PARTIALLY RECIRCULATED DRAFT
Environmental Impact Report

for

IP Easley LLC's
Easley Renewable Energy Project

(SCH No. 2022-11-0240)

Conditional Use Permit No. 220021
Public Use Permit No. 230002
Development Permit No. 2200016

Lead Agency:

RIVERSIDE COUNTY
PLANNING DEPARTMENT

Technical Assistance by:

Aspen
environmental group

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ACRONYMS AND ABBREVIATIONS

AADT	Annual Average Daily Traffic
AB	Assembly Bill
AC	Alternating current
ACEC	Area of Critical Environmental Concern
ADT	Average daily trips
AF	Acre-feet
AFY	Acre-feet per year
AGL	Above ground level
AGR	Agriculture Supply
ANSI	American National Standards Institute
APLIC	Avian Power Line Interaction Committee
APS	Arizona Public Service
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ASTM	American Society of Testing and Materials
ATCM	Airborne Toxic Control Measures
ATCTs	Air Traffic Control Towers
ATV	All-terrain vehicle
BACMs	Best Available Control Measures
BAT	Best Available Technology
BBCS	Bird and Bat Conservation Strategy
BCRs	Bird Conservation Regions
BCT	Best Conventional Pollutant Control Technology
BESS	Battery energy storage system
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	Best management practices
BRTR	Biological Resources Technical Report
CAA	Clean Air Act
CAISO	California Independent Systems Operator
CalARP	California Accidental Release Prevention
Cal-EPA	California Environmental Protection Agency
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCT	Correlated Color Temperature
CDCA	California Desert Conservation Area
CDD	California Desert District
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CDWR	California Department of Water Resources
CEC	California Energy Commission
CEHC	California Essential Habitat Connectivity
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act

CFC	California Fire Code
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CHP	California Highway Patrol
CIWMB	California Integrated Waste Management Board
CIWMP	County Integrated Waste Management Plan
CMAs	Conservation and Management Actions
CMLUCA	California Military Land Use Compatibility Analyst
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CPRC	California Public Resources Code
CPUC	California Public Utilities Commission
CRIT	Colorado River Indian Tribes
CRPR	California Rare Plant Rank
CRR	Cultural Resources Report
CRWSP	Colorado River Water Supply Plan
CSA	County Service Area
CSP	Concentrating solar power
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agencies
CVC	California Vehicle Code
CVGB	Chuckwalla Valley Groundwater Basin
CWA	Clean Water Act
DC	Direct current
DCAP	Desert Center Area Plan
DCSL	Desert Center Sanitary Landfill
DDWW	Desert dry wash woodland
DEH	Department of Environmental Health
DESCP	Drainage Erosion and Sedimentation Control Plan
DFA	Development Focus Area
DNI	Direct normal irradiance
DOC	California Department of Conservation
DPM	Diesel particulate matter
DPV	Devers–Palo Verde
DRECP	Desert Renewable Energy Conservation Plan
DSSF	Desert Sunlight Solar Farm
DTSC	Department of Toxic Substance Control
DWMA	Desert Wildlife Management Area
DWR	Department of Water Resources
EA	Environmental Assessment
EAP	Energy Action Plan
EID	Emerging Infectious Diseases
EIR	Environmental Impact Report
ELDP	Environmental Leadership Development Project
EMF	Electric and magnetic fields
EPA	Environmental Protection Agency
ESA	Endangered Species Act

