APPENDIX D: BIOLOGICAL RESOURCES TECHNICAL REPORT

BIOLOGICAL RESOURCES TECHNICAL REPORT

OVERNIGHT SOLAR PROJECT

SAN BERNARDINO COUNTY, CALIFORNIA

July 2024

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GLOSSARY OF TERMS AND ACRONYMS

AC	Alternating Current
ACEC	Area of Critical Environmental Concern
AMSL	Above mean sea level
APN	Assessor's Parcel Number
Applicant	Overnight Solar Project, LLC
BCC	Birds of Conservation Concern
BESS	Battery Energy Storage System
BLM	Bureau of Land Management
BMP	Best Management Practices
BNSF	Burlington Northern Santa Fe
CA	California
CBOC	California Burrowing Owl Consortium
CDFW	California Department of Fish and Wildlife
CDNPA	California Desert Native Plants Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CI	Confidence Interval
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CEC	Corvus Ecological Consulting
CPA	Core Population Area for Mojave Ground Squirrel
CRPR	California Rare Plant Ranking
CUP	Conditional Use Permit
CWA	Clean Water Act
DC	Direct Current
DRECP	Desert Renewable Energy Conservation Plan

ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FGC	California Fish and Game Code
FIRM	Flood Insurance Rate Map
gen-tie	Generation-tie transmission line
GHG	Greenhouse Gas
GNSS	Global Navigation Satellite System
GPS	Global Positioning Unit
HCP	Habitat conservation plan
HVAC	Heating, Ventilation, and Air Conditioning
IN	General Species Inventory
ITP	Incidental take permit
kV	Kilovolt
LADWP	Los Angeles Dept. of Water & Power
LCTH	Le Conte's Thrasher
MBTA	Migratory Bird Treaty Act
MCLB	Marine Corps Logistics Base
MDT	Mojave Desert Tortoise
MFTL	Mojave Fringe Toed Lizard
MGS	Mojave Ground Squirrel
MPH	Miles per Hour
MSP	Mojave Solar Project
MV	Medium Voltage
MW	Megawatt
Mwac	Megawatt Alternating Current
MWh	Megawatt-hour
NAIP	National Aerial Imagery Program
NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code

NFIP	National Flood Insurance Program
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
PCS	Power Conversion System
POI	Point of Interconnection
PPA	Peripheral Population Areas
Project	Overnight Solar Project
PV	Photovoltaic
RC	Resource Conservation Zone
RECE	Renewable Energy Conservation Element
RL	Rural Living
RLM	Resource/ Land Management Zone
ROW	Right of Way
RPS	Renewables Portfolio Standard
RWQCB	Regional Water Quality Control Board
SA	Special Animals
SAA	Streambed Alteration Agreement
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison
SP	Special Plant
SR	State Route
SSC	Species of Special Concern
SSURGO	USDA Soil Survey Geographic Database
TPI	Topographic Position Index
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

USGS	U.S. Geological Survey
WBD	Watershed Boundary Dataset
WBO	Western Burrowing Owl
WDR	Waste Discharge Requirements
WL	California Department of Fish and Wildlife Watch List

EXECUTIVE SUMMARY

Overnight Solar, LLC (Applicant) retained Corvus Ecological Consulting, LLC (CEC) to prepare the following Biological Resources Report for the Overnight Solar Project. The purpose of this report is to present the biological resources identified as present, or potentially present, on the proposed project site and surrounding vicinity; identify potential biological resource impacts resulting from the proposed project; and recommend measures to avoid, minimize, and/or mitigate significant impacts consistent with federal, state, and local regulations.

The Applicant proposes to develop the Overnight Solar Project (project), a new 150 MW utility-scale solar photovoltaic (PV) electrical power generating facility and accompanying 1.1 miles of new generation-tie transmission line (gen-tie), on 595.4 acres of private land in San Bernardino County. The proposed project is in the Lockhart area northwest of Hinkley, California, in proximity to existing high-voltage electrical infrastructure, existing solar energy generation facilities, and other industrial and residential uses. These include the existing solar thermal Mojave Solar Project (MSP), Lockhart Solar, several high-voltage substations and transmission lines owned by Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP), and major highway and railroad infrastructure. The proposed gen-tie line would be built on the existing Mojave Solar facility, conserving energy by co-locating project components with nearby infrastructure and avoiding the need to disturb habitat on undeveloped land.

The project site was historically used for commercial agriculture and grazing, and the habitat has been impacted as a result. Vegetation is sparse and biodiversity is low across much of the site. The native vegetation community present is Alkali Desert Scrub. Literature review and database results for the project site and surrounding eight topographic quadrangles revealed ten sensitive plant species, nine sensitive bird species, two sensitive reptiles, and four sensitive mammals who have the potential to occur within the project vicinity based on historic records (Table 1).

CEC performed preliminary biological resource surveys during spring 2023. Supplementary targeted Mohave ground squirrel surveys and jurisdictional waters delineations were conducted during May 2023. The purpose of these surveys was:

- Identify and record all vertebrate animals and vascular plants.
- Assess on-site habitat suitability for special status species identified during a desktop assessment and database review.
- Complete general mapping of vegetation communities and potentially regulated jurisdictional waterways.

The proposed project is situated on an 825-acre parcel owned by the Applicant. Approximately 153-acres in the northwest and southeast of the parcel are unsuitable for development based on topography and terrain. Those regions are not under consideration for development and were excluded from protocol (USFWS 2019) level biological surveys conducted in 2023. The original survey area covered in this report consisted of approximately 672 acres suitable for development (Figure 1). The original survey area does not provide suitable habitat for all the special status species identified during the literature review and database query.

Two distinct watercourses were identified and mapped. The northern watercourse consists of 24.26 acres of fluvially inactive floodplain and abandoned channels. This complex wash was modified in

approximately 1989-1990 when a levee was constructed upstream to divert drainage away from nearby solar facilities. The southern watercourse is 5.55 acres and is comprised of a single thread channel and associated floodplains.

A total of 61 plant species and 30 wildlife species were recorded by CEC biologists during spring 2023. No special status plant species were detected during preliminary surveys of the project site. Although not registered as federally or state sensitive, silver cholla *(Cylindropuntia echinocarpa)*, a cactus protected by the California Desert Native Plants Act and the San Bernardino County Development Code, was detected during surveys.

The project includes suitable nesting habitat for special status bird species, including Burrowing Owl, Loggerhead Shrike, Le Conte's Thrasher, and Bell's Sparrow. Although there is no suitable nesting habit for Golden Eagle or Prairie Falcon, the original survey area does provide suitable foraging habitat for these species.

The original survey area includes suitable habitat for protected and special status mammals, including Mohave ground squirrel, desert kit fox, and American badger.

Three desert tortoises were found during initial site surveys and two additional desert tortoises (separate individuals) were found during wetland delineations and monitoring efforts. Desert tortoise detections were concentrated in the northwest corner of the original survey area. To avoid and reduce environmental impacts, the Applicant consulted with representatives from the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS) and excluded 76 acres from the project footprint. This action eliminated the northwest corner of the original survey area, and excluded areas where live desert tortoises were detected. The current project footprint consists of 595.4 acres that avoids impacts to sensitive biological resources as presented in this report.

1.0 INTRODUCTION

1.1 Background

Overnight Solar LLC (Applicant) proposes to develop the Overnight Solar Project (project), a new 150-megawatt (MW) utility-scale solar photovoltaic (PV) electrical power generating facility and accompanying 1.1 miles of new generation-tie transmission line (gen-tie line) on approximately 595.4 acres of an 825-acre private land parcel in San Bernardino County.

The Applicant will submit a Conditional Use Permit (CUP) application to San Bernardino County (County). The Planning Division of the County Land Use Services Department is the lead agency for the project pursuant to California Environmental Quality Act (CEQA). Focused biological field survey results have been conducted to facilitate this CEQA process by providing baseline biological conditions within the project site and immediate vicinity.

The purpose of this Biological Resources Report is to present the biological resources identified as present, or potentially present, on the proposed project site and surrounding vicinity; identify potential biological resource impacts resulting from the proposed project; and recommend measures to avoid, minimize, and/or mitigate significant impacts consistent with federal, State, and local rules and regulations. This biological information will serve as the foundation for impact assessments pursuant to the National Environmental Policy Act (NEPA) and CEQA. There is no federal NEPA nexus for the project. Corvus Ecological Consulting assessed the project site for the potential occurrence of listed species, including species of special concern that have been documented in the vicinity and/or whose habitat requirements are present within the site (Section 3.0). The original proposed footprint for the project included 672 acres of land within the 825-acre parcel (Original Survey Area, Figure 1). That footprint was subsequently modified to the current 595.4 acres based on the findings presented in this document. Specific attention was given to sensitive species known to occur locally based on a literature review and historic records from the California Natural Diversity Database (CNDDB). A sensitive species target list is included in Table 1, Section 3.2.

1.1.1 Project Objectives

California Environmental Quality Act Guidelines Section 15124(b) requires the project description to contain a statement of objectives that includes the underlying purpose of the proposed project. The project objectives include:

1. Site solar PV power-generating facilities and energy storage near existing utility infrastructure, including existing Los Angeles Department of Water and Power (LADWP) and Southern California Edison (SCE) transmission lines, thereby achieving economies of scale to maximize shared transmission facilities with existing solar operations.
2. Establish solar PV power-generating facilities and energy storage of sufficient size and configuration to produce reliable electricity at a competitive rate.
3. Use proven and established PV and energy storage technology that is efficient and requires low maintenance.
4. Assist the State of California in achieving or exceeding its Renewables Portfolio Standard (RPS) and greenhouse gas (GHG) emissions reduction objectives by developing and constructing new California RPS-qualified solar power generation facilities producing approximately 150 MW of renewable electrical energy.

5. Provide a new source of energy storage that assists the State in achieving or exceeding its energy storage mandates.
6. Promote the County's RECE policies and be sited in an area identified as suitable for utility-oriented renewable energy generation projects and be consistent with County land use regulations.
7. Develop a solar power generation facility in San Bernardino County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.

1.2. Project Location

The Overnight Solar Project is located within unincorporated Lockhart, California (CA), on primarily flat and undeveloped land. The project is in proximity to existing high-voltage electrical infrastructure and existing solar energy generation facilities. The project is generally bounded by the Lockhart PV I Solar Facility to the north, the Mojave Solar facility to the east, and vacant and undeveloped land to the south and west. The project is located approximately 10 miles northwest of Hinkley, CA, approximately 10 miles east of Kramer Junction, CA, and approximately 6 miles north of the State Route (SR) 58 and Harper Lake Road junction. Vehicular access to the project would be provided from Lockhart Ranch Road extending eastward to Harper Lake Road via SR 58 (Figure 1).

Overnight Solar, LLC (the Applicant) selected the project site based on its proximity to existing electrical transmission infrastructure to minimize the need for new transmission infrastructure required to connect to the power grid. The project is being designed in accordance with San Bernardino County's Solar Ordinance (an ordinance amending Development Code Chapter 84.29, Renewable Energy Generation Facilities) and the Countywide Plan/County Policy Plan Renewable Energy and Conservation Element (RECE), which strives to preserve the character of the project area and surrounding communities.

The proposed gen-tie line will be constructed along property already owned, developed, and operated by the Applicant to connect the proposed solar facility's output to the Inter-Tie location, which will be an existing Mojave Solar facility gen-tie line 1.1 miles to the east, just south of the existing Alpha Substation. The ultimate POI with the electrical grid will be at the existing SCE-owned 230-kV Kramer Junction Substation (approximately 12 miles to the west)

The project is seeking a CUP Zoning Amendment, Countywide Plan/County Policy Plan Amendment, and a height variance. Development would occur on land privately owned by the Applicant.

1.2.1 Regional Setting

In addition to the existing solar energy generating facilities and electrical transmission lines near the project, the surrounding area features a mix of undeveloped Bureau of Land Management (BLM) lands, other vacant lands, and other approved solar projects. Several rural residences are located south and east of the project site along Harper Lake Road, with the nearest being approximately 1 mile east of the proposed solar facility and 0.3 mile south of the proposed gen-tie line. The area also has limited transportation infrastructure. State Route (SR) 58 runs from east to west approximately 5.6 miles south of the project site; SR 66 runs from east to west about 16 miles southeast of the project site; U.S. Route 395 runs north to south roughly 10.5 miles west; and Interstate 15 runs from north to south and is located approximately 20 miles southeast of the project site. The Burlington Northern Santa Fe (BNSF) Railway, a Class I freight railroad, is also located approximately 5 miles south of the project site and 0.8 mile north of SR 58. Edwards Air Force Base lies roughly 30 miles west of the project site, while the Barstow Marine Corps Logistics Base (MCLB Barstow) is approximately 30 miles to the southeast of the project site (Figure 1).

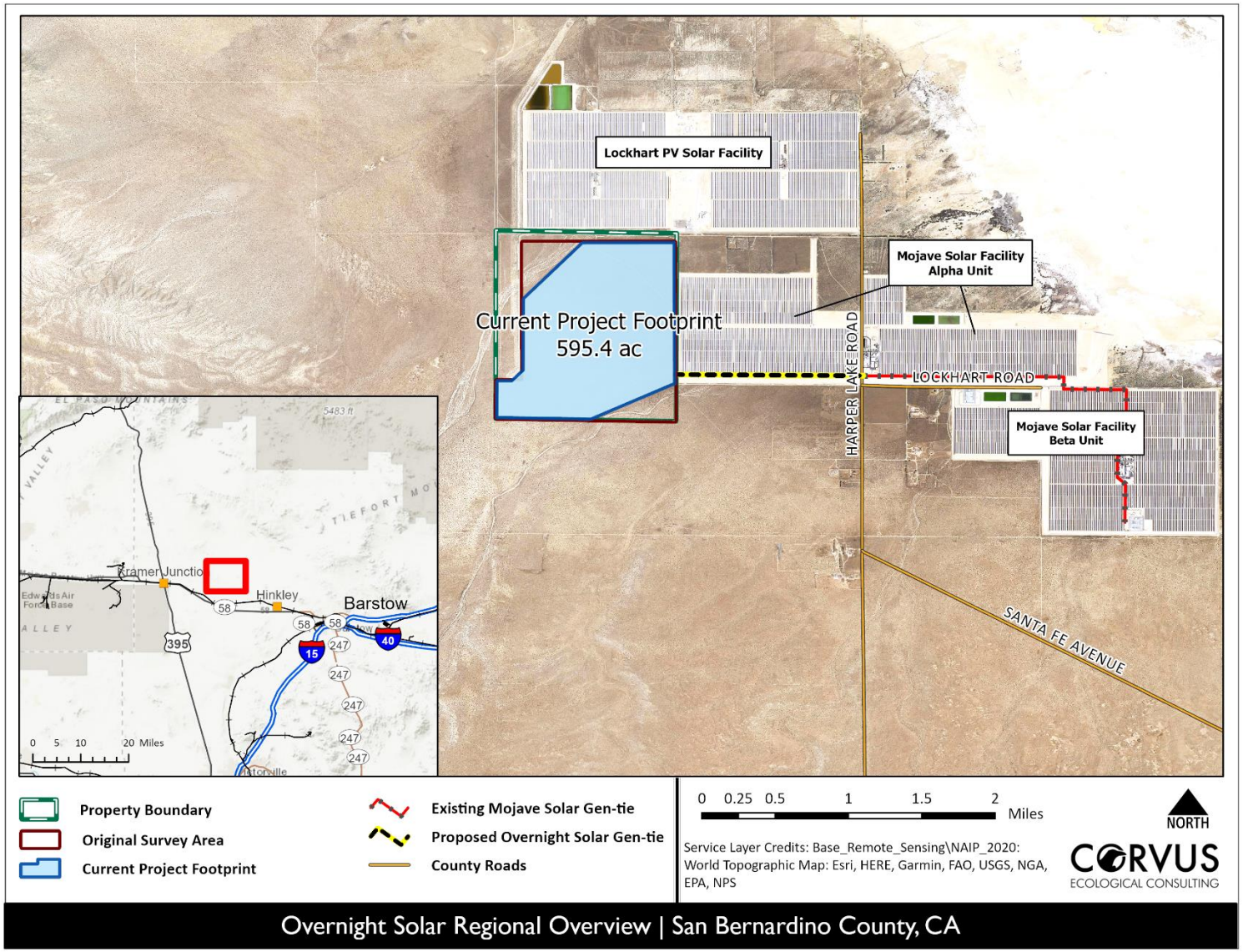

Figure 1. Overnight Solar regional overview

1.2.2 Flood Zone Information

The relevant Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the project site is map number 06071C3250H (FEMA 2008). According to the National Flood Insurance Program (NFIP) FIRM, the entire project site and surrounding area is in Zone D, which signifies an "undetermined Flood Hazard." This designation means that no formal hydrologic and hydraulic study has been completed for the area, and FEMA has not mapped or approved it with floodplains or floodways. Consequently, flood hazards are not clearly identified, and base flood elevations are not provided in Zone D areas. Furthermore, flood insurance for properties is not required at the federal level in Zone D areas. All parcels surrounding the project site are similarly marked as Zone D, thus, do not require flood insurance at the federal level.

