus engelmannii—Engelmann's hedgehog cactus
Ferocactus cylindraceus—California barrel cactus

CARYOPHYLLACEAE—PINK

Loeflingia squarrosa—spreading pygmyleaf

CHENOPODIACEAE—GOOSEFOOT

Atriplex canescens—fourwing saltbush
* *Salsola paulsenii*—barbwire Russian thistle

CLEOMACEAE—CLEOME

Peritoma arborea—bladderpod

CRASSULACEAE—STONECROP

Crassula connata—sand pygmyweed

EUPHORBIACEAE—SPURGE

Croton californicus—California croton
Ditaxis serrata var. *serrata*—Yuma silverbush
Euphorbia polycarpa—smallseed sandmat
Stillingia linearifolia—queen's-root

FABACEAE—LEGUME

Acmispon glaber—deer weed
Acmispon strigosus—strigose bird's-foot trefoil
Parkinsonia florida—blue palo verde
Prosopis glandulosa—honey mesquite
Psoralea argophylla var. *simplicifolia*—Mojave indigobush
Psoralea argophylla—dyebrush
Senegalia greggii—catclaw acacia

GERANIACEAE—GERANIUM

- * *Erodium cicutarium*—redstem stork's bill

KRAMERIACEAE—RHATANY

- Krameria bicolor*—white ratany
Krameria erecta—littleleaf ratany

LAMIACEAE—MINT

- Salvia columbariae*—chia

LOASACEAE—LOASA

- Petalonyx thurberi* ssp. *thurberi*—Thurber's sandpaper plant

NYCTAGINACEAE—FOUR O'CLOCK

- Abronia villosa* var. *villosa*—desert sand verbena
Mirabilis laevis—desert wishbone-bush

ONAGRACEAE—EVENING PRIMROSE

- Camissoniopsis pallida*—paleyellow suncup
Eulobus californicus—California suncup

PAPAVERACEAE—POPPY

- Eschscholzia minutiflora*—pygmy poppy

PLANTAGINACEAE—PLANTAIN

- Plantago ovata*—desert Indianwheat

POLEMONIACEAE—PHLOX

- Eriastrum diffusum*—miniature woollystar
Eriastrum eremicum—desert woollystar
Loeseliastrum schottii—Schott's calico

POLYGONACEAE—BUCKWHEAT

- Chorizanthe brevicornu* var. *brevicornu*—brittle spineflower
Eriogonum deflexum—flatcrown buckwheat
Eriogonum fasciculatum var. *polifolium*—California buckwheat
Eriogonum inflatum—desert trumpet
Eriogonum pusillum—yellowturbans
Eriogonum reniforme—kidneyleaf buckwheat
Eriogonum sp.—buckwheat
Rumex sp.—no common name