ESS	Energy Storage Systems
FAA	Federal Aviation Administration
FED	Federal Land Manager Environmental Database
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zones
FLPMA	Federal Land Policy and Management Act
FMMP	Farmland Mapping and Monitoring Program
FMPP	Fire Management and Prevention Plant
FRAs	Federal Responsibility Areas
FUDS	Formerly Used Defense Sites
GCR	Ground cover ratio
GHG	Greenhouse gas
GMRMP	Groundwater Monitoring, Reporting, and Mitigation Plan
GPA	General Plan Amendment
GSAs	Groundwater Sustainability Agencies
GSI	Groundwater References
GSP	Groundwater Sustainability Plan
GWR	Groundwater Recharge
Ha	High Sensitivity
HEPA	High-efficiency particulate air
HFCs	hydrofluorocarbons
HLZ	Helicopter Landing Zone
HMBP	Hazardous Materials Business Plan
HMMP	Hazardous Materials Management Plan
HMP	Hazardous Materials Plan
HR	Hydrologic Region
HVAC	Heating, Ventilation and Air Conditioning
HWCL	Hazardous Waste Control Law
I-10	Interstate 10
IBC	International Building Code
ICC	International Code Council
IDB	Infectious Diseases Branch
IEEE	Institute of Electrical and Electronics Engineers
IIPP	Injury and Illness Prevention Program
IND	Industrial Service Supply
IWMB	Integrated Waste Management Board
IWMP	Integrated Weed Management Plan
JTNP	Joshua Tree National Park
KOPs	Key Observation Points
LADWP	Los Angeles Department of Water and Power
LAMP	Local Agency Management Program
LBNL	Lawrence Berkeley National Laboratory
LD-IGR	Local Development – Intergovernmental Review
LOS	Level of Service
LR2000	BLM Land and Records System
LRAs	Local Responsibility Areas
LSAA	Lake and Streambed Alteration Agreement
LSTs	Localized Significance Thresholds

LTDR	Lake Tamarisk Desert Resort
LTVAs	Long Term Visitor Areas
LU	Land Use
LUPA	Land Use Plan Amendment
MD	Munitions debris
MEC	Munitions and explosives of concern
MET	Meteorological
MLRS	Mineral and Land Records System
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
MMs	Mitigation measures
MOSE	Multipurpose Open Space Element
MRZ	Mineral Resource Zone
MUC-M	Multiple-use Class – Moderate Use
MUN	Municipal and Domestic Supply
MW	Megawatts
MWD	Metropolitan Water District
NBMP	Nesting Bird Management Plan
NCCP	Natural Community Conservation Plan
NCP	National Contingency Plan
NECO	Northern and Eastern Colorado Desert Coordinated Management Plan
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NESC	National Electric and Safety Code
NFPA	National Fire Protection Association
NFWF	National Fish and Wildlife Foundation
NHMLAC	Natural History Museum of Los Angeles County
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPPA	Native Plant Protection Act
NPS	National Park System
NRCS	Natural Resources Conservation Service
NSHM	National Seismic Hazard Model
OEHHA	Office of Environmental Health Hazard Assessment
OHV	Off-highway vehicle
OPGW	Optical ground wire
OPLMA	Omnibus Public Lands Management Act
OPR	Office of Planning and Research
OS	Open Space Element
OSHA	Occupational Safety and Health Administration
OS-RUR	Open Space, Rural
OWTS	Onsite Wastewater Treatment Systems
PCBs	Polychlorinated biphenyls
PERP	Portable Equipment Registration Program
PFCs	perfluorocarbons
PFYC	Potential Fossil Yield Classification

PM10	Particulate matter (less than 10 microns in diameter)
PM2.5	Fine particulate matter (less than 2.5 microns in diameter)
POD	BLM Plan of Development
PPA	Power Purchase Agree
PPE	Personal protective equipment
PPV	Peak particle velocity
PRIMP	Paleontological resource impact mitigation program
PRMP	Paleontological Resource Monitoring and Mitigation Plan
PRPA	Paleontological Resources Preservation Act
PTNCL	Prehistoric Trails Network Cultural Landscape
PUP	Public Use Permit
PV	Photovoltaic
PVMGB	Palo Verde Mesa Groundwater Basin
RCDWR	Riverside County Department of Waste Resources
RCFD	Riverside County Fire Department
RCGP	Riverside County General Plan
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
REAT	Renewable Energy Action Team
RMPs	Resource Management Plans
ROD	Record of Decision
ROG	Reactive organic gases
ROW	Right-of-Way
RPS	Renewable Portfolio Standard
RTP/SCS	Regional Transportation Plan and Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SBCM	San Bernardino County Museum
SCADA	Supervisory Control and Data Acquisition System
SCAN	Soil Climate Analysis Network
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SDC	Seismic Design Category
SDNHM	San Diego Natural History Museum
SEGS	Solar Energy Generating System
SGMA	Sustainable Groundwater Management Act
SMARA	Surface Mining and Reclamation Act
SMARTS	Stormwater Multiple Application and Report Tracking System
SMD	Sonoran and Mojave Deserts
SMP	Soil Management Plan
SMRA	Special Recreation Management Area
SMZ	Sand migration zone
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SR-177	State Route 177
SRA	State Responsibility Area
SRPs	Special Recreation Permits
SSURGO	Soil Survey Geographic