There is an existing drainage berm feature along the westernmost boundary of the project site, running from north to south. Specifically, this drainage berm is located along the westernmost boundary of the project site and gently slopes downwards from east to west, away from the west extent of the proposed solar array. The project would retain this existing drainage berm.

1.2.3 Land Use Designations and Zoning

The project site and gen-tie corridor are currently zoned as Rural Living (RL). The project site is also designated as RL in the Countywide Plan/County Policy Plan, which serves as the County's General Plan. The gen-tie corridor is designated as Resource/Land Management (RLM) in the Countywide Plan/County Policy Plan. While the County's Development Code Section 82.04.040 determines that renewable energy-generating facilities are allowed on RL-zoned land with a Conditional Use Permit (CUP), the County Board of Supervisors adopted an amendment to the RECE of the Countywide Plan/County Policy Plan on February 28, 2019, to include RE Policy 4.10, prohibiting utility-scale renewable energy development on lands zoned RL or on lands located within the boundary of an existing community plan. Accordingly, the project would undergo a Zoning Amendment and Countywide Plan/County Policy Plan Amendment as part of the approval process so that it would not conflict with RE Policy 4.10. The project site and gen-tie corridor would be rezoned from RL to Resource Conservation (RC) and redesignated from RL to RLM in the Countywide Plan/County Policy Plan. The County's Development Code Section 82.03.040 determines that renewable energy generation facilities are allowed on RC-zoned land with the facilitation of a CUP. Thus, the project is also subject to approval of a CUP.

1.3 Project Overview

1.3.1 Proposed Project

After construction, the project would be an uncrewed, utility-scale, solar PV electricity generation and battery energy storage system (BESS) facility that would produce up to 150 megawatts (MW) of alternating current (AC) or direct current (DC) generating capacity. The project would also be coupled with the BESS and configured to allow for up to 150 MWs of battery storage capacity and 8 hours of battery capacity. The configuration of the PV system would include single-axis trackers, bifacial PV modules, and central inverters.

Of the 825-acre parcel, only 672 acres are suitable for development. This 672-acre area was surveyed for biological resources and is covered in this BRTR. Based on the preliminary findings, a new project footprint has been proposed which excludes 76 acres of active desert tortoise habitat and jurisdictional waterways. The current proposed project footprint is on approximately 595.4 acres of land (project site)

plus a new segment of gen-tie approximately 1.1 miles in length, connecting the proposed on-site substation to an existing gen-tie line associated with the Mojave Solar facility just south of the existing Alpha Substation (Figure 1).

From the intertie location, the existing Mojave Solar facility gen-tie line carries electrical power output to the existing SCE Sandlot Substation, which then interconnects to the 230-kilovolt (kV) SCE Kramer-Coolwater Transmission Line, and ultimately ties into the Kramer Junction Substation at the point of interconnection (POI) where energy is delivered to the power grid. The project consists of two parcels: Assessor's Parcel Number (APN) 0490-183-65, which would contain the proposed solar facility, BESS, and supporting infrastructure on approximately 595.4 acres of the project parcel; and APN 0490-012-149, which would contain the proposed gen-tie line.

The average life of a PV plant is generally considered to be 30 years, after which decommissioning and removal would be considered. Decommissioning would be determined by the PV plant owner, who would pay the costs for dismantling and having the materials transported off-site to either recyclers or permitted disposal sites. After materials removal, the project site would be restored to its original condition prior to the installation of the PV plant so the land can be reused for other purposes.

Electricity produced by the solar arrays may also include a 1,200-megawatt-hour (MWh) BESS (8 hours of 150 MWac [megawatt alternating current]) and would be routed to an on-site substation developed as part of the project. From the on-site substation, voltage would be increased to the interconnection voltage to connect the project to the existing SCE-owned 230-kV Kramer Junction Substation at the POI. The project would also include security fencing, a supervisory control and data acquisition (SCADA) system, and telecommunications equipment. These project components are described in detail in the following subsections.

The project is subject to CUP approval and includes a request for a Zoning Amendment and Countywide Plan/County Policy Plan Amendment as described above in Section 1.2.5, Land Use Designations and Zoning. These approvals are discussed in further detail below:

- **Zoning Amendment**: The project includes a Zoning Amendment to change the zoning designation from RL to RC to be in compliance with the Countywide Plan/Policy Plan adopted October 27, 2020, and the RECE adopted August 8, 2017 (amended February 28, 2019).
- **Countywide Plan/County Policy Plan Amendment**: The project includes a Countywide Plan/County Policy Plan Amendment to change the land use designation from RL to RLM to be in compliance with the Countywide Plan/Policy Plan adopted October 27, 2020, and the RECE adopted August 8, 2017 (amended February 28, 2019).
- **CUP:** The project requires a CUP, which would cover the approximately 595.4-acre project site and gen-tie corridor. The CUP would include the installation of solar facilities capable of generating up to 150 MW of renewable electrical energy via solar PV modules mounted on a single-axis tracking racking system or a fixed-tilt racking system. The solar array would be connected to inverters and the project BESS. The CUP would also include an on-site, fenced-in substation that would occupy an area of approximately 300 feet by 300 feet. Within the substation fence, the electrical equipment would be approximately 65 feet in height at the highest points, which meets the maximum allowable height for solar energy facilities pursuant to

County Development Code Section 83.02.040(c)(2)(Q). A small one-story, rectangular control building, housing the communications and SCADA equipment (if required), would also be located within the substation footprint. These project components are described in detail in the following subsections.

- **Variance:** The gen-tie poles and substation infrastructure would be a maximum of 95 and 65 feet tall respectively. The project would obtain a height variance for the gen-tie poles, as these poles would exceed the maximum allowable height of 65 feet for solar energy facilities pursuant to County Development Code Section 83.02.040(c)(2)(Q). The poles would be designed to meet all the latest National Electrical Safety Code (NESC) requirements for high-voltage transmission lines.

Solar Array

Solar panels for this project would be installed either on a single-axis tracking racking system or a fixed-tilt racking system. These systems would be supported by driven piers (piles) or helical ground anchors directly embedded into the ground. The panels would be arranged in rows in a uniform grid pattern, with each row spaced approximately 10 to 20 feet apart (measured from post to post). The maximum height of the panels is proposed to be 20 feet.

The selection of the exact equipment for the project will be made before the final design and construction phases.

Inverters and Switchgear

Each individual PV panel would be electrically connected in series to form a "string" that carries DC electricity. Strings of DC electricity would then be directed to inverters, which convert the DC output into AC electricity.

The centralized inverters and transformers would be supported on concrete or steel equipment pads approximately 10 feet by up to 50 feet in size. Alternatively, support piers could be used instead of equipment pads. The inverters and transformers would stand anywhere from 5 to 10 feet in height and be strategically placed so as to minimize shading on the array. The AC power generated by inverters/transformers would be collected and conveyed to an on-site substation where the AC would be further transformed to 230 kV.

Project Substation

The project would include one unenclosed, on-site substation containing high-voltage equipment. The substation will occupy an area of approximately 300 feet by 300 feet, located within the southeastern corner of the project site, and will be separately protected with security fences meeting the requirements of the 2023 NESC. Within the substation fence, the electrical equipment could reach a maximum height of 65 feet, which meets the maximum allowable height for solar energy facilities pursuant to County Development Code Section 83.02.040(c)(2)(Q). A small, one-story, rectangular control building, housing the communication and SCADA equipment (if required), would also be located in the substation footprint. The control building footprint would be 15 feet by 15 feet, with a maximum height of 8 feet.

From the new project substation, a gen-tie line would be constructed to connect the solar facility to its intertie location, an existing gen-tie line located approximately 1.1 miles east of the proposed solar facility, just south of the existing Alpha Substation.

Battery Storage

The 150-MW BESS is expected to be constructed adjacent to and just west of the on-site substation on approximately 4.2 acres. The key components of the BESS are described below:

- **Batteries**. Individual lithium-ion cells form the core of the BESS. Cells are assembled into sealed battery modules connected either in series or parallel configuration. The modules would be installed in self-supporting racks electrically connected to one another, again either in series or parallel. The operating rack-level DC voltage currently can range between 700 and 1,500 volts. To match the inverter's DC input operating voltage, generally around 1,300 volts DC , the output is regulated accordingly. The individual battery racks are connected in a series or a parallel configuration to deliver the battery storage system energy and power rating.
- **BESS Enclosure and Controller**. The BESS enclosure would house the batteries and the BESS controller. The BESS controller is a multilevel control system and includes the battery modules, power conversion system (PCS), and medium-voltage (MV) system where the BESS would connect to the project substation, and then connect to the electrical grid via the proposed gen-tie line and grid interconnection as described below. The controllers ensure the BESS effectively mimics conventional turbine generators when responding to grid emergency conditions. The BESS enclosure would also be equipped to house required heating, ventilation, and air conditioning (HVAC) and fire protection/suppression systems.
- **DC/DC Converter**. In a DC-coupled system, the DC/DC converter usually allows the connection of the BESS to the DC side of the PV inverter. The DC/DC converter manages the battery and PV bus voltage and provides appropriate protection for the PV inverter.
- **Power Conversion System – Inverter**. The PCS typically consists of an inverter, protection equipment, circuit breakers, air filter equipment, equipment terminals, and cabling installed throughout the project site. During a battery charging cycle, electricity is transferred from the PV array to the project batteries. Conversely, during a battery discharge cycle, electricity flows from the project batteries to the power grid via the BESS's connection with the project substation, which, in turn, links to the power grid through the proposed gen-tie line. The inverter is designed to work in both directions: it converts power from AC to DC when transferring energy from the grid to the battery, and from DC to AC when transferring energy from the battery to the grid.
- **MV Transformer**. A separate MV transformer may be present if not integrated into the inverter skid. This would be a pad-mounted transformer used to increase voltage on the AC side of the inverter from low to MV. MV transformers are used to increase the efficiency of power transmission by reducing resistive power losses at the higher voltage.

Batteries would be installed adjacent to the substation contained within either steel enclosures similar to a shipping container or a freestanding building, approximately 10 feet in height. The color of the metal enclosure varies by manufacturer and has not yet been determined. Fencing is proposed along the perimeter of the BESS, which would include 13-foot-high chain link sections on the east and south faces with acoustic mitigation surfaces. The north and west faces of the BESS fencing would be constructed in compliance with standard NESC safety clearance requirements.

The proposed battery storage system would be designed, constructed, operated, and maintained in accordance with applicable industry best practices and regulatory requirements, including fire safety standards. The BESS safety system typically includes a fire detection and suppression control system triggered automatically when the system senses imminent fire danger. A fire suppression control system would be provided within each on-site battery enclosure. Components of the system would

include a fire panel, aspirating hazard detection system, smoke/heat detectors, strobes/sirens, and suppression tanks. The safety system would operate in three phases: pre-alarm, stage 1, and stage 2. If the safety system detects a potential issue, the pre-alarm phase would be initiated and would shut down the HVAC units and fans to help contain the potential fire. It would also send a remote alert signal to locations on- and off-site to alert personnel of the imminent danger. The alarm and alert signals are typically cleared at the project site enclosure where the problem is occurring. The control system would then wait approximately 5 minutes to determine whether the initiation of stage 1 occurs. This would shut down the HVAC and fans indefinitely. If reached, stage 2 would result in the fire panel discharging the suppression agent onto the fire. The safety system would either use a waterless evaporating fluid, sustainable clean agent (not a hydrofluorocarbon clean agent), or an alternative suppression agent, such as an inert gas.

Gen-Tie Line and Grid Interconnection

From the on-site project substation, the proposed gen-tie line would be constructed along property already owned and operated by the Applicant to connect the proposed solar facility's output to the intertie location, an existing Mojave Solar facility gen-tie line located 1.1 miles to the east, just south of the existing Alpha Substation. The ultimate POI with the electrical grid would be located at the existing SCE-owned 230-kV Kramer Junction Substation (approximately 12 miles to the west). Once the proposed gen-tie line is connected at the intertie location, energy produced by the project would reach the POI via existing electrical infrastructure. After the proposed gen-tie line is connected at the intertie location, the existing Mojave Solar facility gen-tie line connects to the existing Sandlot Substation, which then connects with the POI at the Kramer Junction Substation via the existing 230-kV Kramer-Coolwater Transmission Line. Once connected with the Kramer Junction Substation via existing transmission infrastructure, the power is ultimately delivered to the SCE power grid. The new gen-tie line would be approximately 1.1 miles in length and would run within the existing Mojave Solar facility, along the northern or southern side of an existing drainage canal. No easements or rights-of-way (ROW) would be required. The gen-tie corridor would temporarily be 120 feet wide during construction and would ultimately be 80 feet wide once operational.

The gen-tie poles are expected to be up to 95 feet in height and the gen-tie line would be 230 kV to accommodate the electric circuit(s) necessary to interconnect the project substation with the existing gen-tie line just south of the Alpha Substation. The project would obtain a height variance for the gen-tie poles, and the poles would be designed to meet all the latest NESC requirements for high-voltage transmission lines.

No expansion of the existing Alpha or Sandlot Substations' footprints is anticipated. SCE would conduct a limited scope of work within and surrounding the existing substations, as needed, to facilitate connection of the solar project to the SCE system. Installing underground telecommunications (telecom) facilities both inside and outside the new on-site substation and any existing substation fence line would be performed by the Applicant to meet SCE requirements.

Access Roads

On-site access routes would be constructed along the project's fence line and throughout the project site. All interior access roads would be a minimum of 20 feet wide. The perimeter road would be a minimum of 26 feet wide. All on-site roads would consist of compacted native soil in accordance with San Bernardino County Fire Department Protection District requirements. All roads would be stabilized with soil stabilization material, if necessary. Improvements to off-site access roads, including potential paving and widening, would be completed as required according to County standards and in consultation with the County Department of Public Works and Land Development Division.

Perimeter Fencing

Fencing is proposed along the perimeter of the project site or set back a minimum of 15 feet from the existing/proposed ROW, as required by Section 84.29.050 of the County Development Code. Fencing would be at least 7 feet tall, in compliance with the NESC, around the project site boundary. The on-site substation would be separately fenced due to the high voltage presence of exposed electric equipment and would be constructed in accordance with NESC safety clearance requirements including the NESC 7-foot fence height requirement. Fence construction can be 6 feet in height with a 1-foot extension of three rows of barbed wire to give an overall fence height meeting the 7-foot requirement. Chain-link fencing would likely be used, potentially topped with 1 foot of barbed wire. In consultation with the County, slats or mesh may be added to the chain-link fence to manage windblown sand, as appropriate and in areas where needed. Access gates would be installed at each project site entry point.

Lighting and Signage

Manual, timed, and motion sensor lights would be installed at access gates, equipment pads, and substations for maintenance and security purposes. Lighting would be shielded and aimed downward at the ground. In addition, remote-controlled cameras would be installed. No other lighting is planned. Signage is proposed at the entrance of the project site along Lockhart Ranch Road, in compliance with all County regulations.

Stormwater Facilities

Project site drainage would be designed to follow natural drainage patterns. None of the on-site facilities, including fences and panel posts, would be expected to prevent stormwater flow. Long shallow strip retention basins are proposed to capture the anticipated 100-year, 24-hour increase in runoff volume resulting from clearing of vegetation, compacting of soil, and any limited impervious (paved or structural) improvements. These would be shallow swales located along each solar array.

The project would be subject to compliance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharge Associated with Construction and Land Disturbance Activities (Construction General Permit). In compliance with the Construction General Permit, the project would be required to develop and implement a Stormwater Pollution Prevention Plan, which would include site-specific best management practices to minimize erosion on-site and reduce or otherwise prevent conditions of erosion and stormwater runoff.

Other Infrastructure

Telecommunications equipment, such as fiber-optic lines, a SCADA system, and auxiliary power, would be installed throughout the project site at each inverter equipment pad and at the substation. Telecommunications equipment would be brought to the project from existing telecommunications infrastructure in the project vicinity and may be co-located on aboveground structures, such as transmission lines. Trenching could be required to install some of the telecommunications equipment. Fire protection would also be included in accordance with applicable requirements.

1.3.2 Construction, Operations, and Decommissioning

Construction Activities, Timing, and Workforce

Construction of the project is expected to occur in one phase, over roughly a 26-month period from approximately September 2024 until the end of October 2026. The September 2024 construction start date represents the earliest date construction would initiate and assumes the earliest start date for construction represents the conservative-case scenario. The project would be constructed in multiple

overlapping stages including: 1) site preparation and grading (including mobilization, fencing, preparation of laydown areas, and trenching); 2) solar array installation (including the installation of solar array structural components including cables, piles, racking systems, inverters, modules, and panels); and 3) BESS construction (including BESS, commissioning, and testing). Further details regarding construction timelines and workforce can be found in the project's Plan of Development (Atlantica, 2023)

An average of 150 workers would be on-site during each stage of construction, depending on the activities. The peak number of workers on the project site at any one time is anticipated to be 300. The workforce would consist of laborers, craftspeople, supervisory personnel, and support personnel. On average, it is anticipated that each worker would generate one round trip to the project site per workday. Construction will occur only during daylight hours.

Workers would reach the project site using Harper Lake Road to Lockhart Ranch Road. Portable toilet facilities would be installed for use by construction workers. Waste disposal would occur in a permitted off-site receiving facility. Domestic water for use by employees would be provided by the construction contractor through deliveries to the project site.