RUTACEAE—RUE

Thamnosma montana—turpentinebroom

SOLANACEAE—NIGHTSHADE

Datura wrightii—sacred thorn-apple

Lycium andersonii—Anderson’s boxthorn

Physalis crassifolia—yellow nightshade groundcherry

TAMARICACEAE—TAMARISK

* *Tamarix aphylla*—Athel tamarisk

ZYGOPHYLLACEAE—CALTROP

Larrea tridentata—creosote bush

Gymnosperms and Gnetophytes

EPHEDRACEAE—EPHEDRA

Ephedra californica—California joint fir

Monocots

AGAVACEAE—AGAVE

Hesperoyucca whipplei—chaparral yucca

Yucca schidigera—Mojave yucca

POACEAE—GRASS

* *Bromus rubens*—red brome

* *Bromus tectorum*—cheatgrass

Hilaria rigida—big galleta grass

* *Hordeum murinum*—mouse barley

* *Pennisetum setaceum*—fountain grass

* *Schismus barbatus*—common Mediterranean grass

Stipa hymenoides—Indian rice grass

* signifies introduced (non-native) species

Appendix I

Compendium of Wildlife Species Observed

Birds

Cardinals, Grosbeaks and Allies

CARDINALIDAE—CARDINALS AND ALLIES

Pheucticus melanocephalus—black-headed grosbeak

Piranga ludoviciana—western tanager

Cormorants

PHALACROCORACIDAE—CORMORANTS

Phalacrocorax auritus—double-crested cormorant

Falcons

FALCONIDAE—CARACARAS AND FALCONS

Falco mexicanus—prairie falcon

Falco sparverius—American kestrel

Finches

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Flycatchers

TYRANNIDAE—TYRANT FLYCATCHERS

Myiarchus cinerascens—ash-throated flycatcher

Sayornis saya—Say's phoebe

Tyrannus verticalis—western kingbird

Goatsuckers

CAPRIMULGIDAE—GOATSUCKERS

Chordeiles acutipennis—lesser nighthawk

Hawks

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii—Cooper's hawk

Aquila chrysaetos—golden eagle

Buteo jamaicensis—red-tailed hawk

Buteo swainsoni—Swainson's hawk

PANDIONIDAE—OSPREYS

Pandion haliaetus—osprey

Hérons and Bitterns

ARDEIDAE—HERONS, BITTERNS, AND ALLIES

Ardea alba—great egret

Hummingbirds

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna’s hummingbird

Calypte costae—Costa’s hummingbird

Jays, Magpies and Crows

CORVIDAE—CROWS AND JAYS

Corvus corax—common raven

Kinglets

REGULIDAE—KINGLETS

Regulus calendula—ruby-crowned kinglet

Larks

ALAUDIDAE—LARKS

Eremophila alpestris—horned lark

Mockingbirds and Thrashers

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird

Oreoscoptes montanus—sage thrasher

New World Vultures

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

Old World Warblers and Gnatcatchers

POLIOPTILIDAE—GNATCATCHERS

Poliioptila caerulea—blue-gray gnatcatcher

Owls

TYTONIDAE—BARN OWLS

Tyto alba—barn owl

STRIGIDAE—TYPICAL OWLS

Athene cunicularia—burrowing owl

Roadrunners and Cuckoos

CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus—greater roadrunner

Shrikes

LANIIDAE—SHRIKES

Lanius ludovicianus—loggerhead shrike

Swallows

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow

Tachycineta bicolor—tree swallow

Swifts

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

Terns and Gulls

LARIDAE—GULLS, TERNS, AND SKIMMERS

Larus californicus—California gull

Verdin

REMIZIDAE—PENDULINE TITS AND VERDINS

Auriparus flaviceps—verdin

Vireos

VIREONIDAE—VIREOS

Vireo gilvus—warbling vireo

Waterfowl

ANATIDAE—DUCKS, GEESE, AND SWANS

Branta canadensis—Canada goose

Wood Warblers and Allies

PARULIDAE—WOOD-WARBLERS

Setophaga coronata—yellow-rumped warbler

Setophaga nigrescens—black-throated gray warbler

Wrens

TROGLODYTIDAE—WRENS

Salpinctes obsoletus—rock wren

New World Sparrows

PASSERELLIDAE—NEW WORLD SPARROWS

Amphispiza bilineata—black-throated sparrow

Passerculus sandwichensis—savannah sparrow

Pooecetes gramineus—vesper sparrow

Spizella breweri—Brewer's sparrow

Spizella passerina—chipping sparrow

Zonotrichia leucophrys—white-crowned sparrow

Mammals

Canids

CANIDAE—WOLVES & FOXES

Canis latrans—coyote

Hares and Rabbits

LEPORIDAE—HARES AND RABBITS

Lepus californicus—black-tailed jackrabbit

Sylvilagus audubonii—desert cottontail

Kangaroo Rats

HETEROMYIDAE—POCKET MICE AND KANGAROO RATS

Dipodomys sp.—kangaroo rat

Squirrels

SCIURIDAE—SQUIRRELS

Ammospermophilus leucurus—white-tailed antelope squirrel

Spermophilus (Xerospermophilus) tereticaudus chlorus—Palm Springs round-tailed ground squirrel