STATSGO	State Soil Geographic
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
TCA	Tortoise Conservation Area
TDM	Transportation Demand Management
TDS	Total Dissolved Solids
TISG	Transportation Impact Study Guide
TNW	Traditional navigable waters
TP	Technical Policy
TSCA	Toxic Substances Control Act
UAS	Unmanned Aircraft System
UBC	Uniform Building Code
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USDA	U.S. Department of Agriculture
USDOT	United States Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USTs	Underground storage tanks
UXO	Unexploded ordnance
VCR	Visual contrast rating
VMT	Vehicle miles traveled
VOC	Volatile organic compounds
VPLs	Variance Process Lands
VR	Visual Route
VRM	Visual Resource Management
VRMP	Vegetation Resources Management Plan
WARM	Warm Freshwater Habitat
WDR	Waste Discharge Requirements
WEAP	Worker Environmental Awareness Program
WILD	Wildlife Habitat
WSA	Water Supply Assessment
WSC	Western Science Center
WWEC	West-Wide Energy Corridor
WWII	World War II

EXECUTIVE SUMMARY

ES.1 Introduction

In compliance with the California Environmental Quality Act (CEQA), the County of Riverside (County) is the Lead Agency responsible for preparation of this Partially Recirculated Draft Environmental Impact Report (EIR) for the Easley Renewable Energy Project (Easley or Project). As the CEQA Lead Agency, the County is responsible for coordinating with the Project applicant, IP Easley I, LLC, IP Easley II, LLC, and IP Easley III, LLC (Applicant or Proponent), the public, and responsible agencies during the CEQA process. This Partially Recirculated Draft EIR will inform the public and decision-makers at local and State permitting agencies of potentially significant environmental impacts associated with the Project and identify means of reducing or eliminating those impacts that are addressed within the Partially Recirculated Draft EIR. The information contained within this Partially Recirculated Draft EIR will be considered by applicable decision-makers in determining whether to grant the necessary Project approvals.

The Executive Summary identifies the purpose of this Partially Recirculated Draft EIR and the scope of comments to be considered during the Partially Recirculated Draft EIR recirculation period. The Executive Summary briefly describes the Project, introduces the chapters included in this Partially Recirculated Draft EIR, and summarizes the changes to the Original Draft EIR within those chapters.

As a note for reviewers, this Partially Recirculated Draft EIR updates 7 chapters, plus this Executive Summary, and updates or adds 21 appendices of the January 2024 Draft EIR for the Project (Original Draft EIR), which can be found at https://planning.rctlma.org/ip-easley-solar-plant-project-cup220021#2741959481-3051767027. Beginning with Chapter 2, Description of the Proposed Project and Alternatives, existing text from the Original Draft EIR is in black text and additions and corrections to the existing text are in blue. Deletions are indicated as strikethrough black text (i.e., ~~text~~) and additions are in <u>underlined</u> text.

Pursuant to procedures set forth in Section 15088.5(f)(2) of the State CEQA Guidelines, reviewers are directed to limit their comments to the revised information contained in this Partially Recirculated Draft EIR. Reviewers need not resubmit comments on the Original Draft EIR. Pursuant to CEQA Guidelines Section 15088.5(g), a summary of the revisions is provided in Section ES.5. The textual <u>underline</u> and ~~strikeout~~ also serve as a summary.