The project would generate solar electricity from the PV system during daylight hours and may discharge power for sale onto the power supply grid from the BESS at various times during the daytime and nighttime. A small one-story, rectangular control building, housing the communication and SCADA equipment (if required), would be located within the substation footprint. While project operations would be monitored remotely via the SCADA system, and the project site would not require the presence of full-time, on-site employees, occasional operational and maintenance visits would occur. The building would not be occupied except for during routine maintenance activities, and it would not require water or sewer connections. Temporary operations and maintenance employees would use the existing operations and maintenance facilities at the adjacent Mojave Solar facility for domestic water and toilet facilities.

When operations cease at the project site permanently, the facility would undergo decommissioning if the CUP is not renewed. Decommissioning would comply with federal, State, and local standards and all regulations that exist when the project is decommissioned, including the requirements of San Bernardino County Development Code Section 84.29.070.The decommissioning would be performed by the Applicant or at such time by the successor owner of the PV plant in accordance with the County's RECE Goal RE-4 Environmental Compatibility Policy in general and Policy RE-4.5 in particular, which governs the decommissioning requirements. A bond would be provided at the outset of construction to cover the agreed-upon costs of decommissioning and would be returned when decommissioning is satisfactorily accomplished.

1.4 Environmental Setting (Existing Conditions)

San Bernardino County is divided into three subregions for planning purposes: Valley, Mountain, and Desert. The project site is within the Desert Region of the West Mojave Plan planning area. The Desert Region consists of mountain ranges interspersed with long, broad valleys that often contain dry lakes. Topography within the Desert Planning Region changes from near sea level to desert valleys between 1,000 and 4,000 feet above mean sea level (amsl) to mountain ridges greater than 8,000 feet amsl. The elevation of the project site ranges from approximately 2,100 to 2,150 feet amsl. Harper Lake, a dry lakebed, is 2 miles north and east of the project site with a difference in elevation of approximately 70 feet below the project's lowest elevation. The southwest corner of Harper Lake includes a watchable

wildlife area and has been designated by the BLM as an area of critical environmental concern (ACEC). The BLM Grass Valley Wilderness Area is approximately 20 miles northeast of the project site. The Angeles and San Bernardino National Forests are each approximately 60 to 80 miles south of the project site. The project site is bordered by desert tortoise critical habitat to the west.

1.4.1 Soil Types

The project crosses two soil survey areas in the USDA Soil Survey Geographic (SSURGO) database: Mojave Desert Area, California (CA695; 2023) and San Bernardino County, California, Mojave River Area (CA671; 2023). Three soil types are identified within the project area by these surveys (Figure 2).

Historical industrial and agricultural use of the land has impacted the natural soil communities over time. Currently much of the project site is composed of 112 Cajon Sand, alluvial fan material derived from granite with 0-2 percent slope gradient, ranging from strongly alkaline to strongly saline-alkaline. The second most abundant type is 137 Kimberlina Loamy Fine Sand, fan aprons derived from mixed alluvium sources, also with 0-2 percent slope gradient. Kimberlina series soils are moderately alkaline and runoff is moderately rapid and permeable. The third type, 113 Cajon Sand, is identified on a small segment of the southwest project outline. This soil is composed of alluvium also from mixed sources, with a slope gradient of 0 to 4 percent. None of the soil series within the project site are identified as hydric.

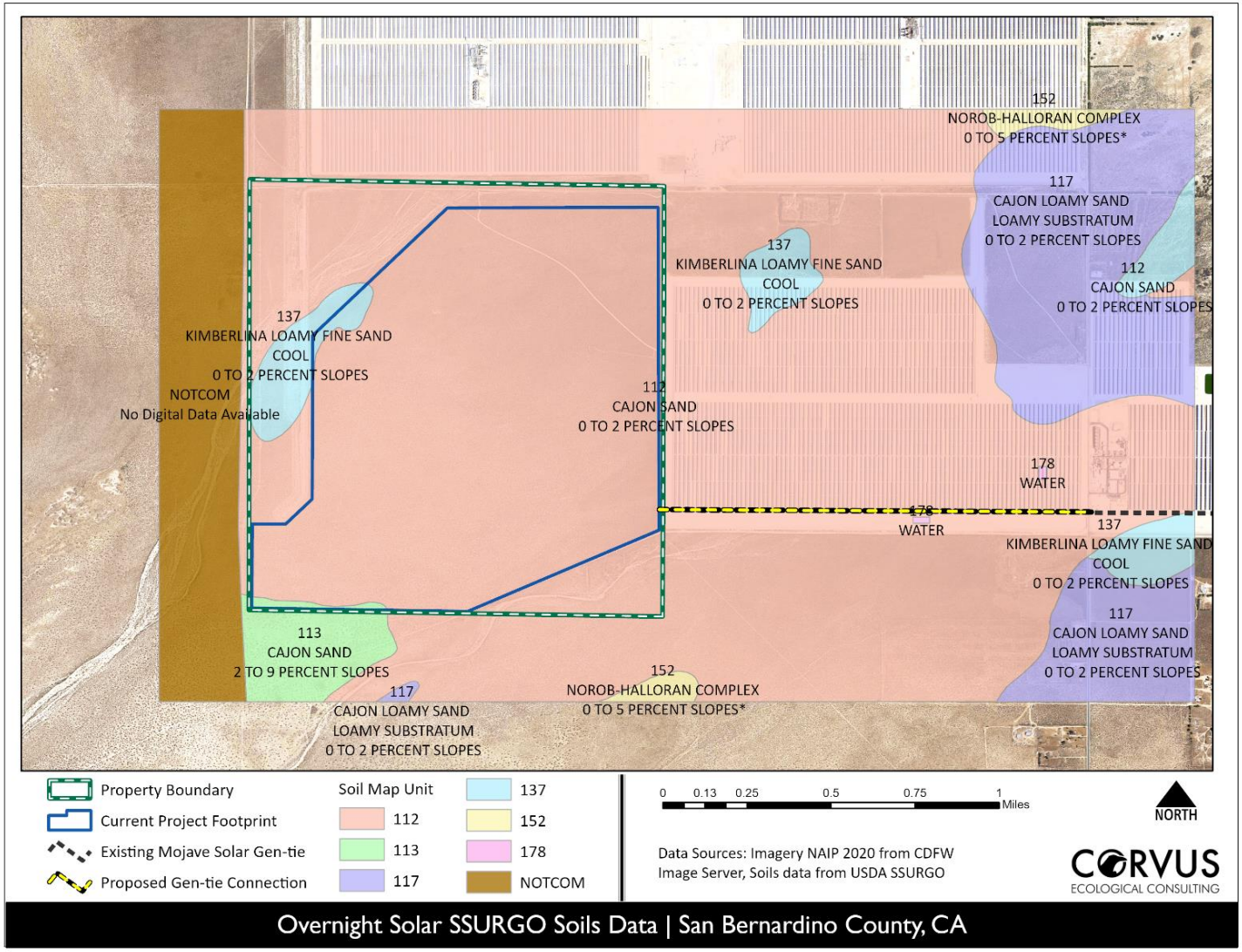

Figure 2. Overnight Solar SSURGO soils data.

1.4.2 Vegetation Communities

The project is located within the Mojave Desert geographical region (Sawyer, 2009). A single terrestrial vegetation community was identified within the survey area during the field survey: Alkali Desert Scrub. This community is typically dominated by low-growing shrubs, grasses, and herbaceous plants able to withstand the presence of heavily salty soils. The vegetation in alkali desert scrubs is sparse, often resulting from abandoned agricultural fields where water tables are lower than those needed to sustain alkali meadows.

Alkali Scrub plant assemblages include various species of shrubby saltbushes; allscale (*Atriplex polycarpa)*, desert-holly (*A. hymenelytra)*, four-wing saltbush (*A. canescens*), big saltbush (*A. lentiformis*), Parry saltbush (*A. parryi*), shadscale (*A. conferetifolia*), Torrey's salt bush (*A. torreyi var. torreyi*), and spiny saltbush (*A. spinifera*). Other common shrubs include budsage (*Artemisia spinescens*), white bursage (*Artemisia dumosa)*, creosote bush (*Larrea tridentata)*, Fremont's dalea (*Psorothamnus fremontii*), Nevada ephedra (*Ephedra nevadensis*), black greasewood (*Sarcobatus vermiculatus*), spiny hopsage (*Grayia spinosa)*, spiny menodora (*Menodora spinescens*), rabbit-thorn (*Lycium pallidum var. oligospermum*), Thurber's sandpaper-plant (*Petalonyx thurberi*), winterfat (*Krascheninnikovia lanata*), and Anderson wolfberry (*Lycium andersonii*). The diversity of cactuses and other succulents in the Alkali Scrub is relatively low (Rowlands, 1982).

A variety of small mammals, reptiles, insects, and birds have adapted alongside this vegetation and utilize this highly specialized arid habitat. Alkali desert scrubs are important for ecosystem stability and play a role in soil conservation. Plant roots and mycelium prevent erosion and act as a natural filter for rainwater, allowing it to recharge the groundwater table. Overall vegetation diversity and abundance has been impacted by many decades of agricultural and development activity.

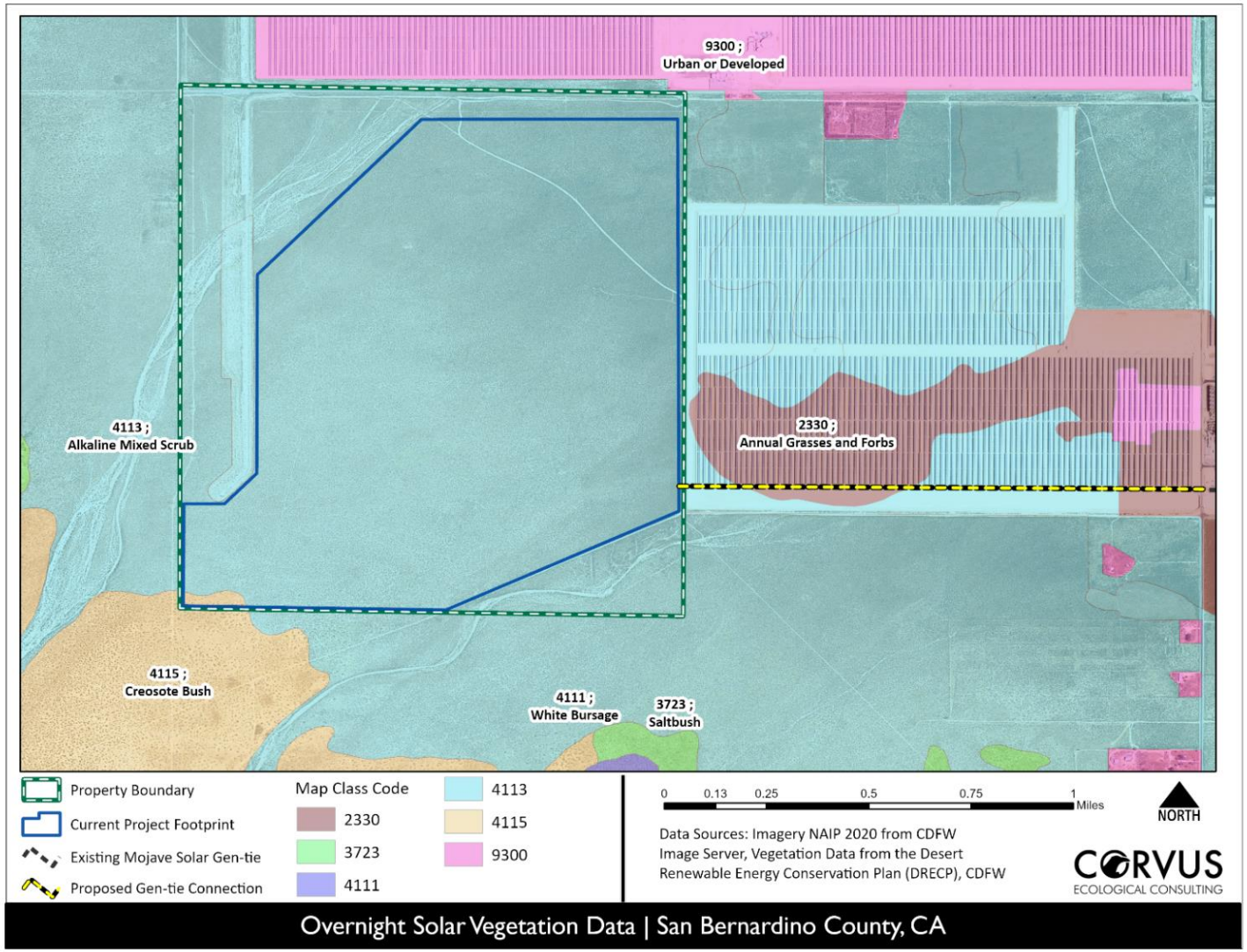

Figure 3. Vegetation communities around Overnight Solar.

1.4.3 Regional Hydrology

The majority of the project survey area is located within the United States Geological Survey (USGS) Hydrologic Unit Code 180902071110, Schweitzer Well-Harper Lake. Located in the west Mojave Desert, the Schwietzer Well-Harper Lake sub-watershed is a closed basin of 44,237 square acres. Harper Valley is drained by numerous ephemeral streams towards Harper Dry Lake. Floodwater from Grass Valley occasionally flows into Harper Valley via Black Canyon on the eastern side of the valley. Harper Dry Lake is an endorheic basin that once contained water and a natural marsh into the early 20th century but began to disappear once agricultural development began to deplete the groundwater that sustained its level. The lake eventually became dry in the late 1990s. The project site includes a significant anthropogenic impediment to water flow in the form of a historic levee running north-to-south along much of the western edge.

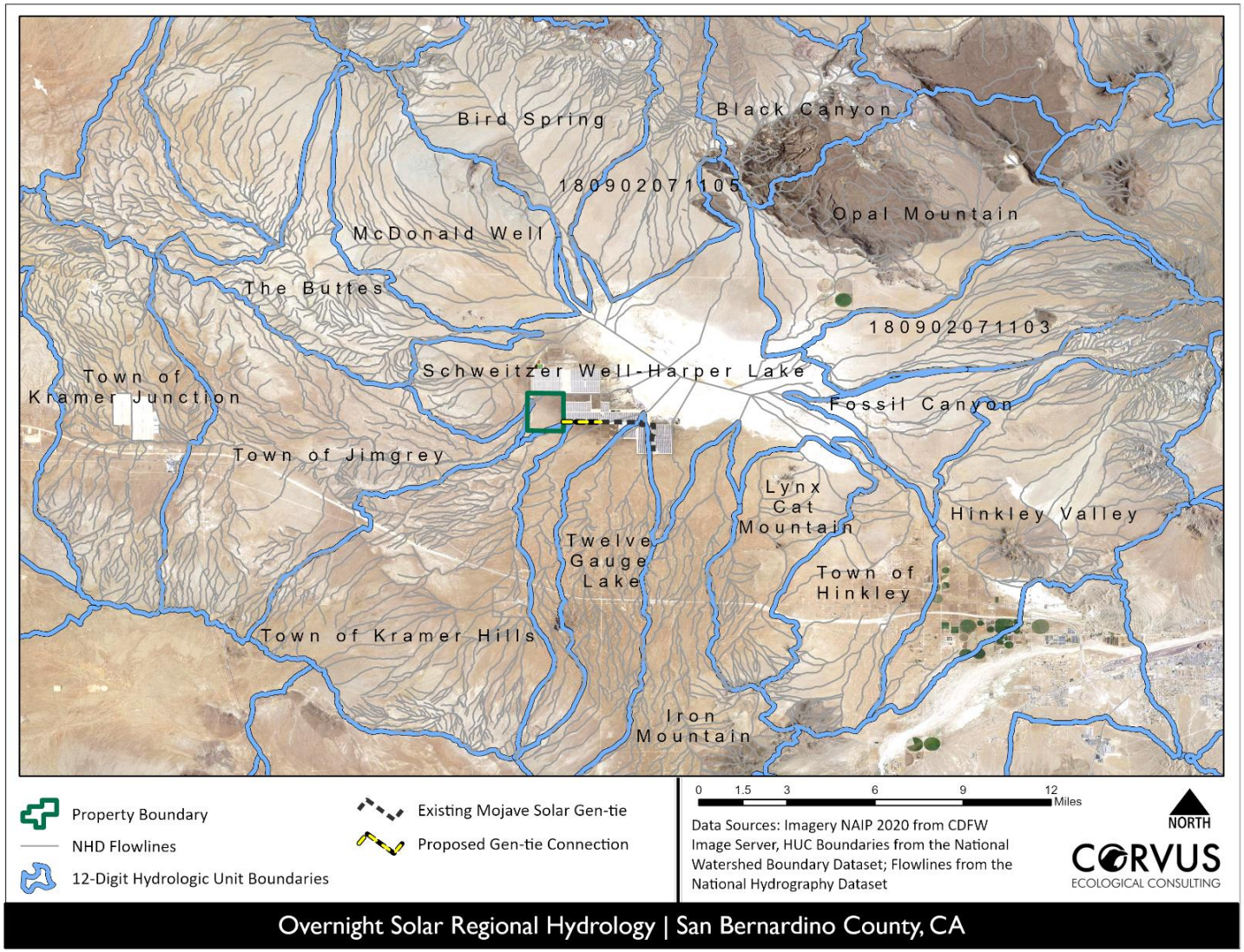

Figure 4. Overnight Solar Regional Hydrology

2.0 REGULATORY SETTING

2.1 Taxonomic Nomenclature and Special Status Species Designations

Sources of taxonomic nomenclature for plants, animals, and vegetation communities used in this Biological Resources Report are as follows:

- Plant nomenclature follows the Jepson Manual (Baldwin et al., 2012), and the Jepson Online Interchange
- Reptile nomenclature follows A Field Guide to Western Reptiles and Amphibians (Stebbins 2003), and the Study of Amphibians and Reptiles: *Common Names Checklist version 2022-02-11* (online version)
- Bird nomenclature follows the American Ornithologists' Union (2022): *Checklist of North American Birds (online)*
- Mammal nomenclature follows the Revised checklist of North American mammals north of Mexico (Bradley et al., 2014)
- Natural vegetation communities were identified based on *A Manual of California Vegetation*, Second Edition (Sawyer et al., 2009)

The term "special-status species," as used in this Report, includes:

- Plant and wildlife species that are listed, proposed for listing, or candidates for listing as Endangered, threatened, or rare by California or the federal government (USFWS)
- Plant and wildlife species that meet the criteria for listing protections as described in Section 15380 of CEQA which includes:
    - Species included in Section 670.2 or 670.5, Title 14, California Code of Regulations
    - Species included in Title 50, Code of Federal Regulations Sections 17.11 or 17.12 pursuant to the Federal Endangered Species Act
    - Any species not included in any listing identified above, but can be shown to be at risk in the foreseeable future if the environment worsens
- Plants occurring on California Rare Plant Rank (CRPR) 1, 2, and 4 of California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants (CNPS 2023). Ranking definitions are as follows:
    - 1A Presumed extirpated or extinct
    - 1B Rare or endangered in California and elsewhere. Includes species endemic to California
    - 2A Extirpated in California
    - 2B Rare or endangered in California
    - 3 Needs Review
    - 4 Uncommon in California. Element occurrences for these species are generally not tracked in the CNDBB

    Each rank is followed by a threat rank

    - 0.1 Seriously threatened in California > 80% of occurrences are threatened.
    - 0.2 Moderately threatened in California 20-80% of occurrences are threatened.
    - 0.3 Not very threatened in California < 20% of occurrences are threatened.