Rats, Mice, and Voles

CRICETIDAE—RATS, MICE, AND VOLES

Neotoma lepida—desert woodrat

Reptiles

Lizards

PHRYNOSOMATIDAE—IGUANID LIZARDS

Callisaurus draconoides—zebra-tailed lizard

Phrynosoma platyrhinos—desert horned lizard

Uta stansburiana—common side-blotched lizard

TEIIDAE—WHIPTAIL LIZARDS

Aspidoscelis tigris—tiger whiptail

CROTAPHYTIDAE—COLLARED LIZARDS

Gambelia wislizenii—long-nosed leopard lizard

Crotaphytus sp.—collared lizard

IGUANIDAE—IGUANAS

Dipsosaurus dorsalis—desert iguana

Snakes

COLUBRIDAE—COLUBRID SNAKES

Coluber flagellum—coachwhip

Arizona elegans occidentalis—California glossy snake

VIPERIDAE—VIPERS

Crotalus cerastes—sidewinder

Crotalus oreganus—western rattlesnake

Crotalus ruber—red diamond rattlesnake

INTENTIONALLY LEFT BLANK

Appendix J

Special-Status Plant Species Not Expected or
Low Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR/CVMSHCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	None/None/1B.1/None	Chaparral, Coastal scrub, Desert dunes; sandy/ annual herb/ (Jan)Mar–Sep/ 245–5,245	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity. ¹
<i>Acmispon haydonii</i>	pygmy lotus	None/None/1B.3/None	Pinyon and juniper woodland, Sonoran desert scrub; rocky/ perennial herb/ Jan–June/ 1,705–3,935	Not expected to occur. The site is outside of the species’ known elevation range.
<i>Allium marvinii</i>	Yucaipa onion	None/None/1B.2/None	Chaparral (clay, openings)/ perennial bulbiferous herb/ Apr–May/ 2,490–3,490	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Almutaster pauciflorus</i>	alkali marsh aster	None/None/2B.2/None	Meadows and seeps; alkaline/ perennial herb/ June–Oct/ 785–2,620	Not expected to occur. No suitable vegetation present.
<i>Aloysia wrightii</i>	Wright’s beebrush	None/None/4.3/None	Joshua tree woodland, Pinyon and juniper woodland; rocky, often carbonate/ perennial evergreen shrub/ Apr–Oct/ 2,950–5,245	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present. This species occurs within the vicinity ¹ .
<i>Ambrosia monogyra</i>	singlewhorl burrobrush	None/None/2B.2/None	Chaparral, Sonoran desert scrub; sandy/ perennial shrub/ Aug–Nov/ 30–1,640	Low potential to occur. This perennial shrub species would have been observed during rare plant surveys conducted in April/May 2020 if present.
<i>Antennaria marginata</i>	white-margined everlasting	None/None/2B.3/None	Lower montane coniferous forest, Upper montane coniferous forest/ perennial stoloniferous herb/ May–Aug/ 6,955–11,000	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Arenaria lanuginosa</i> var. <i>saxosa</i>	rock sandwort	None/None/2B.3/None	Subalpine coniferous forest, Upper montane coniferous forest; mesic, sandy/ perennial herb/ July–Aug/ 4,770–8,530	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Astragalus hornii</i> var. <i>hornii</i>	Horn’s milk-vetch	None/None/1B.1/None	Meadows and seeps, Playas; lake margins, alkaline/ annual herb/ May–Oct/ 195–2,785	Not expected to occur. No suitable vegetation present.
<i>Astragalus lentiginosus</i> var. <i>borreganus</i>	Borrego milk-vetch	None/None/4.3/None	Mojavean desert scrub, Sonoran desert scrub; sandy/ annual herb/ Feb–May/ 95–2,935	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present.
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milk-vetch	FE/None/1B.2/Covered	Desert dunes, Sonoran desert scrub (sandy)/ annual / perennial herb/ Feb–May/ 130–2,145	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity ¹ .
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger’s bush milk-vetch	None/None/1B.1/None	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; sandy or rocky/ perennial shrub/ Dec–June/ 1,195–3,195	Not expected to occur. No suitable vegetation present.
<i>Astragalus tricarinatus</i>	triple-ribbed milk-vetch	FE/None/1B.2/Covered	Joshua tree woodland, Sonoran desert scrub; sandy or gravelly/ perennial herb/ Feb–May/ 1,475–3,900	Not expected to occur. The site is outside of the species’ known elevation range. This species occurs within the vicinity. ¹
<i>Atriplex parishii</i>	Parish’s brittlescale	None/None/1B.1/None	Chenopod scrub, Playas, Vernal pools; alkaline/ annual herb/ June–Oct/ 80–6,230	Not expected to occur. No suitable vegetation present.
<i>Ayenia compacta</i>	California ayenia	None/None/2B.3/None	Mojavean desert scrub, Sonoran desert scrub; rocky/ perennial herb/ Mar–Apr/ 490–3,590	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present.
<i>Boechera johnstonii</i>	Johnston’s rockcress	None/None/1B.2/None	Chaparral, Lower montane coniferous forest; often on eroded clay/ perennial herb/ Feb–June/ 4,425–7,050	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Boechera lincolniensis</i>	Lincoln rockcress	None/None/2B.3/None	Chenopod scrub, Mojavean desert scrub; carbonate/ perennial herb/ Mar–May/ 3,605–8,870	Not expected to occur. The site is outside of the species’ known elevation range.