ES.2 Project Objectives

The Applicant's purpose for the Project is to generate, store, and transmit renewable energy to the statewide wholesale electricity grid. The Applicant's identified Project objectives are:

1. Support climate and clean energy goals of the Inflation Reduction Act of 2022 by helping to tackle the climate crisis and work towards achievement of President Biden's goal of a zero-carbon power sector by 2035 and zero-carbon economy by 2050 through development of clean electricity (power sector);
2. Assist the nation to meet its Nationally Determined Contribution commitments under Article 4 of the Paris Climate Agreement to achieve a 50 to 52 percent reduction in U.S. greenhouse gas pollution from 2005 levels by 2030, and to achieve 100 percent carbon pollution-free electricity by 2035 in the electricity sector;
3. Further the purpose of Secretarial Order 3285A1, establishing the development of environmentally responsible renewable energy as a priority for the Department of the Interior;
4. Deliver up to 400 MW of affordable, wholesale renewable energy to California ratepayers under long-term contracts with electricity service providers;

5. Assist with achieving California's renewable energy generation goals under the Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350) and the 100 Percent Clean Energy Act of 2018 (Senate Bill 100), as well as greenhouse gas (GHG) emissions reduction goals of the California Global Warming Solutions Act of 2006 (AB 32), as amended by Senate Bill 32 in 2016;
6. Enhance California's fossil-free resource adequacy capabilities and help to solve California's "duck curve" power production problem by installing up to 650 MW of 2-hour and/or 4-hour battery energy storage capacity;
7. Minimize environmental impacts and land disturbance associated with renewable energy development by siting the facility on relatively flat, contiguous lands with high solar insolation, in close proximity to established utility corridors, existing transmission lines with available capacity to facilitate interconnection, and road access;
8. Conform with the Desert Renewable Energy Conservation Plan, including Conservation Management Actions;
9. Bring living-wage jobs to Riverside County;
10. Bring sales tax revenues to Riverside County by establishing a point of sale in the County for the procurement of most major Project services and equipment;
11. Make the highest and best use of primarily disturbed, retired agricultural land in and around a federal "Solar Energy Zone" and "Development Focus Area" to generate, store, and transmit affordable, wholesale solar electricity; and
12. Develop a commercially financeable renewable energy project.

ES.3 Project Summary

The Applicant is proposing the Project to generate up to 400 megawatts (MW) and store up to 650 MW of electricity from solar photovoltaic (PV) panels on approximately 3,735 acres in Riverside County, California. The Project consists of 24 parcels on private land (~990 acres), and 13 parcels on public lands administered by the U.S. Bureau of Land Management (BLM) (~2,745 acres).

The Applicant would site the solar facility, battery energy storage system, onsite substation, and a short portion of a 500 kilovolt (kV) generation intertie (gen-tie) line within the County of Riverside's jurisdiction, requiring a Conditional Use Permit (CUP 220021), Public Use Permit (PUP 230002), and Development Agreement (DA 2200016) for construction, operation, and decommissioning.

There are 8 parcels on the Project site enrolled in contracts under the California Land Conservation Act of 1965 (referred to as the Williamson Act). Nonrenewal applications were filed in September 2022. Prior to CUP approval, the Williamson Act contracts would need to be cancelled per statutory findings made by the Riverside County Board of Supervisors along with a decision on agricultural preserve diminishment, or it must be determined that the Project is compatible under Riverside County Ordinance 509.

In addition to CUP 220021, PUP 230002, and DA 2200016, the Applicant is seeking ministerial approval by Riverside County to vacate the facility's interior roadways and merge contiguous Project parcels within the Project area into a contiguous area. Roads along the Project perimeter on the solar facility lands would remain dedicated public access. Ancillary permits, including encroachment permits, grading and construction permits, and certificates of occupancy, are anticipated from the County. These permits and approvals are local ministerial actions that will follow CEQA compliance and CUP and DA approval.