- Birds, mammals, amphibians, reptiles, and fish listed as "fully protected" by the California Department of Fish and Game Code (Sections 3511, 4700, 5050, and 5515, respectively)
- Species identified by CDFW as California Species of Concern (SSC), Watch List Species (WL), Special Plants (SP), or Special Animals (SA), or otherwise "protected" by the Code of Regulations.
- Birds identified as Birds of Conservation Concern (BCC) by the USFWS (2023) or protected under other federal or State statutes.

2.2 Federal Regulations Protecting Sensitive Species

2.2.1 Federal Endangered Species Act (ESA) of 1973

The USFWS administers the federal ESA of 1973. The ESA provides a legal mechanism for listing species as either threatened or endangered, and a process of protection for those species listed. It also ensures the conservation of designated critical habitat, which the USFWS has determined is required for the survival and recovery of these listed species. Section 9 of the ESA prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. "Take" can include adverse modification of habitats used by a threatened or endangered species during any portion of its life history. Under the regulations of the ESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act. Take authorization can be obtained under Section 7 or Section 10 of the Act.

2.2.2 The Migratory Bird Treaty Act

Nesting birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C 703-711). The MBTA prohibits taking and provides other protections for nearly all nesting birds that are both residents and migrants, regardless of other special status. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird, due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law. The USFWS, in coordination with CDFW administers the MBTA. Sections 3505, 3503.5, and 3800 of the California Fish and Game Code also prohibit the take, possession, or destruction of birds, their nests, or eggs.

2.2.3 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 protects bald eagles (*Haliaeetus leucocephalus)* and golden eagles (*Aquila chrysaetos*) by prohibiting the taking, 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. (Federal Register, volume 72, page 31132; 50 CFR 22.3).

2.3 State and Local Regulations Protecting Sensitive Species

2.3.1 California Endangered Species Act (CESA)

The CDFW administers the CESA. The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range that it is likely to become an endangered species in the absence of special protection or management. A rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens.

Pursuant to Section 2081 of the Fish and Game Code (FGC) of California Law, CDFW may authorize individuals or public agencies to import, export, take, or possess, any state-listed endangered, threatened, or candidate species (plant or animal). These otherwise prohibited acts may be authorized through permits or Memorandums of Understanding: (1) if the take is incidental to an otherwise lawful activity, (2) if impacts of the authorized take are minimized and fully mitigated, (3) if the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and (4) if the Applicant ensures adequate funding to implement the measures required by CDFW.

CDFW prohibits the unauthorized take of CESA-listed plants from the wild and allows CDFW to salvage any rare plants that would otherwise be destroyed (FGC Code section 1900 et seq). The California Native Plant Society Plant Ranking System ranges from presumed extinct species, CRPR 1A to limited distribution species now on a watch list (CRPR 4). There are 156 species, subspecies, and varieties of plants that are protected as threatened or endangered under CESA .

2.3.2 California Fish and Game Code

The CDFW administers the FGC. Several sections of the FGC apply to natural resource management.

2.3.2.1 Sections 3503, 3503.5, 3511, and 3513

Section 3503 makes it unlawful to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey), such as hawks, eagles, and owls, are protected under Section 3503.5 which makes it unlawful to take, possess, or destroy their nest or eggs. Coordination with CDFW may be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Burrowing owls are specifically covered in these sections as well as section 86.

2.3.2.2 Section 4150

Section 4150 of the FGC protects nongame mammals, defined as any naturally occurring mammal in California that is not a game mammal, fully protected mammal, or fur-bearing mammal. Non-game mammals, which includes bats and bat roosts, may not be taken or possessed except as provided by the FGC or in accordance with applicable regulations.

2.3.2.3 Sections 1900-1913

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the California Fish and Game Commission to designate plants as rare or endangered and to protect them from take. There are 64 species, subspecies, and varieties of plants that are currently protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants but includes some exceptions for agricultural

and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

2.3.2.4 Section 460

Fisher, marten, river otter, desert kit fox and red fox may not be taken at any time.

2.3.3 California Environmental Quality Act

CEQA makes the requirement that state and local agencies evaluate significant environmental impacts of proposed projects. Under section 15380 of the CEQA guidelines, it states that SSC should be included in the analysis of impacts.

2.3.4 California Desert Native Plants Act (CDNPA)

The purpose of the CDNPA is to protect certain species of California desert native plants from unlawful harvesting on both public and privately owned lands. The CDNPA applies within the boundaries of San Bernardino County; it prohibits the harvest, transport, sale, or possession of specific native desert plants under many circumstances without a valid permit. If any of the covered species are identified on the project site, they will be subject to protection under the CDNPA at the State and County levels. Details are available in Division 23 of the California Food and Agriculture Code.

2.3.5 San Bernardino County Desert Native Plant Protection and Management Ordinance

The County of San Bernardino's Desert Native Plant Protection and Management Ordinance (Chapter 88.01) provides protections for certain native desert plants from removal or destruction without a valid Tree or Plant Removal permit. Few, if any, of these species were encountered during the preliminary biological surveys. It also enforces County level compliance with the California Desert Native Plants Act.

2.4 Regulations Protecting Aquatic Resources

2.4.1 The Clean Water Act

The Clean Water Act (CWA) is the legislative framework for regulating discharge of pollutants into Waters of the United States (including wetlands). Section 404 of the CWA is considered when assessing impacts to biological resources during the NEPA or the CEQA processes. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained: Industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. The US Army Corps of Engineers (USACE) and the US Environmental Protection Agency (USEPA) have enforcement authority for Section 404 of the CWA. The USEPA acts as a cooperating agency to set policy, guidance, and criteria for use in evaluation permit applications and reviews USACE permit applications.

2.4.2 Streambed Alteration Agreement, FGC Section 1602

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

2.4.3 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is the law that governs water quality regulation in California. It was established to protect the beneficial uses of water and water quality—including surface water bodies, groundwater, and wetlands. Regional Waterboards have the authority under the Porter-Cologne Act to enforce these Basin Plan objectives; the project is located within the Lahontan Region. Both the State Water Resources Control Board and the Regional Water Quality Control Board issue and enforce permits containing waste discharge requirements (WDR's) to maintain and protect California's water bodies and meet Basin Plan objectives.

2.5 San Bernardino Countywide Plan/ Policy Plan

The San Bernardino County Policy Plan contains long-term goals and policies to direct decisions, investments, and improvements toward the Countywide vision. It consists of two elements related to the project.

2.5.1 Natural Resources Element

Goal NR-5: Biological Resources	An interconnected landscape of open spaces and habitat areas that promotes biodiversity and healthy ecosystems, both for their intrinsic value and for the value placed on them by residents and visitors
Coordinated Habitat Planning NR5.1	The San Bernardino Countywide Plan includes policy NR-5.1, which encourages landscape-scale habitat conservation planning and coordination with existing or proposed habitat conservation and natural resource management plans for private and public lands to increase certainty for both the conservation of species, habitats, wildlife corridors, and other important biological resources and functions; and for land development and infrastructure permitting.
Capacity for Resource Protection and Management NR-5.2	The San Bernardino Countywide Plan includes policy NR-5.2, which encourages coordination with public and nongovernmental agencies to seek funding and other resources to protect, restore, and maintain open space, habitat, and wildlife corridors for threatened, endangered, and other sensitive species.
Multiple-Resource Benefits NR-5.3	The San Bernardino Countywide Plan includes policy NR-5.3, which prioritizes conservation actions that demonstrate multiple resource preservation benefits, such as biology, climate change adaptation and resiliency, hydrology, cultural, scenic, and community character.
Mitigation banking NR-5.6	The San Bernardino Countywide Plan includes policy NR-5.5, which supports the proactive assemblage of lands to protect biological resources and facilitate development through private or public mitigation banking. We require public and private conservation lands or mitigation banks to ensure that easement and fee title agreements provide funding methods sufficient to manage the land in perpetuity.

Development review, entitlement, and mitigation NR-5.7	The San Bernardino Countywide plan includes policy NR5.7 which says the county complies with state and federal regulations regarding protected species of animals and vegetation through the development review, entitlement, and environmental clearance processes.

2.5.2 Renewable Energy and Conservation Element

GOAL RE 4: Environmental Compatibility	The County will establish a new era of sustainable energy production and consumption in the context of sound resource conservation and renewable energy development practices that reduce greenhouse gases and dependency on fossil fuels.
Policy RE 4.1	Apply standards to the design, siting, and operation of all renewable energy facilities that protect the environment, including sensitive biological resources, air quality, water supply and quality, cultural, archaeological, paleontological and scenic resources.
Policy RE 4.7	Renewable Energy project site selection and site design shall be guided by the following priorities relative to habitat conservation and mitigation: • Avoid sensitive habitat, including wildlife corridors, during site selection and project design. • Where necessary and feasible, conduct mitigation on-site. • When on-site habitat mitigation is not possible or adequate, establish mitigation off-site in an area designated for habitat conservation
Policy RE 4.8	Encourage mitigation for Renewable Energy generation facility projects to locate habitat conservation offsets on public lands where suitable habitat is available. • Collaborate with appropriate state and federal agencies to facilitate mitigation/habitat conservation activities on public lands.
Policy RE 4.9	Encourage Renewable Energy facility developers to design projects in ways that provide sanctuary (i.e., a safe place to nest, breed and/or feed) for native bees, butterflies and birds where feasible and appropriate, according to expert recommendations

3.0 LITERATURE REVIEW AND SURVEY METHODS

3.1 Literature Review Sources

Prior to conducting biological field surveys, Corvus Ecological Consulting conducted a database review of the project area, including the immediate USGS 24k topographic map (*Lockhart*) and surrounding eight quadrangles (*Fremont Peak, Bird Spring, Opal Mountain, The Buttes, Water Valley, Kramer Hills, Twelve Gauge Lake, and Hinkley*).

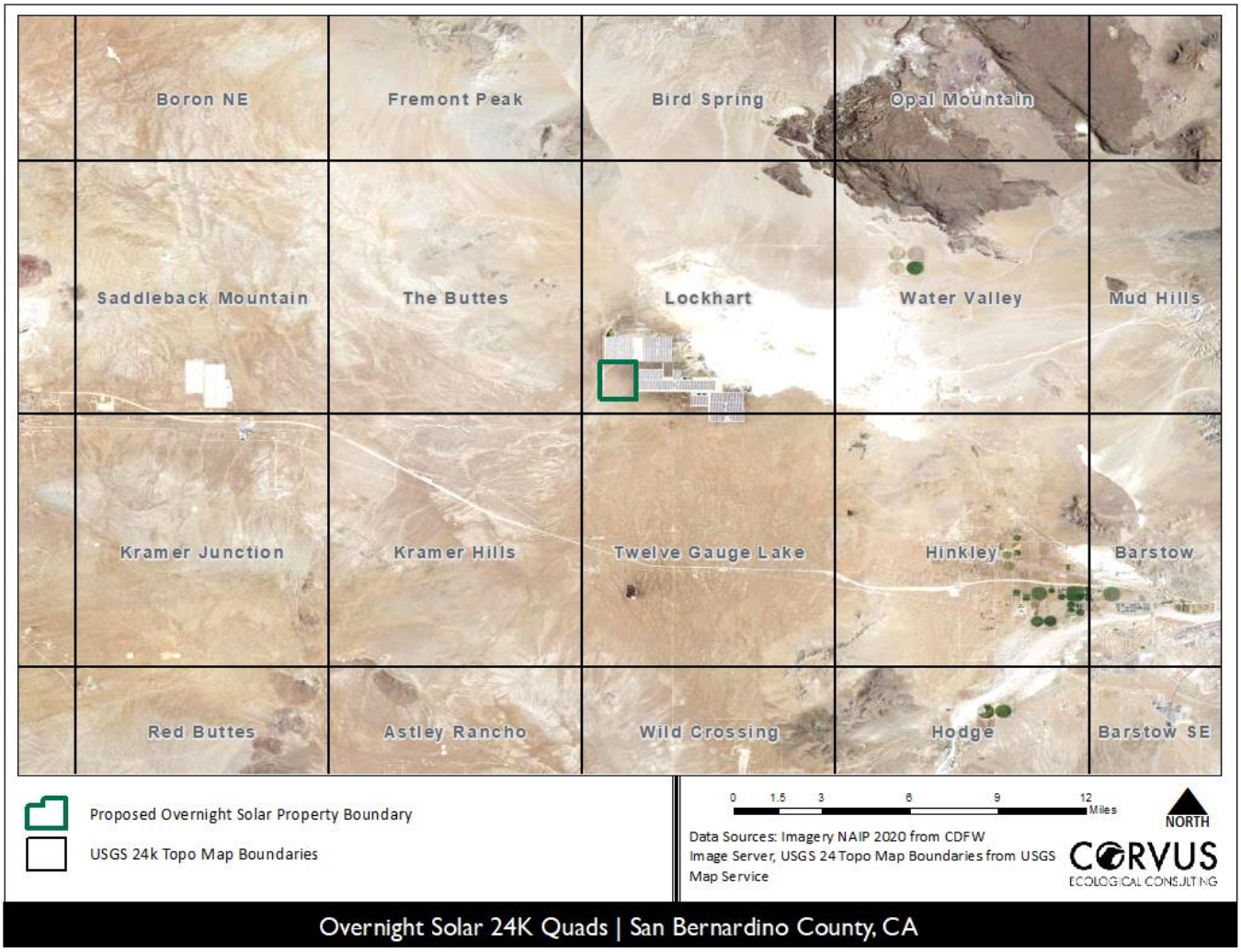

Figure 5. Surrounding 24K Quadrangles

The purpose of this background research was to identify documented occurrences of special-status plant and wildlife species, critical habitat for federally listed species, and sensitive communities within the project vicinity. Sources for this desktop analysis include:

- USFWS threatened & endangered species occurrence GIS overlay
- USFWS Information for Planning and Consultation System (USFWS 2017)
- California Natural Diversity Database RareFind 5 (2023)
- CNPS Rare Plant Inventory database
- Calflora Database (2023)
- USDA Natural Resources Conservation Service (NRCS) Web Soil Survey
- USGS HUC Watershed Boundary Dataset (WBD)
- USFWS National Wetland Inventory
- USFWS Designated Critical Habitat Maps
- County of San Bernardino General Plan, All Biological Resources

- NAIP (National Aerial Imagery Program) Image Service, produced by CDFW

Other resources reviewed for the status of rare and endangered plant and wildlife species include *The Special Animals List* (CDFW 2023), *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW, 2023), and CNPS California Rare Plant Ranking System. The following map depicts historic species occurrences in and around the project from the CNDBB database (Figure 6). Desktop results were used to determine appropriate scope and focus for initial biological field surveys.