<i>Boechera parishii</i>	Parish’s rockcress	None/None/1B.2/None	Pebble (Pavement) plain, Pinyon and juniper woodland, Upper montane coniferous forest; rocky, quartzite on clay, or sometimes carbonate/ perennial herb/ Apr–May/ 5,805–9,805	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Boechera peirsonii</i>	San Bernardino rockcress	None/None/1B.2/None	Subalpine coniferous forest (rocky)/ perennial herb/ Mar–Aug/ 8,855–10,495	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Botrychium crenulatum</i>	scalloped moonwort	None/None/2B.2/None	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps (freshwater), Upper montane coniferous forest/ perennial rhizomatous herb/ June–Sep/ 4,160–10,760	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Calochortus palmeri</i> var. <i>munzii</i>	San Jacinto mariposa lily	None/None/1B.2/None	Chaparral, Lower montane coniferous forest, Meadows and seeps/ perennial bulbiferous herb/ Apr–July/ 2,805–7,215	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/CRPR/CVMSHCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa lily	None/None/1B.2/None	Chaparral, Lower montane coniferous forest, Meadows and seeps; mesic/ perennial bulbiferous herb/ Apr–July/ 2,325–7,840	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Calochortus</i> <i>plummerae</i>	Plummer's mariposa lily	None/None/4.2/None	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland; granitic, rocky/ perennial bulbiferous herb/ May–July/ 325–5,575	Not expected to occur. No suitable vegetation present.
<i>Carex occidentalis</i>	western sedge	None/None/2B.3/None	Lower montane coniferous forest, Meadows and seeps/ perennial rhizomatous herb/ June–Aug/ 5,395–10,285	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's- clover	None/None/1B.2/None	Chaparral, Meadows and seeps, Pebble (Pavement) plain, Riparian woodland, Upper montane coniferous forest; mesic/ annual herb (hemiparasitic)/ May–Aug/ 4,265–7,840	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Castilleja montigena</i>	Heckard's paintbrush	None/None/4.3/None	Lower montane coniferous forest, Pinyon and juniper woodland, Upper montane coniferous forest/ perennial herb (hemiparasitic)/ May–Aug/ 6,395–9,185	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Caulanthus simulans</i>	Payson's jewelflower	None/None/4.2/None	Chaparral, Coastal scrub; sandy, granitic/ annual herb/ (Feb)Mar–May(June)/ 295–7,215	Not expected to occur. No suitable vegetation present.
<i>Chaenactis parishii</i>	Parish's chaenactis	None/None/1B.3/None	Chaparral (rocky)/ perennial herb/ May–July/ 4,265–8,200	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Chorizanthe leptotheca</i>	Peninsular spineflower	None/None/4.2/None	Chaparral, Coastal scrub, Lower montane coniferous forest; alluvial fan, granitic/ annual herb/ May–Aug/ 980–6,230	Not expected to occur. No suitable vegetation present.
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	None/None/1B.1/None	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; sandy or rocky, openings/ annual herb/ Apr–June/ 900–4,000	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	white-bracted spineflower	None/None/1B.2/None	Coastal scrub (alluvial fans), Mojavean desert scrub, Pinyon and juniper woodland; sandy or gravelly/ annual herb/ Apr–June/ 980–3,935	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity ¹ .
<i>Cordylanthus eremicus</i> ssp. <i>eremicus</i>	desert bird's- beak	None/None/4.3/None	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland/ annual herb (hemiparasitic)/ July–Oct/ 3,280–9,840	Not expected to occur. The site is outside of the species' known elevation range.
<i>Cuscuta californica</i> var. <i>apiculata</i>	pointed dodder	None/None/3/None	Mojavean desert scrub, Sonoran desert scrub; sandy/ annual vine (parasitic)/ Feb–Aug/ 0–1,640	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present.
<i>Deinandra mohavensis</i>	Mojave tarplant	None/SE/1B.3/None	Chaparral, Coastal scrub, Riparian scrub; mesic/ annual herb/ (May)June–Oct(Jan)/ 2,095–5,245	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Delphinium parishii</i> ssp. <i>subglobosum</i>	Colorado Desert larkspur	None/None/4.3/None	Chaparral, Cismontane woodland, Pinyon and juniper woodland, Sonoran desert scrub/ perennial herb/ Mar–June/ 1,965–5,905	Not expected to occur. The site is outside of the species' known elevation range.
<i>Delphinium parryi</i> ssp. <i>purpureum</i>	Mt. Pinos larkspur	None/None/4.3/None	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland/ perennial herb/ May– June/ 3,280–8,530	Not expected to occur. The site is outside of the species' known elevation range.
<i>Diplacus johnstonii</i>	Johnston's monkeyflower	None/None/4.3/None	Lower montane coniferous forest (scree, disturbed areas, rocky or gravelly, roadside)/ annual herb/ (Apr)May–Aug/ 3,195–9,580	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present. This species occurs within the vicinity ¹ .
<i>Dodecahema</i> <i>leptoceras</i>	slender-horned spineflower	FE/SE/1B.1/None	Chaparral, Cismontane woodland, Coastal scrub (alluvial fan); sandy/ annual herb/ Apr– June/ 655–2,490	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
<i>Draba saxosa</i>	Southern California rock draba	None/None/1B.3/None	Alpine boulder and rock field, Subalpine coniferous forest, Upper montane coniferous forest; rocky/ perennial herb/ June–Sep/ 8,005–11,810	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Eriastrum harwoodii</i>	Harwood's eriastrum	None/None/1B.2/None	Desert dunes/ annual herb/ Mar–June/ 410–3,000	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity. ¹
<i>Erigeron breweri</i> var. <i>jacinteus</i>	San Jacinto Mountains daisy	None/None/4.3/None	Subalpine coniferous forest, Upper montane coniferous forest; rocky/ perennial rhizomatous herb/ June–Sep/ 8,855–9,510	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