If approved, the Project would interconnect to the electrical grid at Southern California Edison's (SCE) Red Bluff Substation. Approximately 6.5 miles of the Project's 6.7-mile gen-tie line leading to Red Bluff

Substation would traverse federal lands managed by the BLM and require a Right-of-Way (ROW) Grant. The gen-tie line would start at the onsite substation, expected to be located on private property (APN 808-023-018). Just south of the substation, the 500 kV gen-tie line would enter the Oberon Renewable Energy Project site and would traverse BLM-administered land for the remainder of the route to interconnect into an existing substation on the Oberon site, an adjacent solar and energy storage facility owned by Intersect Power. From the Oberon onsite substation, the power generated by the Easley Project would be transmitted to the SCE Red Bluff Substation via the existing Oberon 500 kV gen-tie line.

Public lands within the Project solar application area are lands designated as Development Focus Area (DFA) by the Desert Renewable Energy Conservation Plan (DRECP) and associated Record of Decision (ROD), and thus, have been targeted for renewable energy development. Because the proposed Project is partially located on federal land under management of the U.S. Bureau of Land Management (BLM), the BLM is the lead agency under the National Environmental Policy Act (NEPA), 42 U.S.C. section 4321 et seq. As explained below, although this EIR will consider the environmental impacts of the Project as a whole, including components outside State and local agency jurisdiction, the BLM will prepare and rely on its own environmental review document in accordance with NEPA. As part of the NEPA process, the BLM requires a Plan of Development (POD) and associated technical appendices to specify the terms under which a right-of-way across federal lands is to be granted for the Easley Renewable Energy Project (IP Easley, 2023).

In March 2024, the Project was certified by Governor Newsom as an Environmental Leadership Development Project (ELDP) under Senate Bill (SB) 7, and thus, is eligible for a streamlined judicial review as authorized under Public Resources Code section 21178 et seq. The Jobs and Economic Improvement Through Environmental Leadership Act of 2021 provides a streamlined CEQA review process for construction projects that qualify as ELDPs. Among other requirements, ELDPs must make substantial financial investments within California, create high-wage and highly skilled jobs, and must not result in any net additional greenhouse gas emissions.

The County of Riverside is the Lead Agency for the proposed Project, under whose authority this Partially Recirculated Draft EIR has been prepared. For purposes of this Partially Recirculated Draft EIR, the term "Project" refers to the discretionary actions required to implement CUP 220021 and PUP 230002, as proposed, along with all of the activities associated with its implementation including planning, construction, and long-term operation. In summary, the Project, as evaluated throughout this Partially Recirculated Draft EIR considers the impacts that would occur as a result of developing the Project site in accordance with the land uses that will be specified in the Contiguous Parcel Mergers. Specifically, the Applicant is requesting the following governmental approvals from the County of Riverside to implement the Project (refer to Section 2, Description of the Proposed Project and Alternatives, for a complete description of the Project's construction and operational characteristics):

- **Conditional Use Permit (CUP 220021)** is proposed for the construction, operation, and decommissioning of the proposed solar facility, electrical storage equipment, and portions of the gen-tie line within the County of Riverside's jurisdiction.
- **Development Agreement (DA 2200016)** would be signed between the Applicant and Riverside County in accordance with Board of Supervisors' Policy B-29 (discussed below) to compensate the County for the use of its real property.
- **Public Use Permit (PUP 230002)** would be required for crossings of roadways under County jurisdiction, including medium voltage collector line crossings of Investor Road, Bellsby Road, and Jojoba Road, and the 500 kV gen-tie line crossing of Orion Road.

- **Contiguous Parcel Mergers.** The Applicant is planning to merge contiguous Project parcels within the Project area into a contiguous area. Roads along the Project perimeter on the solar facility lands would remain dedicated public access.
- **Cancellation of a Williamson Act Contract.** Williamson Act contracts would need to be cancelled for 8 parcels that would be included as part of the Project.