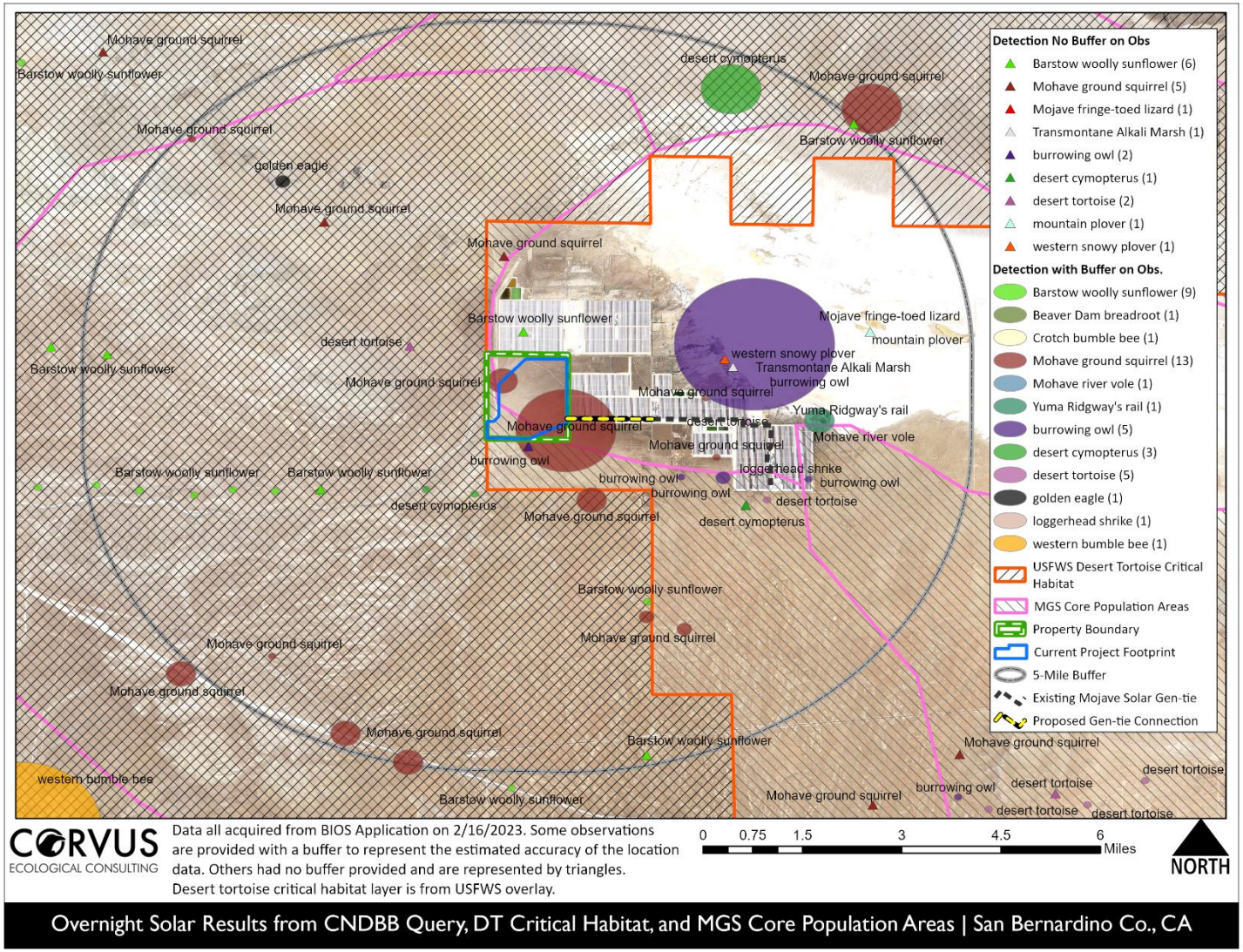

Figure 6. CNDDB Sensitive Species Query Results

3.2 Literature Review Results

3.2.1 Sensitive Species Results

Literature review and database results for the project site and surrounding eight topographic quadrangles revealed ten sensitive plant species, nine sensitive bird species, two sensitive reptiles, and four sensitive mammals with the potential to occur within the project vicinity based on historic records (Table 1). Habitat is variable within the project vicinity and conditions within the proposed project site are not suitable for all of the species listed.

Table 1. Sensitive Species Literature and Database Review Results

Common Name	Scientific Name	CESA/CDFW	USFWS/BLM
BIRDS			
Burrowing Owl	*Athene cunicularia*	CDFW: SSC	BCC/S
Golden Eagle	*Aquila chrysaetos*	CDFW: FP/WL	None/S
Loggerhead Shrike	*Lanius ludovicianus*	CDFW: SSC	None
Mountain Plover	*Charadrius montanus*	CDFW: SSC	BCC/S
Prairie Falcon	*Falco mexicanus*	CDFW: WL	None
Western Snowy Plover	*Charadrius nivosus nivosus*	CDFW: SSC	Threatened
Le Conte's Thrasher	*Toxostoma lecontei*	CDFW: SSC	BCC/S
Bell's Sparrow	*Artemesiospiza belli belli*	CDFW: WL	None
Yuma Ridgeway Rail	*Rallus obsoletus yumanensis*	Endangered	Endangered
PLANTS			
Barstow woolly sunflower	*Eriophyllum mohavense*	CRPR 1B.2	BLM: S
beaver dam breadroot	*Pediomelum castoreum*	CRPR 1B.2	BLM: S
creamy blazing star	*Mentzelia tridentata*	CRPR 1B.3	None
desert cymopterus	*Cymopterus deserticola*	CRPR 1B.2	BLM: S
crowned muilla	*Muilla coronata*	CRPR 4.2	None
Mojave fish-hook cactus	*Sclerocactus polyancistrus*	CRPR 4.2	None
Mojave monardella	*Monardella exilis*	CRPR 4.2	None
Mojave spineflower	*Chorizanthe spinosa*	CRPR 4.2	None
Torrey's box-thorn	*Lycium torreyi*	CRPR 4.2	None
white pygmy-poppy	*Canbya candida*	CRPR 4.2	None
MAMMALS			
American badger	*Taxidea taxus*	CDFW: SSC	None
Mohave ground squirrel	*Xerospermophilus mohavensis*	CA: Threatened	BLM: S
desert kit fox	*Vulpes macrotis*	CDFW: Protected	None
Mohave river vole	*Microtus californicus mohavensis*	CDFW: SSC	None
REPTILES	*Vulpes macrotis*		
desert tortoise	*Gopherus agassizii*	CA: Threatened	USFWS: Threatened
Mojave fringe-toed lizard	*Uma scoparia*	CDFW: SSC	BLM: S

3.2.2 Sensitive Vegetation Communities and USFWS Critical Habitat

Vegetation mapping of the project area was conducted as part of the literature review and verified by botanists during the biological field surveys. The sole vegetation community identified within the proposed project boundary is Alkali Desert Scrub. Although not located on BLM lands and therefore not subject to BLM-related regulations, the dominance of saltbush vegetation in the survey area is

consistent with the surrounding area (Figure 3) and is not ranked as sensitive according to the CDFW Natural Communities List (CDFW 2022). Similarly, no critical habitat is located within the project area. Critical Habitat for Mojave Desert Tortoise (MDT) is located immediately west of the property boundary.

3.3 Biological Survey Methods

During spring 2023, CEC biologists conducted a full-coverage biological habitat assessment of the 672-acre original survey area. During spring 2024, biologists resurveyed the current project footprint and a 150-meter buffer, and the project access route along Lochart Ranch Road (Figure 7). Additional surveys conducted in 2024 focused on WBO and the detection of special status plant and animal species. Because of private property, a 150-meter buffer wasn't surveyed along the southern property boundary. The survey area parallel to Lockhart Ranch Road was also restricted by private property. Surveys along Lockhart Ranch Road went north to the Mojave Solar facility perimeter fence and 30-meters south of Lockhart Ranch Road. Surveys encompassing the property boundary, 150-meter buffers, and project access along Lockhart Ranch Road totaled 945 acres. Survey efforts are summarized in Table 2. Potential mitigation and translocation areas, totaling 413 acres, were also surveyed to the west and north of the property boundary (Figure 7). The survey effort for potential mitigation areas is not included in Table 2.

Figure 7. Areas surveyed for Biological Resources

The current plan describes the gen-tie as running directly east from the project, within the perimeter fence of the Mojave Solar facility. Because this proposed route is within an existing permitted facility, biological surveys were not conducted along the proposed gen-tie corridor. The primary survey effort took place between April 10th-19th 2023. Biologists surveyed the original proposed development area by walking linear paralleling transects spaced 10-meters apart. The crew consisted of qualified surveyors with experience identifying vertebrate and vegetation components within the region, including all targeted sensitive species and sensitive biological resources identified during the desktop assessment and database review. Biologists were competent in identifying suitable sensitive species habitat and had extensive experience conducting botanical field surveys. They were familiar with analyzing potential project impacts, and were knowledgeable about all applicable federal, State, and local regulations related to sensitive biological resource surveys. Biologists recorded all vascular plants and vertebrate wildlife species encountered and assessed habitat suitability for special-status plant and wildlife species with the potential to occur locally (Table 1). Biologists followed protocols and guidelines appropriate for targeted species, as described below.

Table 2 Biological Survey Log

Date of Survey	Number of Surveyors	Start / End Temp (°F)	Start / End Wind Speed (MPH)	Survey Focus[1]
4/10/2023	2	63 / 91	14 / 9	MDT, MGS, WBO, IN, SP, SA
4/11/2023	2	61 / 83	3 / 17	MDT, MGS, WBO, IN, SP, SA
4/12/2023	2	64 / 81	5 / 28	MDT, MGS, WBO, IN, SP, SA
4/13/2023	2	57 / 64	25 / 23	MDT, MGS, WBO, IN, SP, SA
4/14/2023	2	47 / 71	5 / 7	MDT, MGS, WBO, IN, SP, SA
4/16/2023	2	54/ 84	10 / 6	MDT, MGS, WBO, IN, SP, SA
4/17/2023	2	53 / 72	9 / 33	MDT, MGS, WBO, IN, SP, SA
4/18/2023	2	50 / 65	21 / 38	MDT, MGS, WBO, IN, SP, SA
4/19/2023	2	46 / 65	31 / 10	MDT, MGS, WBO, IN, SP, SA
5/10/2023	1	54 /66	0 / 6	JW, SP, SA
5/11/2023	1	55 / 72	0 / 0	JW, SP, SA
5/12/2023	1	55 / 81	0 / 0	JW, SP, SA
5/21/2023	1	67 / 90	0 / 12	WBO, SP, SA
4/5/2024	1	45 / 52	12 / 18	WBO, SP, SA
4/12/2024	2	55 / 72	6/ 18	WBO, SP, SA
4/13/2024	2	50 / 65	6 / 12	WBO, SP, SA
5/1/2024	1	62 / 81	8 / 12	WBO, SP, SA
5/3/2024	1	64 / 81	0 / 15	WBO, SP, SA
5/23/2024	1	56 / 70	0 / 0	WBO, SA
5/24/2024	1	57 / 70	3 / 7	WBO, SA
5/25/2024	1	56 / 72	6 / 0	WBO, SA
5/26/2024	1	56 / 75	0 / 3	WBO, SA
5/27/2024	1	53 / 84	0 / 9	WBO, SA
5/28/2024	1	55 / 84	0 / 9	WBO, SA

Date of Survey	Number of Surveyors	Start / End Temp (°F)	Start / End Wind Speed (MPH)	Survey Focus[1]
5/29/2024	1	57 / 82	0 / 0	WBO, SA
6/11/2024	1	60 / 88	0 / 12	WBO, SA
6/12/2024	1	60 / 93	3 / 6	WBO, SA
6/13/2024	1	60 / 88	5 / 9	WBO, SA
6/14/2024	1	58 / 91	0 / 6	WBO, SA
6/15/2024	1	64 / 95	0 / 12	WBO, SA
6/16/2024	1	63 / 90	0 / 15	WBO, SA
6/17/2024	1	61 / 64	0 / 0	WBO, SA
7/2/2024	1	66 / 97	0 / 15	WBO, SA
7/3/2024	1	70 / 102	0 / 15	WBO, SA
7/4/2024	1	70 / 100	0 / 16	WBO, SA
7/5/2024	1	69 / 108	0 / 15	WBO, SA
7/6/2024	1	74 / 99	0 / 7	WBO, SA
7/7/2024	1	69 / 100	3 / 12	WBO, SA
7/8/2024	1	70 / 91	0 / 9	WBO, SA

[1]**MDT** = Mojave desert tortoise; **WBO** = western Burrowing Owl; **MGS** = Mohave ground squirrel; **SP** = Special Plants; **IN** = general species inventory; **SA** = Special Animals; **JW** = Jurisdictional Waters

3.3.1 Reptile Surveys

3.3.1.1 Mojave Desert Tortoise

MDT are long-lived terrestrial reptiles occupying a variety of arid habitats (sandy flats, rocky foothills, alluvial fans, washes, and canyons) west of the Colorado River in AZ, UT, NV, and CA. (USFWS). These tortoises are herbivorous, foraging on native grasses, wildflowers, herbs, and cacti. This highly cryptic species spends much of its time in underground burrows, aestivating for up to 9 months a year and emerging when favorable conditions for necessary activities arise. Active periods for breeding and foraging are the milder months of spring and fall, with exact dates varying by location. In the western Mojave Desert, this activity period is often April-May and Sept-October. This species is classified as threatened both federally and by the State of California. Primary threats include habitat loss/fragmentation/degradation; climate/precipitation changes; wildfire; disease; road mortality; and increased predation. Conservation plans are in place for this species and its habitat. Vegetation and topography on the project site provide suitable MDT habitat.

Desktop analysis and recent observations indicated suitable breeding habitat for MDT is available and this species is likely to utilize/reside within the project site. The CNDBB search yielded 13 MDT observations in the 9-quad area of the search all occurring between 2004 and 2007. USFWS protocol surveys were conducted in accordance with the protocols described in the USFWS's 2019 updated guidance, *"Preparing for Any Action That May Occur Within the Range of The Mojave Desert Tortoise (Gopherus agassizii)."* Per USFWS survey protocols, a survey with 100 percent visual coverage over the anticipated action area was performed by two surveyors walking 10-meter parallel transects, providing sufficient coverage to locate signs of MDT use (e.g., scat, burrows, tracks, carcasses, courtship rings, drinking depressions, live tortoises). Guidance provided in the USFWS 2009 Field Manual was followed to assess the quality and condition of sign. Predetermined transect routes were downloaded to handheld global positioning system (GPS) units used to navigate the transects and record data occurrences (approximately 3m accuracy). Paper data sheets and digital data collection were completed by experienced MDT surveyors. Photographs were collected of all MDT and associated sign. Objectives of protocol surveys are to determine presence/absence of MDT within the project's action area; estimate the abundance of tortoises; provide information on habitat conditions in the project area; and assess distribution of animals within the area to minimize impacts and inform mitigation measures.

3.3.1.2 Mojave Fringe-toed Lizard (MFTL)

MFTL is a medium-sized omnivorous lizard restricted to sandy habitats. It feeds on insects, seeds, flowers, and other annual vegetation. Aside from the breeding season, the coloration of adults mimics the sand dunes they reside on and affords them camouflage from predators. These spiny lizards derive most of their water from insects and plants, rather than open water. Their specially adapted toes allow them to cross hot desert sand rapidly and create distinctive tracks in appropriate substrates. Desktop analysis indicated three historic observations of MFTL in the 9-quad area around the project site: one record from 1949 and the other two from 2010.

Although suitable aeolian sand and creosote scrub habitat is unavailable for MFTL in the project area, particular attention was given to identifying any localized areas of micro-habitat. There is no defined protocol for surveying for MFTL. Surveyors took additional time to evaluate any sections of land where sand was softer and the potential for this species to occur might be higher and surveys took place

during times this species is known to be most active, March and April during the less extreme daytime heat.

3.3.2 Avian Surveys

3.3.2.1 Western Burrowing Owl (WBO)

The WBO is BLM Sensitive and CDFW SSC. During March 2024, multiple conservation groups petitioned the California Fish and Game Commission to request legal protection for this species under the California Endangered Species Act. Burrowing Owls are small, ground-dwelling birds adapted to scrubland, desert, and grassland habitats, often characterized by low-growing vegetation and limited canopy cover of less than 30 percent. The diet for these owls includes arthropods, small rodents, amphibians, and reptiles. Suitable substrates for underground burrows are a critical habitat component, with burrows often being constructed by fossorial mammals (prairie dogs, ground squirrels, pocket gophers, kangaroo rats, coyotes, desert kit foxes, badgers, skunks) and large reptiles like the Mojave desert tortoise. Burrows are sometimes found in anthropogenic features such as culverts, debris piles, and openings beneath pavement. Foraging habitat is another necessary component of breeding grounds. Habitat loss/degradation and eradication of ground squirrel populations result in insufficient burrow availability. WBO may use project areas for breeding, wintering, foraging, or migration stopovers, with occupation being confirmed by presence of live animals, molted feathers, cast pellets, prey remains, egg fragments, or whitewash at a burrow. Due to the high site fidelity of nesting pairs, a site is assumed occupied if any of the above have been observed within three years (CBOC 1993). The project site provides suitable breeding and foraging habitat for WBO.