<i>Erigeron parishii</i>	Parish's daisy	FT/None/1B.1/None	Mojavean desert scrub, Pinyon and juniper woodland; usually carbonate, sometimes granitic/ perennial herb/ May–Aug/ 2,620–6,560	Not expected to occur. The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/State/CRPR/CVMSHCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Eriogonum kennedyi</i> var. <i>alpigenum</i>	southern alpine buckwheat	None/None/1B.3/None	Alpine boulder and rock field, Subalpine coniferous forest; granitic, gravelly/ perennial herb/ July–Sep/ 8,530–11,480	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Erythranthe diffusa</i>	Palomar monkeyflower	None/None/4.3/None	Chaparral, Lower montane coniferous forest; sandy or gravelly/ annual herb/ Apr–June/ 4,000–6,000	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Eschscholzia androuxii</i>	Joshua Tree poppy	None/None/4.3/None	Joshua tree woodland, Mojavean desert scrub; Desert washes, flats, and slopes; sandy, gravelly, and/ or rocky/ annual herb/ Feb–May (June)/ 1,915–5,525	Not expected to occur. The site is outside of the species’ known elevation range. This species occurs within the vicinity ¹ .
<i>Euphorbia arizonica</i>	Arizona spurge	None/None/2B.3/None	Sonoran desert scrub (sandy)/ perennial herb/ Mar–Apr/ 160–985	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present.
<i>Euphorbia misera</i>	cliff spurge	None/None/2B.2/None	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; rocky/ perennial shrub/ Dec–Aug (Oct)/ 30–1,640	Low potential to occur. This perennial shrub species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity ¹ .
<i>Euphorbia platysperma</i>	flat-seeded spurge	None/None/1B.2/None	Desert dunes, Sonoran desert scrub (sandy)/ annual herb/ Feb–Sep/ 210–330	Not expected to occur. The site is outside of the species’ known elevation range.
<i>Galium angustifolium</i> ssp. <i>gracillimum</i>	slender bedstraw	None/None/4.2/None	Joshua tree woodland, Sonoran desert scrub; granitic, rocky/ perennial herb/ Apr–June (July)/ 425–5,085	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present.
<i>Galium angustifolium</i> ssp. <i>jacinticum</i>	San Jacinto Mountains bedstraw	None/None/1B.3/None	Lower montane coniferous forest/ perennial herb/ June–Aug/ 4,425–6,885	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Galium californicum</i> ssp. <i>primum</i>	Alvin Meadow bedstraw	None/None/1B.2/None	Chaparral, Lower montane coniferous forest; granitic, sandy/ perennial herb/ May–July/ 4,425–5,575	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Gentiana fremontii</i>	Fremont’s gentian	None/None/2B.3/None	Meadows and seeps (mesic), Upper montane coniferous forest/ annual herb/ June–Aug/ 7,870–8,855	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Gilia leptantha</i> ssp. <i>leptantha</i>	San Bernardino gilia	None/None/1B.3/None	Lower montane coniferous forest (sandy or gravelly)/ annual herb/ June–Aug/ 4,920–8,395	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Heuchera hirsutissima</i>	shaggy-haired alumroot	None/None/1B.3/None	Subalpine coniferous forest, Upper montane coniferous forest; rocky, granitic/ perennial rhizomatous herb/ (May) June–July/ 4,985–11,480	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Heuchera parishii</i>	Parish’s alumroot	None/None/1B.3/None	Alpine boulder and rock field, Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest; rocky, sometimes carbonate/ perennial rhizomatous herb/ June–Aug/ 4,920–12,465	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	None/None/1B.1/None	Chaparral (maritime), Cismontane woodland, Coastal scrub; sandy or gravelly/ perennial herb/ Feb–July (Sep)/ 225–2,655	Not expected to occur. No suitable vegetation present.
<i>Hulsea vestita</i> ssp. <i>callicarpha</i>	beautiful hulsea	None/None/4.2/None	Chaparral, Lower montane coniferous forest; rocky or gravelly, granitic/ perennial herb/ May–Oct/ 3,000–10,005	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Hulsea vestita</i> ssp. <i>parryi</i>	Parry’s sunflower	None/None/4.3/None	Lower montane coniferous forest, Pinyon and juniper woodland, Upper montane coniferous forest; granitic or carbonate, rocky, openings/ perennial herb/ Apr–Aug/ 4,490–9,495	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Hulsea vestita</i> ssp. <i>pygmaea</i>	pygmy hulsea	None/None/1B.3/None	Alpine boulder and rock field, Subalpine coniferous forest; granitic, gravelly/ perennial herb/ June–Oct/ 9,300–12,795	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Imperata brevifolia</i>	California satintail	None/None/2B.1/None	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps (often alkali), Riparian scrub; mesic/ perennial rhizomatous herb/ Sep–May/ 0–3,985	Low potential to occur. This perennial species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity. ¹
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	silver-haired ivesia	None/None/1B.2/None	Meadows and seeps (alkaline), Pebble (Pavement) plain, Upper montane coniferous forest/ perennial herb/ (May) June–Aug/ 4,795–9,710	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Ivesia callida</i>	Tahquitz ivesia	None/SR/1B.3/None	Upper montane coniferous forest (granitic, rocky)/ perennial herb/ July–Sep/ 7,905–8,035	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Johnstonella costata</i>	ribbed cryptantha	None/None/4.3/None	Desert dunes, Mojavean desert scrub, Sonoran desert scrub; sandy/ annual herb/ Feb–May/ -,200–1,640	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present.