Provided below is a list of known discretionary and ministerial actions needed by Riverside County to implement the proposed Project. This Partially Recirculated Draft EIR covers all federal, state, and local government approvals which may be needed to construct or implement the Project, whether explicitly noted below or not.

Riverside County Board of Supervisors

1. Certify the Final EIR (which will include the Draft EIR and this Partially Recirculated Draft EIR) and make appropriate CEQA Findings
2. Approval by resolution of agricultural preserve diminishment for parcels under Williamson Act contract
3. Approval by resolution of CUP 220021
4. Approval by resolution of PUP 230002
5. Cancellation of Williamson Act contracts by the County of Riverside.
6. Enter into a Development Agreement with the Applicant per Board of Supervisors Policy B-29 (discussed below)

Subsequent Project Approvals

Following cancellation of Williamson Act contracts and approval of Conditional Use Permit and Public Use Permit by the County of Riverside, approving development of specific uses conditionally permitted by the approved zoning, subsequent approvals associated with the proposed Project may include, but are not limited to, the following. A table of required permits is also included in Table 1-1 in Section 1.9 (Anticipated Permits and Approvals). Some of these permits are ministerial.

1. Implementation of the contiguous parcel mergers.
2. Grading permits, road improvements, and drainage improvements (included in the Construction Permit) by the County of Riverside and Riverside County Flood Control and Water Conservation District to allow implementation of the Project.
3. Grant of Right-of-Way and Temporary Use Permit by the U.S. Bureau of Land Management for the construction and operation of the solar and energy storage facility, gen-tie line, and associated facilities on BLM-administered land.
4. Encroachment permits by the County to allow access within County rights-of-way, for utility trenching within a public right-of-way, as well as an encroachment permit by the California Department of Transportation for installation of ingress egress lane(s) and construction of the gen-tie line.
5. Lake and Streambed Alteration Agreement and Incidental Take Permit by California Department of Fish and Wildlife and Waste Discharge Requirement permit from the Colorado River Basin Regional Water Quality Control Board.

Board of Supervisors Policy B-29. The proposed Project is subject to Policy B-29, and the developer would need to enter into a development agreement with the County. The purpose of Policy B-29 is to ensure that the County does not disproportionately bear the burden of solar energy production and ensure the County is compensated in an amount it deems appropriate for the use of its real property. The policy states that the solar power plant owner shall annually pay the County $150 for each acre of land involved in the power production process. It also lists requirements for solar power plant owners relating to sales and use taxes payable in connection with the construction of a solar power plant. Once the development agreement is enacted, the proposed Project would comply with this policy.

ES.4 California Environmental Quality Act

Under CEQA, as amended (Public Resources Code Section 21080(a)), an environmental review document must be prepared, reviewed, and certified by the decision-making body before action is taken on any non-exempt discretionary project proposed to be carried out or approved by a State or local public agency in the State of California. Following CEQA review, the County, as the lead agency, has the authority to act first on the Project before any of the responsible agencies take action on the Project (see Draft EIR Section 1.9, Anticipated Permits and Approvals). Riverside County decision makers (Board of Supervisors) will use the EIR for decision-making regarding the proposed Project. If the proposed Project is approved by all required permitting agencies, the County would be responsible for reviewing and approving all CEQA-related pre-construction compliance plans and ensuring that the proposed Project modifications and operations are conducted in accordance with the mitigation measures and other permit conditions.

ES.4.1 Notice of Preparation and Original Draft EIR

A Notice of Preparation (NOP) for the Project was issued on November 14, 2022. The notice briefly described the proposed Project, Project location, environmental review process, potential environmental effects, and opportunities for public involvement. The NOP solicited input regarding the scope and content of the environmental information to be included in the Draft EIR. The public comment period for the NOP ended on January 6, 2023.