Desktop analysis uncovered twelve historic records of WBO in the 9-quad area (dates range from 1978 to 2007). This species is likely to utilize/reside within the project site. Biologists experienced in identifying WBO breeding behavior, sign, usage, and suitable habitat performed 100 percent visual coverage of the project site in accordance with protocols described in CDFG's "*Guidance for Breeding and Non-Breeding Season Surveys*" included in the Staff Report on Burrowing Owl Mitigation (CDFG, 2012). Initial Burrowing Owl surveys were conducted during peak breeding season 2023 (April 15 – July 15), with two biologists walking 10-meter belt transects across the original survey area. Biologists examined natural and artificial substrates for occupation by WBO, and recorded evidence of use (i.e., feathers, pellets, burrows, whitewash, egg fragments, and live birds). Biologists marked all occupied and suitable Burrowing Owl burrows during this effort. Predetermined transect routes were downloaded to GPS units used to navigate the transects and record data occurrences (3m accuracy). All relevant sign, as well as weather and survey conditions, were recorded. During May 2023 and April 2024, all suitable WBO burrows were revisited in an effort to determine occupancy and site use.

Additional WBO focused surveys were performed in May, June and July 2024, within the current project footprint and a 150-m buffer. These additional surveys consisted of three visits where, where a qualified biologist walked transects at 30-meter spacing, allowing for full visual coverage. The qualified biologist checked all of the known (previously detected) suitable WBO burrows and cover sites and marked any newly-detected burrows. Transects were offset between corresponding visits to ensure full visual coverage.

3.3.2.2 Other Avian Species

Suitable nesting and foraging habitat for LeConte's Thrasher and Bell's Sparrow exists within the proposed project area. Focused surveys were not performed for any other avian species during this stage of permitting. Incidental bird detections and nest locations were recorded during baseline surveys and by biologists who were performing other tasks. Feeding and foraging habitat is available for Golden Eagles, Prairie Falcon, and Loggerhead Shrike and historic records exist for each of these species within the 9-quad area. No suitable nesting habitat exists within the property boundary or 150-meter buffer for Golden Eagle, Prairie Falcon, Mountain Plover, Western Snowy Plover or Yuma Ridgeway Rail, although historic records exist within the search area for these species. All avian species observed engaging in nesting behaviors were documented, regardless of special status, and included in the results.

3.3.3 Mammal Surveys

3.3.3.1 Mojave Ground Squirrel (MGS)

MGS is a medium-sized diurnal ground squirrel, endemic to a limited habitat in the western Mojave Desert and listed as Threatened under the CESA. The primary conservation strategy as determined by CDFW is protection of the remaining suitable habitat for this species, including Core Population Areas (CPA), Peripheral Population Areas (PPA), and linkages between these. MGS has one of the smallest geographic ranges of any ground squirrel in North America, thus conservation of the species is inextricably linked with conservation of the habitat. MGS diet is influenced by rainfall; they feed on a wide variety of leaves and seeds of native shrubs, annual plants, and fruits. Preferred food sources during periods of drought are *Krascheninnikovia lanata* and *Grayia spinosa* (CDFW 2019). They spend much of the year in a state of dormancy called aestivation. Peak active periods correspond to favorable weather and are generally the milder 5-6 months during spring and fall, with young being born March-May and squirrels returning to underground burrows by July. Burrow locations under large shrubs (*Lycium cooperi, Grayia spinosa, Larrea tridentata*, willows) are preferred. MGS prefer sandy to gravelly soils in undisturbed land and avoid rocky and disturbed areas. A portion of the current project footprint is within one of eleven important CPAs for MGS, and conditions are suitable for this species.

Desktop analysis revealed 22 historic records for MGS within the 9-quad search area (dates range from 1975 to 2014). The current project footprint Suitable breeding habitat is available on the project and MGS are likely to utilize/reside within the proposed development area. Efforts were made to confirm MGS occupancy using camera traps with bait stations. Motion-triggered game cameras and associated bait stations were placed at ten locations within the proposed development area (Figure 8) between April 17 – May 21, 2023. Cameras suitable for the extreme conditions and rapid motion of targeted species were programmed to detect and record activity. To minimize sun distortion, cameras were installed on t-posts and oriented north toward bait stations. Bait stations were supplied with 4-way horse feed (a mixture of seeds, molasses, and grains commonly chosen for this species).

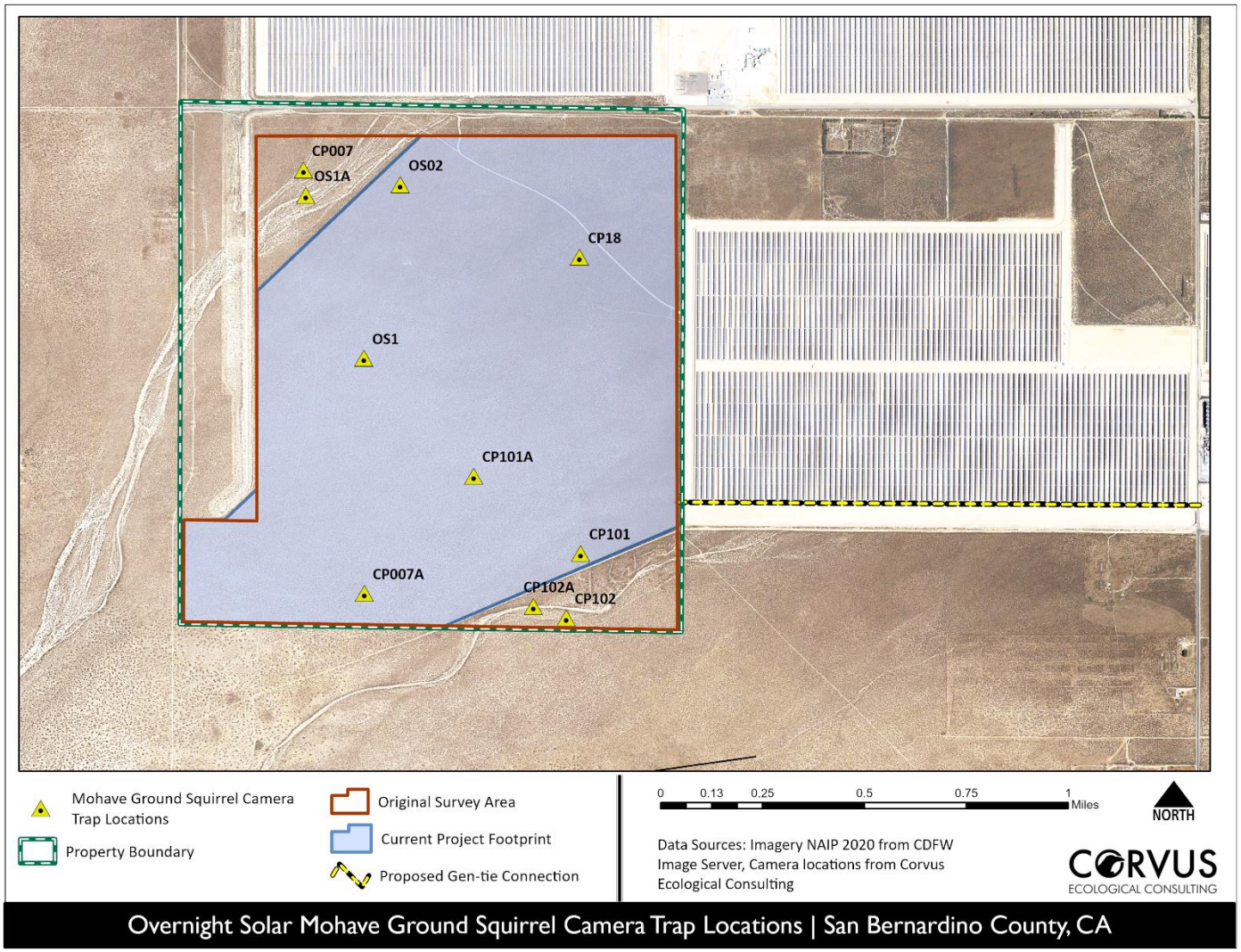

Figure 8. Mohave Ground Squirrel Camera Trap Locations

3.3.3.2 Other Mammal Species

The CNDDB search revealed historic presence records of American badger (2 records) and Mohave River vole (1 record) within the 9-quad area. Suitable habitat for desert kit fox and American badger exists within the surveyed areas. Survey protocols for documenting these burrowing mammals are consistent with that for MDT and WBO, so preliminary surveys occurred simultaneously. Fresh activity for any burrow complexes and sign were recorded in spring 2023 and during spring 2024.

Suitable habitat for Mohave River vole includes areas where flooding occurs regularly within grassy or riparian habitats along the Mojave River corridor. Suitable habitat for Mohave River vole does not exist within the proposed project site or surveyed area. Surveys confirmed the presence of suitable desert kit fox and badger habitat, and desert kit fox burrows were detected within the original survey area and 150-meter buffer.

3.3.4 Botanical Surveys

Desktop analysis of the CNDDB and BIOS databases indicated the possibility of ten sensitive plant species within the project area (Table 3). Floristic botanical field surveys were conducted by qualified biologists in accordance with the CDFW's 2018 "*Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*." Surveys were performed during the flowering season of native plants, between April 10th and April 19, 2023.The full project area was traversed in 10-m parallel belt transects in a north-to-south direction, recording all plant taxa observed. Photographs and locations were collected for any/all sensitive plants. Failure to locate a potential special status plant occurrence during one field season does not constitute evidence that the plant occurrence no longer exists in an area, as survey results are limited by seasonal conditions. Surveyors performed a botanical inventory and mapped all sensitive plant species, including those protected under by the CDNPA and San Bernardino County Development Code.

Table 3. Target list, sensitive plant species

Common Name	Scientific Name	Rare Plant Rank	Blooming Period	Habitat
Barstow woolly sunflower	*Eriophyllum mohavense*	CRPR 1B.2	Mar-May	Chenopod scrub, Mojavean desert scrub, Playas
Beaver Dam breadroot	*Pediomelum castoreum*	CRPR 1B.2	Apr-May	Joshua tree "woodland", Mojavean desert scrub
Creamy blazing star	*Mentzelia tridentata*	CRPR 1B.3	Mar-May	Mojavean desert scrub
Desert cymopterus	*Cymopterus deserticola*	CRPR 1B.2	Mar-May	Joshua tree "woodland", Mojavean desert scrub
Crowned muilla	*Muilla coronata*	CRPR 4.2	Mar-May	Chenopod scrub, Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper woodland
Mojave fish-hook cactus	*Sclerocactus polyancistrus*	CRPR 4.2	Apr-Jul	Great Basin scrub, Joshua tree "woodland", Mojavean desert scrub
Mojave monardella	*Monardella exilis*	CRPR 4.2	Apr-Sep	Chenopod scrub, Desert dunes, Great Basin scrub, Joshua tree "woodland",

Common Name	Scientific Name	Rare Plant Rank	Blooming Period	Habitat
				Lower montane coniferous forest, Mojavean desert scrub, Pinyon and juniper woodland
Mojave spineflower	*Chorizanthe spinosa*	CRPR 4.2	Mar-Jul	Chenopod scrub, Joshua tree "woodland", Mojavean desert scrub, Playas
Torrey's box-thorn	*Lycium torreyi*	CRPR 4.2	Jan-Jun and Sep-Nov	Mojavean desert scrub, Sonoran desert scrub
White pygmy-poppy	*Canbya candida*	CRPR 4.2	Mar-Jun	Joshua tree "woodland", Mojavean desert scrub, Pinyon and juniper woodland

3.4 Jurisdictional Waters Delineation and Aquatic Resources

3.4.1 Jurisdictional Waters Delineation and Aquatic Resources Methods

A desktop review was conducted to identify potential streams and hydric soils on the property. This entailed examination of the NRCS, National Wetland Inventory mapping, National Hydrography Dataset, aerial photography, and the USGS topographic mapping of the project site to aid in identifying potential biological constraints to the project due to jurisdictional streams or features.

A site assessment was performed to evaluate the presence, alignment, and area of waterways that could fall under the jurisdiction of the Lahontan Regional Water Quality Control Board (RWQCB), State (CDFW) and Federal (U.S. Army Corps of Engineers; USACE) regulators. Section 2.4 of this report describes various legislations that provide protection for jurisdictional waters and aquatic resources. During 10-meter biological surveys within the proposed development area, biologists marked all drainages and episodic streams for further evaluation and delineation.

There is currently no single or consistent science-based method for mapping episodic streams (Brady & Vyverberg, 2013). A document titled, "Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants" was used as a reference to describe and characterize the extent of stream resources. As a starting point, aerial photography was combined with a Topographic Position Index (TPI) and potential waterway boundaries were overlaid on a digital aerial map to serve as a reference for ground-based delineation efforts.

Delineation of episodic waterways involved using a high accuracy (sub-meter) Global Navigation Satellite System (GNSS) to mark the edges of geomorphic features, landforms, and vegetation variability, indicating the junction of fluvial activity and uplands. Marked points represented watercourse boundaries or provided reference points for geomorphic features.

Data collected during the delineation effort were used to adjust polygon features and to create a final map of each waterway. A GIS was used to determine the area of potentially jurisdictional drainages.

4.0 BIOLOGICAL SURVEY RESULTS

4.1 Inventory of Vascular Plants and Communities

4.1.1. Vascular Plant Results

During the nine days of surveys, from April 10 to April 19, 2023, 61 plant species were observed. No sensitive plants, including any of the target species (Table 3), were observed during botanical surveys. *Cylindropuntia echinocarpa* is the only cactus encountered during surveys considered under the CDNPA. An inventory of all plant species recorded by CEC biologists is included in the table below.

Table 4. Overnight Solar Vegetation Inventory

Scientific Name	**Common Name**
Ambrosia dumosa	White Bursage
Ambrosia salsola	Cheesebush
Marinkie tessellata	Fiddleneck
Astragalus acutirostris	Sharpkeel Milkvetch
Atriplex polycarpa	Cattle Saltbush
Bromus madritensis	Foxtail Brome
Bromus tectorum	Cheatgrass
Camissonia campestris	Field Primrose
Castilleja exserta	Purple Owl's Clover
Caulanthus lasiophyllus	California Mustard
Chaenactis fremontii	Fremont Pincushion
Chorizanthe brevicornu	Brittle Spineflower
Chorizanthe rigida	Devil's Spineflower
Chylismia claviformis	Browneyes
Cryptantha angustifolia	Narrow-leaved Cryptantha
Cryptantha dumetorum	Scrambling Cryptantha
Cryptantha micrantha	Redroot Cryptantha
Cryptantha nevadensis	Nevada Catseye
Cryptantha pterocarya	Wingnut Cryptantha
Cylindropuntia echinocarpa*	Silver Cholla
Descurainia pinnata	Western Tansymustard
Dichelostemma capitatum	Desert Hyacinth
Eremalche exilis	White Mallow
Eriogonum spp	
Eriogonum trichopes	Little Desert Trumpet
Eriophyllum wallacei	Wallace's Woolly Daisy
Eschscholzia glyptosperma	Desert Gold Poppy
Eschscholzia minutiflora	Pygmy Poppy
Euphorbia albomarginata	Rattlesnake Sandmat
Gilia latiflora	Hollyleaf Gilia

Gilla spp	
Grayia spinosa	Spiny Hopsage
Krascheninnikovia lanata	Winterfat
Larrea tridentata	Creosote Bush
Lasthenia californica	California Goldfields
Lasthenia gracilis	Common Goldfields
Layia glandulosa	Yellow Rayed Layia
Lepidium flavum	Yellow Pepperweed
Linanthus dichotomus	Eveningsnow
Linanthus parryae	Sandblossoms
Logfia depressa	Hierba Limpia
Lomatium mohavense	Mojave Desert Parsley
Loeseliastrum matthewsii	Desert Calico
Lycium andersonii	Water Jacket
Lycium cooperi	Peach Thorn
Malacothrix coulteri	Snake's Head
Malacothrix glabrata	Smooth Desert Dandelion
Mentzelia albicaulis	Small Flowered Blazing Star
Mirabilis laevis	Desert Wishbone-bush
Pectocarya heterocarpa	Mixed-nut Pectocarya
Phacelia distans	Wild Heliotrope
Phacelia fremontii	Fremont's Phacelia
Plantago ovata	Woolly Plantain
Psorothamnus arborescens	California Dalea
Schismus spp	Mediterranean Grass
Sphaeralcea emoryi	Emory's Globemallow
Stephanomeria exigua	Small Wirelettuce
Stephanomeria pauciflora	Parish's Wirelettuce
Stipa hymenoides	Indian Ricegrass
Streptanthella longirostris	Longbeak Streptanthella
Tetradymia stenolepis	Mojave Cottonthorn

*Permit required for take of this species under the CDNPA

4.1.2 Plant Community Results

A sole plant community was observed: Alkali scrub, dominated by *Atriplex polycarpa*. This community is commonly found adjacent to dry lake playa in low-lying areas. The proposed development area is sparsely vegetated with higher density of plants occurring near the main drainages. No trees and very few individual cacti were recorded. These results are typical for the region in areas that have experienced historical grazing and agricultural impacts, as this site has. Alkali scrub is not a sensitive plant community according to the CDFW's Natural Communities List.