Scientific Name	Common Name	Status (Federal/State/CRPR/CVMSHCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Johnstonella holoptera</i>	winged cryptantha	None/None/4.3/None	Mojavean desert scrub, Sonoran desert scrub/ annual herb/ Mar–Apr/ 325–5,540	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present.
<i>Juncus duranii</i>	Duran’s rush	None/None/4.3/None	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest; mesic/ perennial rhizomatous herb/ July–Aug/ 5,800–9,195	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Lilium parryi</i>	lemon lily	None/None/1B.2/None	Lower montane coniferous forest, Meadows and seeps, Riparian forest, Upper montane coniferous forest; mesic/ perennial bulbiferous herb/ July–Aug/ 4,000–9,005	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Linanthus jaegeri</i>	San Jacinto linanthus	None/None/1B.2/None	Subalpine coniferous forest, Upper montane coniferous forest; granitic, rocky/ perennial herb/ July–Sep/ 7,200–10,005	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Linanthus maculatus</i> ssp. <i>maculatus</i>	Little San Bernardino Mtns. linanthus	None/None/1B.2/Covered	Desert dunes, Joshua tree woodland, Mojavean desert scrub, Sonoran desert scrub; Sandy/ annual herb/ Mar–May/ 455–4,000	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity. ¹
<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	white bog adder’s-mouth	None/None/2B.1/None	Bogs and fens, Meadows and seeps, Upper montane coniferous forest; mesic/ perennial bulbiferous herb/ June, Aug/ 7,215–8,995	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Meesia triquetra</i>	three-ranked hump moss	None/None/4.2/None	Bogs and fens, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest (mesic); soil/ moss/ July/ 4,265–9,685	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Meesia uliginosa</i>	broad-nerved hump moss	None/None/2B.2/None	Bogs and fens, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest; damp soil/ moss/ July, Oct/ 3,965–9,195	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Mentzelia tricuspis</i>	spiny-hair blazing star	None/None/2B.1/None	Mojavean desert scrub; sandy, gravelly, slopes, and washes/ annual herb/ Mar–May/ 490–4,195	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity. ¹
<i>Monardella macrantha</i> ssp. <i>hallii</i>	Hall’s monardella	None/None/1B.3/None	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland/ perennial rhizomatous herb/ June–Oct/ 2,395–7,200	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Monardella nana</i> ssp. <i>leptosiphon</i>	San Felipe monardella	None/None/1B.2/None	Chaparral, Lower montane coniferous forest/ perennial rhizomatous herb/ June–July/ 3,935–6,085	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Monardella robisonii</i>	Robison’s monardella	None/None/1B.3/None	Pinyon and juniper woodland/ perennial rhizomatous herb/ (Feb)Apr–Sep(Oct)/ 2,000–4,920	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Muhlenbergia californica</i>	California muhly	None/None/4.3/None	Chaparral, Coastal scrub, Lower montane coniferous forest, Meadows and seeps; mesic, seeps and streambanks/ perennial rhizomatous herb/ June–Sep/ 325–6,560	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity ¹ .
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender cottonheads	None/None/2B.2/None	Coastal dunes, Desert dunes, Sonoran desert scrub/ annual herb/ (Mar)Apr–May/ -,165–1,310	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity. ¹
<i>Oreonana vestita</i>	woolly mountain-parsley	None/None/1B.3/None	Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest; gravel or talus/ perennial herb/ Mar–Sep/ 5,295–11,480	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Oxytropis oreophila</i> var. <i>oreophila</i>	rock-loving oxytrope	None/None/2B.3/None	Alpine boulder and rock field, Subalpine coniferous forest; gravelly or rocky/ perennial herb/ June–Sep/ 11,150–12,465	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Parnassia cirrata</i> var. <i>cirrata</i>	San Bernardino grass-of-Parnassus	None/None/1B.3/None	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest; mesic, streamsides, sometimes calcareous/ perennial herb/ Aug–Sep/ 4,100–8,005	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Penstemon clevelandii</i> var. <i>connatus</i>	San Jacinto beardtongue	None/None/4.3/None	Chaparral, Pinyon and juniper woodland, Sonoran desert scrub; rocky/ perennial herb/ Mar–May/ 1,310–4,920	Not expected to occur. The site is outside of the species’ known elevation range.
<i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i>	desert beardtongue	None/None/2B.2/None	Mojavean desert scrub, Sonoran desert scrub; often sandy washes, sometimes rocky/ perennial herb/ Jan–May/ 260–6,345	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity. ¹
<i>Petalonyx linearis</i>	narrow-leaf sandpaper-plant	None/None/2B.3/None	Mojavean desert scrub, Sonoran desert scrub; Sandy or rocky canyons/ perennial shrub/ (Jan–Feb) Mar–May (June–Dec)/ -80–3,655	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity. ¹