4.2 Inventory of Vertebrate Wildlife

During the nine-day initial survey effort in 2023, 30 species of vertebrates were recorded: 10 reptiles, 5 mammals, and 15 birds. Incidental wildlife encounters (i.e., not as part of formal surveys) are also included in this inventory. Three sensitive birds, one sensitive reptile, and recent sign of one sensitive mammal were recorded. One active WBO burrow was recorded in the 150-meter buffer during 2024 breeding season surveys. Details of these sensitive occurrences as well as other non-sensitive species are included below.

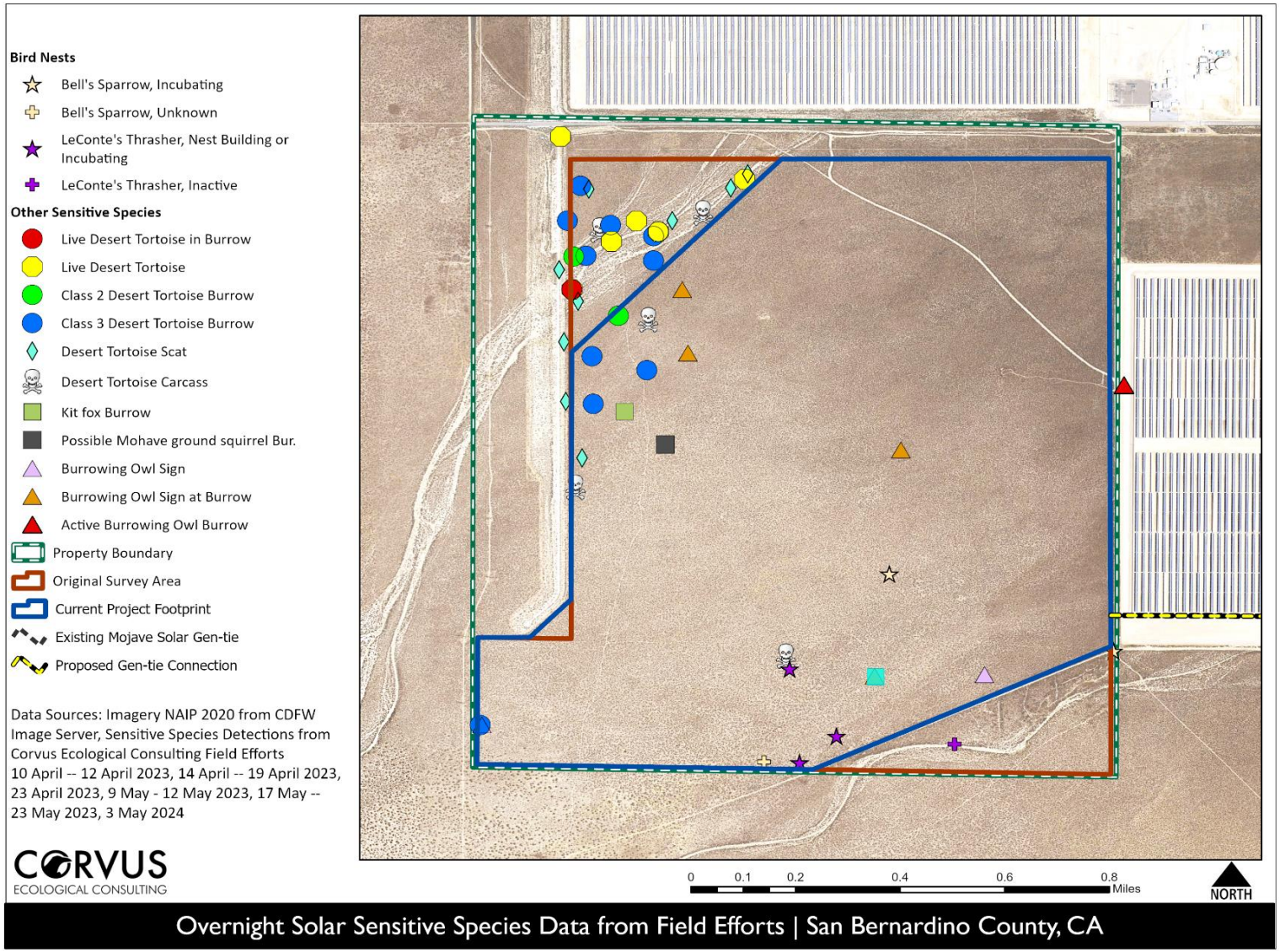

Figure 9. Sensitive species locations from survey efforts conducted during 2023 and 2024.

4.2.1 Sensitive Reptiles

4.2.1.1 Mojave Desert Tortoise

The MDT is present within the original survey area. CEC biologists made 7 detections of live MDT during surveys conducted during April and May 2023, one of which was a juvenile. Three detections were made during focused 10-meter protocol level baseline surveys, and 4 additional detections were made by biologists working on other tasks. Based on size differences and other distinguishing characteristics, it is believed that 5 distinct individuals were encountered during spring 2023.

Three MDT detections made during focused 10-meter transect surveys can be used to estimate desert tortoise densities (USFWS, 2019). Following the referenced protocol, there are an estimated 5.6 adult individuals within the original survey area (1.47 – 20.79, 95% CI). This comes out to 2.0 individuals per square kilometer, which is lower than the estimated average density of 2.8 per square kilometer within the West Mojave Recovery Unit.

All tortoise sightings were near the northwest corner of the original survey area, in proximity to a large abandoned dry wash (Figure 9). Other MDT sign recorded during surveys included Class 2 and Class 3 burrows, recent scat, and four carcasses older than four years.

4.2.1.2 Mojave Fringe-toed lizard

No sign of MFTL was recorded during surveys. This species preferred habitat needs are fine, loose, wind-blown deposits and sand dunes. This habitat is marginal on site, and not likely to support a population of this species.

4.2.2. Sensitive Mammals

4.2.2.1 Mohave Ground Squirrel

No sensitive mammals, including MGS, were observed during the 9-day visual survey period. CDFW considers a project site to be occupied by MGS if an individual of this species is observed or is captured on any sampling grid on the site. During this period 102,000 photos were captured and reviewed but no images of MGS were recorded. This is not confirmation of absence, particularly since 131 acres of the current project footprint is within a CPA (Figure 6). Additional surveys following CDFW guidelines (CDFW 2023) would need to be performed to arrive at a determination this site is free from MGS. Due to the proposed project's location, historical database records, and suitable habitat, it is assumed MGS are present within the proposed development area.

4.2.2.2 Mohave River Vole

Suitable habitat for Mohave River vole is not present within the original survey area and 150-meter buffer. Mohave River vole suitable habitat consists of moist soil or irrigated agricultural fields. No sign of this species was recorded.

4.2.2.3 American Badger and Kit Fox

During 10-m surveys conducted during 2023, and during follow-up WBO surveys in 2024, biologists noted any sign of burrowing mammals. Two desert kit fox burrows were recorded, along with desert kit fox scat. No sign of American Badger was detected during survey efforts.

4.2.3 Sensitive Birds

Three sensitive avian species were detected on the project: Western burrowing owl, Le Conte's thrasher (LCTH) and Bell's sparrow.

4.2.3.1 Western Burrowing Owl

WBO is a BLM Sensitive and CDFW SSC. As described in the Avian Survey methods section, WBO are burrow-dwelling birds with a diet of arthropods, small rodents, amphibians, and reptiles. Suitable foraging and breeding habitat exists on site, and evidence of their presence was recorded during 2023, in the form of soil burrows, scat, and pellets (Figure 9). Survey efforts conducted during spring 2023 and spring 2024 (Table 2) did not result in the detection of any live birds or occupied burrows within the current project footprint. During spring 2024, an occupied Burrowing Owl burrow was detected within the 150-meter buffer of the current project footprint. The occupied burrow is inside the existing Mojave Solar facility, to the east of the proposed project. The occupied burrow is more than 875 meters from the proposed project gen-tie and will not be impacted by its construction.

4.2.3.2 Le Conte's Thrasher

Le Conte's Thrasher is a pale gray songbird with a long tail and somewhat curved bill. They occur in desert flats, washes, and alluvial fans with sandy and/or alkaline soil and scattered shrubs and prefer nest substrates of thorny shrubs and small desert trees. Breeding activity occurs from January to early June, peaking mid- March to mid-April. LCTH forage for food by digging and probing in the soil. They eat arthropods, small lizards and snakes, and seeds and fruit; the bulk of their diet consists of beetles, caterpillars, scorpions, and spiders. The proposed development area offers suitable LCTH habitat, and several breeding pairs were observed in various stages of nest building and incubation as depicted in Figure 9.

4.2.3.3 Bell's Sparrow

Bell's Sparrow is a small grey and brown bird that feeds on insects, spiders, and seeds while breeding. This species seeks cover in dense stands of creosote scrub and forages on the ground below. Nests are generally located in shrubs or on the ground beneath a shrub. This species breeds from March to August, with the peak in May and June. This bird is a CDFW "watchlist" species, but not considered under other rare or special status bird rankings. Breeding pairs and singing male Bell's Sparrows were observed throughout the proposed development area and multiple active nests were recorded. Bell's Sparrow nest locations are depicted in Figure 9.

4.3 Nesting Birds and Wildlife Movement

During wildlife surveys, biologists recorded all wildlife species observed, regardless of status. Most of the birds observed in the project area have no special conservation status; however, all native birds are protected under the federal MBTA and FGC.

Abundant shrubs located within the proposed development area provide suitable habitat for nesting bird species. All vegetated areas provide potential nesting habitat for passerine species and ground-nesting birds. Nests for Bell's Sparrow and Le Conte's Thrasher were observed during the survey period. Several pairs of each of these birds were observed in various stages of breeding.

Wildlife corridors are landscape elements that provide for species movement and dispersal between two or more open spaces or large core habitat areas, allowing gene flow through diffusion of populations over a period of generations, as well as allowing "jump-dispersal" for some species between neighboring habitats. Habitat linkages are typically large open space areas (on a landscape scale) containing natural habitats that provide such connections. Linkages can form large tracts of natural open space and serve as "live-in" or "resident" habitats. There are no wildlife corridors

traversing the project site, as designated by the San Bernardino County General Plan, West Mojave Plan, or Desert Renewable Energy Conservation Plan (DRECP).

4.4 Jurisdictional Waters Delineation and Aquatic Resources Results

Results from the desktop review and site assessment were consistent with each other and two distinct dryland episodic streams were identified within the original survey area. One watercourse crosses the northwest portion of the site, and the second watercourse crosses the southeast portion of the site (Figure 10).

The northern watercourse consists of 24.26 acres of fluvially inactive floodplain and abandoned channels within the original survey area. This complex wash was modified and became fluvially inactive in approximately 1989-1990 when a levee (Figure 11) was constructed upstream to divert drainage and floodwaters away from newly built solar facilities.

The southern watercourse encompasses 5.55 acres within the original survey area and is comprised of a single thread channel.

Both waterways originate in foothills to the southwest of the proposed development area, where surface runoff from rainfall accumulates into natural drainages and flows down a long broad alluvial fan (Figure 4). Historically, these drainages would have terminated at Harper (dry) Lake but existing anthropogenic modifications to the landscape alter the flow. The northern watercourse terminates at a levee, where it is diverted into a large human-made channel before entering the original survey area. This human-made channel serves as a retention basin. The southern watercourse terminates at a constructed drainage channel downstream from the area that protects an existing solar facility from floodwaters and diverts flow into Harper Lake.

The vegetation in both drainages closely resembles that found across the rest of the proposed development area. However, perennial shrubs are more densely populated and robust in these areas, offering better coverage and potentially increased seed production. Bird life and small mammal activity increase near these drainages. All the live desert tortoise and desert tortoise burrow detections were found within and near the northern drainage.

Due to historical modifications and existing impoundments to the northern waterway, it would not fall under the jurisdiction of federal, State, or local agencies. The southern waterway would fall under the jurisdiction of the California Department of Fish and Wildlife and the Regional Water Quality Control Board. Direct and indirect impacts to the southern waterway would be regulated by Fish and Game Code 1600-1607 and by the Porter-Cologne Water Quality Control Act. The project's proponent intends to avoid impacts to Waters of the State by excluding these areas from development.

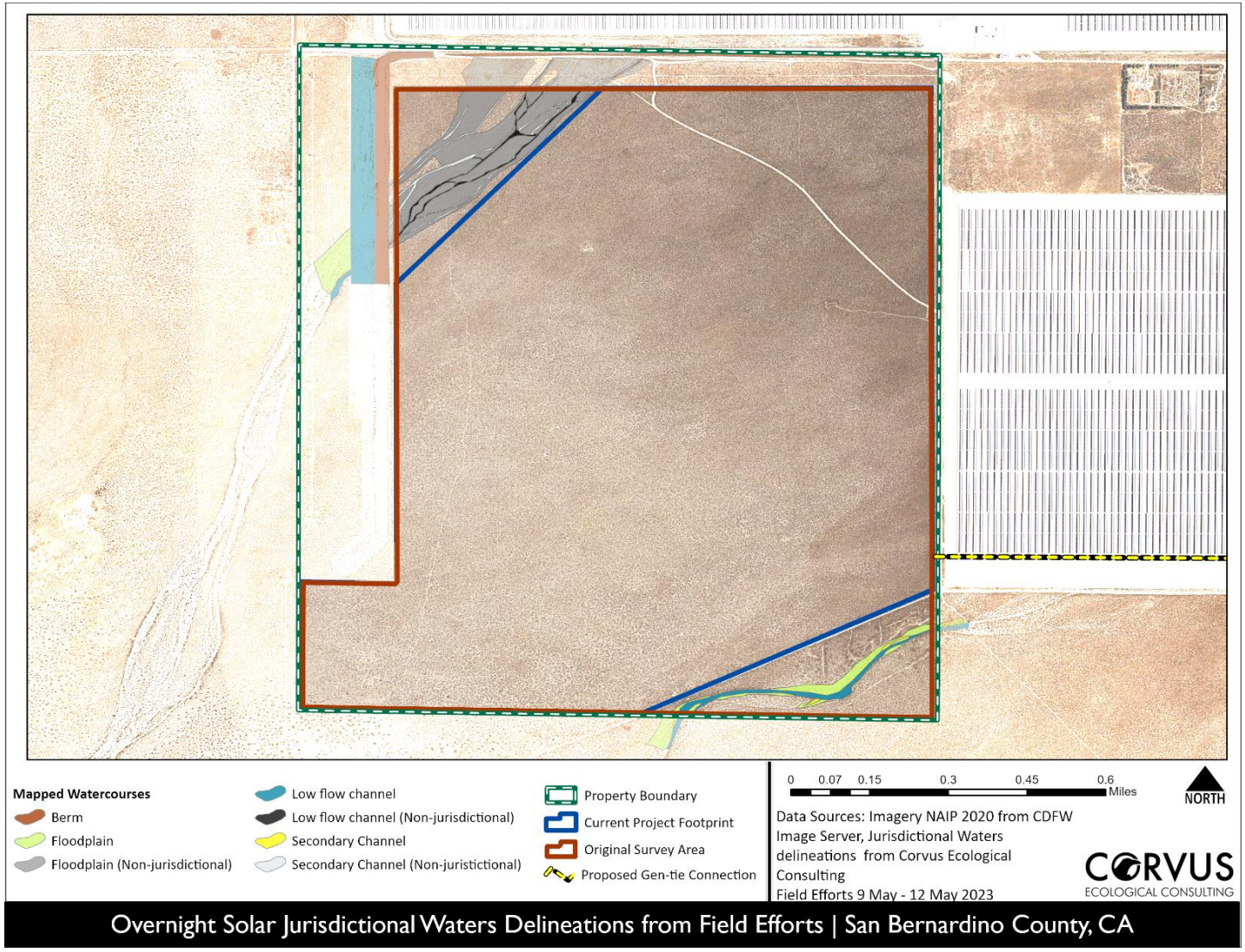

Figure 10. Delineation of potentially jurisdictional waters and aquatic resources.

Figure 11. A levee runs north/ south along the western edge of the Original Survey Area, and diverts flow from an episodic dryland stream originating outside the property boundary.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Direct and Indirect Impacts to Biological Resources

Based on the literature review, surveys, and assessments of the original survey area, the proposed project has a moderate to high potential to significantly impact wildlife and sensitive species, either directly or indirectly, without mitigation measures. These impacts include but are not limited to take of special status species, habitat modifications, vegetation loss, increased vehicle traffic, artificial substrates and materials, potential increases in predation and subsidized predators, reduced biodiversity, reduced foraging and feeding opportunities, physical obstacles to flight, compacted soils, and reduced ground water retention.

Special status and protected species with high to moderate potential for impact include:

1. Federally Threatened and State Threatened Mojave Desert Tortoise
2. State Threatened Mohave Ground Squirrel
3. California SSC/ Protected:
    a. Western Burrowing Owl
    b. Le Conte's Thrasher
    c. Loggerhead Shrike
    d. American Badger
    e. Desert Kit fox
4. California Watch-list Species:
    a. Bell's Sparrow
    b. Prairie Falcon
    c. Golden Eagle
5. Nesting migratory birds
6. The project site does not include federally regulated waters
7. One State-regulated streambed exists within the original survey area

5.2 Recommended Agency Consultations and Permitting

Due to the survey findings, the following is a summary of recommended agency consultations for permitting and compliance purposes.

5.2.1 Federal and State Listed Protected Species

Because the project has the potential to impact federal and State protected species, and other sensitive biological resources, the following agency consultations are recommended:

- The USFWS is providing consultation on an ongoing basis regarding the creation of a Section 10 Habitat Conservation Plan (HCP) and issuance of an Incidental Take Permit, and for consultation regarding impacts to migratory birds.
- CDFW is providing ongoing consultation for a CESA 2081 Take Permit.

5.2.2 Jurisdictional Waters and Aquatic Resources

The original survey area included at least one intermittent stream that falls under the jurisdiction of State and local agencies. Due to historical impacts and existing impoundments, it is believed that the abandoned floodplains and channels of the northern waterway would not fall under the jurisdiction of

local, State, or federal agencies. The project proponent has modified the project boundary to exclude the southern waterway and intends to avoid direct and indirect impacts to this watercourse (see current project footprint, Figure 10). The following recommended agency consultations are based on the results of the Jurisdictional Waters Delineation and proposed project avoidance measures:

- Contact U.S. Army Corps of Engineers for concurrence that no project permit is required under the Clean Water Act because there are no impacts to jurisdictional waters of the United States.
- Contact the Regional Water Quality Control Board – Lahontan Region, for concurrence that a Report of Waste Discharge filing will not be required for the project and to ensure compliance with the Porter-Cologne Water Quality Control Act.
- Contact CDFW for concurrence that a Section 1602 Streambed Alteration Agreement is not needed because there will be no direct or indirect impacts to jurisdictional Waters of the State.

5.2.3 Local Regulations

The CDNPA protects certain species of native plants from unlawful harvesting on both public and privately owned lands. Silver cholla is a cactus protected by the CDNPA. Because silver cholla are present within the proposed development area, consultation with the San Bernardino County is recommended to obtain any necessary native plant/ tree removal permits and to ensure compliance with the CDNPA.

5.3 Mitigation Measures and Design Considerations

When it has been established that a significant impact will potentially occur, the project must propose mitigation to lessen or compensate for the impact. As defined by CEQA Guidelines Section 15370, mitigation includes either measures to avoid, minimize or rectify impacts, or measures that compensate for impacts by replacing or providing substitute resources. The Applicant has considered the results of biological resource surveys presented in this report, and they have followed CEQA guidelines by modifying the project footprint in an effort to avoid impacts to sensitive biological resources (Figure 9). The current project footprint avoids jurisdictional waterways and areas where live desert tortoises were detected. The following additional measures would further mitigate potential impacts to biological resources resulting from development of the Overnight Solar Project. Ongoing consultation with USFWS and CDFW for incidental take permits may result in additional mitigation measures not included in this report.

Implementation of these measures will require involvement from personnel who are pre-approved by CDFW and USFWS. These measures included in this report list positions described by CDFW but individuals serving in these roles will meet USFWS paralleling requirements. Using the appropriate forms, and at least 30 days prior to starting covered activities, Applicant shall submit to CDFW and USFWS in writing, the role, name, qualifications, address, and contact information for any individual who will serve as the Designated Represented, Designated Biologist and/ or Biological Monitor.

- Designated Representative – Applicant shall designate a representative responsible for communications with CDFW and USFWS. The Designated Representative will oversee compliance with take permits and adherence to the mitigation measures described below.
- Designated Biologist(s) and Biological Monitor(s) – Applicant shall ensure that the Designated Biologist(s) and Biological Monitor(s) are knowledgeable and experienced in the biology and natural history of the covered species. The Designated Biologist(s) and Biological Monitor(s)

shall be responsible for monitoring covered activities to help minimize and fully mitigate or avoid the incidental take of individual covered species and to minimize disturbance of covered species habitat.

BIO-1

In compliance with the CDNPA, biologists familiar with silver cholla shall mark all the plants prior to ground-disturbing activities. All cacti and other plants protected by the CDNPA shall be transplanted outside of a disturbance area whenever feasible. Required permits shall be obtained to allow for take and other impacts to CDNPA protected species.

BIO-2

Prior to any construction activity, the Applicant, in coordination with the Designated Biologist and Biological Monitor, shall provide all workers on the project with a WEAP briefing informing them of the biological resources on site and the required measures to avoid unnecessary impact or take of these resources or their habitat. The WEAP shall place special emphasis on protected species including those listed in Section 5.1, and nesting birds protected under the FGC and MBTA, and any special status plants.

The program shall include the following elements:

- A presentation, developed by or in consultation with a biologist familiar with special-status species in the vicinity of the project, discusses the sensitive biological resources with potential to occur on-site. The presentation should include an explanation for resource protection and penalties incurred for non-compliance.
- Brochures or booklets containing written descriptions and photographs of protected species as well as a list of site rules pertaining to biological resources to be provided to all WEAP participants;
- Contact information for the project biological monitor and instructions to contact the monitor with any questions regarding the WEAP presentation or booklets;
- An acknowledgement form to be signed by each worker indicating that they received WEAP training and will abide by the site rules protecting biological resources;
- Conspicuous stickers identifying the project and signifying WEAP completion to be distributed immediately following WEAP training and required on personnel hard hats.

BIO-3

The Applicant shall designate a Designated Biologist and/ or Biological Monitor(s) (see Section 5.3) for all disturbance activities during construction and decommissioning of the project, outside of cleared areas or areas that are not encompassed by desert tortoise exclusionary fencing.

BIO-4

Desert tortoise exclusionary fencing shall be installed around the facility, in conjunction with the security fence, according to the specifications provided by the USFWS Desert Tortoise Field Manual (2009). The installation of desert tortoise exclusionary fencing will precede any ground-disturbing construction activities. Installation of desert tortoise exclusionary fencing will be supervised by a Designated Biologist or Biological Monitor.

Biological Monitors shall perform a clearance survey (USFWS 2019) for desert tortoise within the exclusionary perimeter fencing. If the species is determined present within the project site, individual(s) shall be allowed to leave the site on their own or will be relocated by a biologist that is authorized to relocate desert tortoise by USFWS and CDFW.

Disturbance activities shall be monitored, as follows:

- Environmental awareness training (see BIO-2) shall include education on desert tortoise and Mohave ground squirrel, protective status, and avoidance measures to be implemented by all personnel, including looking under vehicles and equipment prior to moving. If desert tortoises or other protected species are encountered, such vehicles shall not be moved until they have voluntarily moved away from the vehicle and out of harm's way, or a qualified biologist has moved them.
- If a desert tortoise is present, a Biological Monitor shall be present during all disturbance activities in the vicinity of exclusionary fencing (if required) and shall have the authority to stop work as needed to avoid direct impacts to desert tortoises. Periodic biological inspections and maintenance shall be conducted during the construction period to ensure the integrity of exclusionary fencing (if required). Work may proceed within the excluded area when the Biological Monitor confirms all desert tortoises have left the excluded area.
- Should desert tortoises be found during construction activities, the Biological Monitor shall have the authority to stop work as needed to avoid direct impacts to tortoises, and further consultations with the USFWS and CDFW shall take place prior to relocating the desert tortoises.

Trash and food items shall be contained in closed containers and removed daily to reduce attractiveness to opportunistic predators of desert tortoise (e.g., ravens, coyotes, feral dogs).

Employees shall not bring pets to the construction site.

BIO-5

The Applicant shall acquire land to offset impacts to Mojave desert tortoise, Mohave ground squirrel and Western Burrowing Owl as applicable, as well as follow any regulations pertaining to applicable agency permits and agency coordination, such as Incidental Take Permits (ITPs). As applicable and as required and approved by USFWS and CDFW, offsite compensatory mitigation land shall be put into a conservation easement and managed with the goal of providing suitable habitat and ensuring long-term protection for these species.

BIO-6

An MGS trapping routine shall be implemented prior to project site blading and clearing, or other significant impacts to vegetation that may directly affect this species. The trapping routine shall be similar in scope and scale to what is required to determine presence/absence (CDFW 2023). Live trapped animals shall be moved offsite to a translocation area preapproved by CDFW. A Mohave Ground Squirrel Translocation Plan will provide details on the trapping and translocation of this species. A CDFW approved Mohave Ground Squirrel Translocation Plan will be in place at least 60-days prior to the start of construction.

BIO-7

Not more than 30 days prior to project disturbance activities, a qualified biologist(s) familiar and experienced with WBO shall perform a pre-construction clearance survey for this species in accordance with CDFW guidelines (CDFW 2012). If WBO are not detected during pre-construction surveys, and if no burrows have active sign (tracks or scat), then construction related activities may begin and no further action shall be required and no further mitigation under this measure is necessary.

If WBO is present on-site, a non-disturbance buffer will be implemented. Fencing or flagging shall be installed to create a non-disturbance buffer area where no work activities may be conducted. The non-disturbance buffer will be a 200-meter radius from the occupied burrow during the breeding season (February 1st – August 31st), unless authorized by a qualified biologist. During the non-breeding season (September 1st – January 31st), no ground disturbing activities shall be permitted within 50-meters of an occupied burrow. A smaller buffer may be established in consultation with a qualified biologist.

If avoidance of an occupied burrow is infeasible, WBO may be passively relocated by a qualified biologist during the non-breeding season, or when owls have not laid eggs, or whenever juveniles are capable of independent survival. Passive translocation will follow a CDFW approved Burrowing Owl Exclusion Plan or Passive Relocation Plan that will be prepared and approved by CDFW prior to implementing relocation efforts. At a minimum, the plan will be prepared by a qualified biologist in accordance with the 2012 CDFW *Staff Report on Burrowing Owl Mitigation* . The Burrowing Owl Exclusion Plan or Passive Relocation Plan shall include the following performance standards:

- Excavation shall require nonpowered hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow and monitored for at least 48 hours after installation. If burrows will not be directly impacted by the project, one-way doors shall be installed to prevent use and shall be removed after ground-disturbing activities have concluded in the area. Only burrows that will be directly impacted by the project shall be excavated and filled.
- Detailed methods and guidance for passive relocation of burrowing owls to off-site "replacement burrow site(s)" consisting of a minimum of two suitable, unoccupied burrows for every Burrowing Owl or pair to be passively relocated.
- Monitoring and management of the replacement burrow site(s) and a reporting plan. The objective shall be to manage the replacement burrow sites for the benefit of Burrowing Owls (e.g., minimizing weed cover), with the specific goal of maintaining the functionality of the burrows for a minimum of 2 years.
- Monitoring active burrows during construction periods to ensure Burrowing Owls are not detrimentally affected. The Applicant, in consultation with CDFW, shall respond to monitoring results and implement additional measures to avoid disturbances that could result in nest failure during the breeding season, or impacts that could result in injury or mortality at any time.

- Compensatory Mitigation to offset impacts by purchasing and managing off-site habitat or by purchasing mitigation credit, as approved by CDFW. (see BIO-5).

BIO-8

To avoid construction-level impacts to nesting birds during the nesting breeding bird season (February 1st through August 31st), no earlier than 7 days prior to commencement of scheduled ground disturbance activities, a qualified biologist with prior nesting bird survey experience shall perform a nest survey within 150-meters of the disturbance footprint, as accessible. If active nests are found, project disturbance activities shall be postponed or halted within a non-disturbance buffer surrounding each active nest (to be established by a qualified biologist) that is suitable to the particular bird species and nest location(s) until the nest(s) are vacated and juveniles have fledged or failed, as determined by the qualified biologist. Any such buffer(s) shall be clearly demarcated in the field with highly visible construction fencing or flagging, and construction personnel shall be instructed on the sensitivity of nest areas. A qualified biologist shall monitor construction activities near all such buffer(s) to ensure no inadvertent impacts on active nest(s). If special status species are involved and a non-disturbance buffer cannot be established, CDFW and/or USFWS shall be notified immediately for consultation on how to proceed.

BIO-9

To reduce the subsidies available to Common Ravens, a qualified biologist shall ensure the following measures are taken throughout the pre-construction, construction, operations and maintenance, and decommissioning stages of the project:

- Water used for construction and operation shall not be applied in such a manner to create pools or puddles. Availability of water subsidies to Common Ravens will be minimized to the extent practical.
- Roadkill and common wildlife killed during construction shall be removed and disposed of in ways that do not encourage scavenging. Availability of food subsidies to Common Ravens will be minimized to the extent practical.
- Sensitive species killed by Common Ravens shall be collected and reported to CDFW.
- Inactive Common Raven nests shall be removed, and deterrents erected, if possible, to reduce onsite presence.
- Active Common Raven nests will be reported to the appropriate agency for management and removal.
- Trash receptacles shall be covered and secured to prevent scavenger access. WEAP training shall inform all workers about the need to prevent scavenger access to open trash and food scraps.
- The Applicant will contribute $105/ acres of disturbance to the Regional Raven Management Program.

BIO-10

The following Best Management Practices (BMPs) shall be implemented during project grading and construction and decommissioning activities to address potential indirect impacts:

- Backfill trenches. At the end of each workday, all potential wildlife pitfalls (e.g., trenches, bores, excavation pits) shall be backfilled, covered, or sloped to allow wildlife egress. Should wildlife become trapped, the biological monitor shall be notified by construction personnel to remove and relocate the individual(s).
- Cover materials. All open ends of pipes, culverts, or other hollow materials temporarily installed in open trenches or stored in staging/laydown areas shall be covered/capped at the end of each workday. Any such materials that have not been capped shall be inspected by construction personnel for wildlife before being moved, buried, or handled. Should wildlife become trapped, a qualified biologist shall be notified by construction personnel to remove and relocate the individual(s).
- Soil binding and weighting agents used on unpaved surfaces shall be nontoxic to wildlife and plants.
- All vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills shall be immediately cleaned up and the contaminated soil shall be properly handled or disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area.
- The project shall incorporate methods to control runoff, including a stormwater pollution prevention plan to meet NPDES regulations. Implementation of stormwater regulations is expected to substantially control adverse edge effects (e.g., erosion, sedimentation, habitat conversion) during and following construction, both adjacent to and downstream from the project area.Typical construction BMPs specifically related to reducing impacts from dust, erosion, and runoff generated by construction activities shall be implemented. During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns, which will protect sensitive vegetation from being inundated with sediment-laden runoff. Dewatering shall be conducted in accordance with standard regulations of the RWQCB. An NPDES permit, issued by the RWQCB to discharge water from dewatering activities, shall be required prior to the start of dewatering. This permit will minimize erosion, siltation, and pollution in sensitive vegetation communities.

BIO-11

The project will avoid direct and indirect impacts to jurisdictional waters by excluding them from the development area. No construction related activities will occur within 50 feet of the areas delineated as jurisdictional waters.

BIO-12

Qualified biologists shall conduct pre-construction den surveys for desert kit fox and American badger on the project site 14-30 days and 24 hours prior to any vegetation removal or ground disturbing construction activities. Because Mojave desert tortoises will utilize shelter sites created by American badger and desert kit fox, these surveys may take place concurrently with desert tortoise pre-construction clearance surveys. Pre-construction surveys for desert kit fox and American Badger will include disturbance areas and a 30-meter buffer to the extent allowable. The locations of American badger and desert kit fox dens will be recorded. Current status and use by American badger and desert

kit fox will be determined through the use of wildlife cameras, scopes, and/ or tracking substrate. Inactive and unoccupied dens will be collapsed during clearance surveys. Active dens will be monitored, and a qualified biologist will establish a 50-meter non-disturbance buffer during the non-breeding season and a 150-meter non-disturbance buffer during the breeding/ pupping season (February 1 – May 15). The buffer size may be amended by a qualified biologist through consultation with CDFW. Active burrows shall be avoided until they are confirmed unoccupied by a qualified biologist.

Burrow occupancy will be determined using a tracking medium such as diatomaceous earth or fine clay, or infrared cameras placed at the entrance. If no tracks or evidence of activity is observed after 3 consecutive nights of monitoring, the burrow shall be scoped and backfilled using nonpowered tools. If tracks or evidence of burrow occupancy is observed, burrows shall be fitted with one-way trap doors for exclusion purposes. Infrared cameras will be used in conjunction with one-way trap doors to assess the effectiveness of exclusion efforts. At least forty-eight hours after installing one-way exclusion doors, and after confirming the effectiveness of exclusion efforts through photo review, the burrow will be scoped and backfilled using nonpowered tools. If occupancy monitoring reveals the burrow is being used for breeding/ reproductive purposes, CDFW will be consulted to determine the course of action pertaining to exclusion efforts and passive translocation.

To guard against the spread of distemper and other diseases, equipment and tools used for burrow occupancy monitoring and excavation will be treated with a disinfectant that's proven effective. This includes but is not limited to accelerated hydrogen peroxide, potassium peroxymonosulfate, or a 1:20 dilution of household bleach. Fieldworker clothing will be washed in hot water and dried using a dryer.

CDFW will be notified in dealing with injured, sick, or dead American badger or desert kit fox.

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