Scientific Name	Common Name	Status (Federal/State/CRPR/CVMSHCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Potentilla rimicola</i>	cliff cinquefoil	None/None/2B.3/None	Subalpine coniferous forest, Upper montane coniferous forest; granitic, rocky/ perennial herb/ July–Sep/ 7,870–9,185	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Saltugilia latimeri</i>	Latimer’s woodland-gilia	None/None/1B.2/None	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland; rocky or sandy, often granitic, sometimes washes/ annual herb/ Mar–June/ 1,310–6,230	Not expected to occur. The site is outside of the species’ known elevation range. This species occurs within the vicinity. ¹
<i>Sedum niveum</i>	Davidson’s stonecrop	None/None/4.2/None	Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest; rocky/ perennial rhizomatous herb/ June–Aug/ 6,805–9,840	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present. This species occurs within the vicinity. ¹
<i>Selaginella asprella</i>	bluish spike-moss	None/None/4.3/None	Cismontane woodland, Lower montane coniferous forest, Pinyon and juniper woodland, Subalpine coniferous forest, Upper montane coniferous forest; granitic, rocky/ perennial rhizomatous herb/ July/ 5,245–8,855	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Selaginella eremophila</i>	desert spike-moss	None/None/2B.2/None	Chaparral, Sonoran desert scrub (gravelly or rocky)/ perennial rhizomatous herb/ (May)June(July)/ 655–4,245	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present. This species occurs within the vicinity. ¹
<i>Sidalcea malviflora</i> ssp. <i>dolosa</i>	Bear Valley checkerbloom	None/None/1B.2/None	Lower montane coniferous forest (meadows and seeps), Meadows and seeps, Riparian woodland, Upper montane coniferous forest (meadows and seeps)/ perennial herb/ May–Aug/ 4,900–8,805	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Sidotheca caryophylloides</i>	chickweed oxytheca	None/None/4.3/None	Lower montane coniferous forest (sandy)/ annual herb/ July–Sep(Oct)/ 3,650–8,530	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Sidotheca emarginata</i>	white-margined oxytheca	None/None/1B.3/None	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland/ annual herb/ (Feb)Apr–July(Aug)/ 3,935–8,200	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Silene krantzii</i>	Krantz’s catchfly	None/None/1B.2/None	Alpine dwarf scrub; Usually sandy or gravelly, sometimes rocky/ perennial herb/ Apr–Sep/ 10,610–11,515	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Stemodia durantifolia</i>	purple stemodia	None/None/2B.1/None	Sonoran desert scrub (often mesic, sandy)/ perennial herb/ (Jan) Apr, June, Aug, Sep, Oct, Dec/ 590–985	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present.
<i>Streptanthus bernardinus</i>	Laguna Mountains jewelflower	None/None/4.3/None	Chaparral, Lower montane coniferous forest/ perennial herb/ May–Aug/ 2,195–8,200	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Streptanthus campestris</i>	southern jewelflower	None/None/1B.3/None	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland; rocky/ perennial herb/ (Apr)May–July/ 2,950–7,545	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	None/None/1B.2/None	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland (vernally mesic); near ditches, streams, springs/ perennial rhizomatous herb/ July–Nov(Dec)/ 5–6,690	Not expected to occur. No suitable vegetation present.
<i>Taraxacum californicum</i>	California dandelion	FE/None/1B.1/None	Meadows and seeps (mesic)/ perennial herb/ May–Aug/ 5,310–9,185	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Tetracoccus hallii</i>	Hall’s tetracoccus	None/None/4.3/None	Mojavean desert scrub, Sonoran desert scrub/ perennial deciduous shrub/ Jan–May/ 95–3,935	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present.
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	None/None/2B.2/None	Meadows and seeps (seeps and streams)/ perennial rhizomatous herb/ Jan–Sep/ 160–2,000	Not expected to occur. No suitable vegetation present.
<i>Trichostema austromontanum</i> ssp. <i>compactum</i>	Hidden Lake bluecurls	FT/None/1B.1/None	Upper montane coniferous forest (seasonally submerged lake margins)/ annual herb/ July–Sep/ 7,870–8,790	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable vegetation present.
<i>Xylorhiza cognata</i>	Mecca-aster	None/None/1B.2/Covered	Sonoran desert scrub/ perennial herb/ Jan–June/ 65–1,310	Low potential to occur. This species would have been observed during rare plant surveys conducted in April/May 2020 if present.

Status Legend
Federal
FE: Federally Endangered.
FT: Federally Threatened.
State
SE: State Endangered.

SR: State Rare.
CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A: Plants presumed extirpated in California but common elsewhere
CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere
CRPR 3: Review List: Plants about which more information is needed
CRPR 4: Watch List: Plants of limited distribution
 .1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
 .2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
 .3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

CVMSHCP: Coachella Valley County Multiple Species Habitat Conservation Plan

Covered: Species is covered under the CVMSHCP.

Notes:

¹ Vicinity refers to the White Water and/or Desert Hot Springs USGS Quadrangles (CDFW 2020, CNPS 2020).

References

- CDFW. 2020. California Natural Diversity Database (CNDDDB). RareFind, Version 5.2.14 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed August 2020. <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>
- CNPS. 2020. *Inventory of Rare, Threatened, and Endangered Plants of California* (online edition, version 8-03 0.39). Sacramento, California: CNPS, Rare Plant Program. Accessed August 2020. <http://www.rareplants.cnps.org/>.

INTENTIONALLY LEFT BLANK

Appendix K

Special-Status Wildlife Species Not Expected or
Low Potential to Occur

Scientific Name	Common Name	Status (Federal/State)	Coachella Valley MSHCP	Habitat	Potential to Occur
Amphibians					
<i>Rana draytonii</i>	California red-legged frog	FT/SSC	None	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands.	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
<i>Rana muscosa</i>	mountain yellow-legged frog	FE/SE	None	Lakes, ponds, meadow streams, isolated pools, and open riverbanks; rocky canyons in narrow canyons and in chaparral.	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
<i>Spea hammondi</i>	western spadefoot	None/SSC	None	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.	Not expected to occur. No suitable vegetation present.
Reptiles					
<i>Anniella stebbinsi</i>	southern California legless lizard	None/SSC	None	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils.	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
<i>Aspidoscelis tigris stejnegeri</i>	San Diegan tiger whiptail	None/SSC	None	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Not expected to occur. No suitable vegetation present.
<i>Charina umbratica</i>	southern rubber boa	None/ST	None	Montane oak–conifer and mixed-conifer forests, montane chaparral, wet meadows; usually in vicinity of streams or wet meadows.	Not expected to occur. No suitable vegetation present.
<i>Phrynosoma blainvillii</i>	Blainville’s horned lizard	None/SSC	None	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats.	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
<i>Phrynosoma mcallii</i>	flat-tailed horned lizard	None/SSC	Covered	Desert washes and flats with sparse low-diversity vegetation cover and sandy soils.	Low potential to occur. Species not observed during surveys and the site is located just outside the known range for this species. This species occurs within the vicinity. ¹
<i>Thamnophis hammondi</i>	two-striped gartersnake	None/SSC	None	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools.	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
<i>Uma inornata</i>	Coachella fringe-toed lizard	FT/SE	Covered	Sand dunes in sparse desert scrub, alkali scrub, and desert wash.	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
Birds					
<i>Asio otus</i> (nesting)	long-eared owl	None/SSC	None	Nests in riparian habitat, live oak thickets, other dense stands of trees, edges of coniferous forest; forages in nearby open habitats.	Not expected to occur. No suitable vegetation present.
<i>Cypseloides niger</i> (nesting)	black swift	None/SSC	None	Nests in moist crevices, caves, and cliffs behind or adjacent to waterfalls in deep canyons; forages over a wide range of habitats.	Not expected to occur. No suitable vegetation present.
<i>Icteria virens</i> (nesting)	yellow-breasted chat	None/SSC	Covered	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush.	Not expected to occur. No suitable vegetation present.
<i>Piranga rubra</i> (nesting)	summer tanager	None/SSC	Covered	Nests and forages in mature desert riparian habitats dominated by cottonwoods and willows.	Not expected to occur. No suitable vegetation present.
<i>Polioptila californica californica</i>	coastal California gnatcatcher	FT/SSC	None	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level.	Not expected to occur. No suitable vegetation present.
<i>Progne subis</i> (nesting)	purple martin	None/SSC	None	Nests and forages in woodland habitats including riparian, coniferous, and valley foothill and montane woodlands; in the Sacramento region often nests in weep holes under elevated freeways.	Not expected to occur. No suitable vegetation present.
<i>Pyrocephalus rubinus</i> (nesting)	vermillion flycatcher	None/SSC	None	Nests in riparian woodlands, riparian scrub, and freshwater marshes; typical desert riparian with cottonwood, willow, mesquite adjacent to irrigated fields, ditches, or pastures.	Not expected to occur. No suitable vegetation present.
<i>Setophaga petechia</i> (nesting)	yellow warbler	None/SSC	Covered	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats.	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
<i>Toxostoma crissale</i>	Crissal thrasher	None/SSC	Covered	Nests and forages in desert riparian and desert wash; dense thickets of sagebrush and other shrubs such as mesquite, iron catclaw acacia, and arrowweed willow within juniper and pinyon – juniper woodlands.	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State)	Coachella Valley MSHCP	Habitat	Potential to Occur
<i>Vireo bellii pusillus</i> (nesting)	least Bell's vireo	FE/SE	Covered	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season.	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
Mammals					
<i>Antrozous pallidus</i>	pallid bat	None/SSC	None	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees.	Low potential to occur. No suitable rocky outcrops for roosting and limited suitable undisturbed dry habitat present. This species occurs within the vicinity. ¹
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	None/SSC	None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level.	Not expected to occur. No suitable vegetation present.
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	None/SSC	None	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland mainly in arid coastal and desert border areas.	Not expected to occur. The project site occurs outside the species' known geographical range (i.e., coastal and desert border areas).
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE/SSC, PSE	None	Sparse scrub habitat, alluvial scrub/coastal scrub habitats on gravelly and sandy soils near river and stream terraces.	Not expected to occur. No suitable vegetation present.
<i>Glaucomys oregonensis californicus</i>	San Bernardino flying squirrel	None/SSC	None	Coniferous and deciduous forests, including riparian forests.	Not expected to occur. No suitable vegetation present.
<i>Lasiurus xanthinus</i>	western yellow bat	None/SSC	Covered	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms.	Not expected to occur. No suitable vegetation present.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/SSC	None	Coastal scrub, desert scrub, chaparral, cacti, rocky areas.	Low potential to occur. The project site occurs outside the subspecies' known geographical range. This species occurs within the vicinity. ¹
<i>Nyctinomops macrotis</i>	big free-tailed bat	None/SSC	None	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water.	Not expected to occur. No suitable vegetation present.
<i>Onychomys torridus ramona</i>	southern grasshopper mouse	None/SSC	None	Grassland and sparse coastal scrub.	Not expected to occur. No suitable vegetation present.
<i>Ovis canadensis nelsoni</i>	Nelson's bighorn sheep	None/FP	None	Steep slopes and cliffs, rough and rocky topography, sparse vegetation; also canyons, washes, and alluvial fans.	Low potential to occur. No steep slopes or cliffs present and the site contains an existing energy facility. This species occurs within the vicinity. ¹
<i>Ovis canadensis nelsoni</i>	Peninsular bighorn sheep DPS	FE/FP, ST	Covered	Dry, rocky, low-elevation desert slopes, canyons, and washes; females near water during lambing season.	Low potential to occur. No slopes or canyons present and the site contains an existing energy facility. This species occurs within the vicinity. ¹
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	None/SSC	None	Lower-elevation grassland, alluvial sage scrub, and coastal scrub.	Not expected to occur. No suitable vegetation present. This species occurs within the vicinity. ¹
<i>Taxidea taxus</i>	American badger	None/SSC	None	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils.	Low potential to occur. This species (or sign) would have been observed during desert tortoise and burrowing owl surveys.
Invertebrates					
<i>Bombus crotchii</i>	Crotch bumble bee	None/PSE	None	Open grassland and scrub communities within coastal areas east to the edges of the deserts and the Central Valley supporting suitable floral resources.	Low potential to occur. The project site occurs outside the species' known geographical range.
<i>Dinacoma caseyi</i>	Casey's June beetle	FE/None	None	Found only in two populations in a small area of southern Palm Springs.	Low potential to occur. The project site occurs outside the species' known geographical range. This species occurs within the vicinity. ¹
<i>Macrobaenetes valgum</i>	Coachella giant sand treader cricket	None/None	Covered	Known from the sand dune ridges in the vicinity of Coachella Valley.	Not expected to occur. No suitable dune habitat present. This species occurs within the vicinity. ¹
<i>Stenopelmatus cahuilaensis</i>	Coachella Valley Jerusalem cricket	None/None	Covered	Inhabits a small segment of the sand and dune areas of the Coachella Valley, in the vicinity of Palm Springs.	Not expected to occur. No suitable dune habitat present. This species occurs within the vicinity. ¹

Status Legend

Federal

FE: Federally Endangered.

FT: Federally Threatened.

State

FP: CDFW Fully Protected Species

PSE: Proposed State Endangered

SE: State Endangered.

ST: State Threatened.

SSC: California Species of Special Concern.

CVMSHCP: Coachella Valley County Multiple Species Habitat Conservation Plan

Covered: Species is covered under the CVMSHCP.

Notes:

¹ Vicinity refers to the White Water and/or Desert Hot Springs USGS Quadrangles (CDFW 2020).

References

CDFW. 2020. California Natural Diversity Database (CNDDDB). RareFind, Version 5.2.14 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed August 2020. <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>.

USFWS. 2020. "Critical Habitat and Occurrence Data" [GIS data]. Accessed August 2020 <http://www.fws.gov/data>.

INTENTIONALLY LEFT BLANK