The Original Draft EIR was published on January 26, 2024. The Original Draft EIR was distributed to agencies, organizations, and interested individuals, and made publicly available for review and comment in accordance with Section 15087 of the CEQA Guidelines and PRC 21092(b)(3). Comments received during the Original Draft EIR comment period include: 2 from agencies, 11 from businesses/organizations, 3 from tribes, and 15 from individuals. Issues raised included concerns about impacts to the residents of the Lake Tamarisk Desert Resort related to air emissions/dust, Valley Fever/silica (health), noise, visual resources, traffic, water quantity and quality, as well as impacts to biological resources, namely impacts to desert tortoise, desert dry wash woodland and its buffer, the multi-species linkage corridor, cultural and tribal resources, project description, alternatives, impact significance, compliance with the DRECP CMAs, and the environmentally superior alternative. Many commenters requested consideration of and expressed support for a “Respect Lake Tamarisk Alternative,” including a minimum 1-mile natural buffer, substation relocation, screening berms and vegetation, and development of sites east of State Route 177/Rice Road.

ES.4.2 Purpose of the Partially Recirculated Draft EIR

This Partially Recirculated Draft EIR has been prepared in accordance with Section 15088.5 of the CEQA Guidelines. The County has determined that new or clarified information requires recirculation of certain chapters of the Original Draft EIR.

CEQA requires recirculation of an EIR when the lead agency adds “significant new information” to an EIR regarding changes to the project description or the environmental setting or other data or information after public notice is given of the availability of a draft EIR for public review (State CEQA Guidelines Section 15087) but before EIR certification (State CEQA Guidelines Section 15088.5[a]). Recirculation is not required unless the EIR is changed in a way that would deprive the public of the opportunity to comment on significant new information, including a new significant impact for which no feasible mitigation is available to fully mitigate the impact (thus resulting in a significant and unavoidable impact), a substantial increase in the severity of a disclosed environmental impact, or development of a new feasible alternative or mitigation measures that would clearly lessen environmental impacts but that the project proponent declines to adopt (State CEQA Guidelines Section 15088.5[a]). Recirculation is not required when the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR (State CEQA Guidelines Section 15088.5[b]).

Here, the County is recirculating 6 chapters of the Original Draft EIR, as described in Section ES.5, below.

ES.5 Chapters Included in this Partially Recirculated Draft EIR

The CEQA Guidelines state that "[w]hen recirculating a revised EIR, either in whole or in part, the lead agency shall, in the revised EIR or by an attachment to the revised EIR, summarize the revisions made to the previously circulated draft EIR" (see CEQA Guidelines, Section 15088.5, subd. (g)).

Revisions included in this Partially Recirculated Draft EIR are described as follow.

ES.5.1 Description of the Proposed Project and Alternatives (Chapter 2)

The Description of the Proposed Project and Alternatives chapter has been revised to provide an updated description of the proposed Project and alternatives, including a description of five new alternatives, as follows.

- **Lighting of Gen-tie Line Crossing Structures**. Depending on the outcome of the BLM-DoD consultation, infrared obstruction lighting (not visible to the human eye) may be installed in the area of one crossing of an existing transmission line on Easley structure(s) over 180 feet high (see Section 2.3.4).
- **Best Management Practices.** In Section 2.7, the Applicant has added a list of commenter-requested best management practices (BMPs) to be implemented during site preparation and construction. Section 2.7 also discusses compliance with Conservation and Management Actions (CMAs) that would be required by BLM under the DRECP LUPA and would apply to Project development on BLM-administered land. The Applicant has stated that it will comply with applicable DRECP CMAs on private lands. The DRECP CMAs are listed in a new EIR Appendix CC.
- **No Project Alternative (Alternative A2)**. Under the No Project Alternative, an additional analysis of Uses Allowed by Right within the Existing Land Designations (Alternative A2) has been added to EIR Section 2.8.2, which assumes development of scattered rural residences on private parcels in the Project area.
- **No Project Alternative (Alternative A3)**. Under the No Project Alternative, an additional analysis of Development of Other Renewable Energy within the Existing Land Designations (Alternative A3) has been added to EIR Section 2.8.3, which assumes development of the federal lands under the existing Development Focus Area designation and with other solar, wind, or geothermal generation projects and development of the private lands under the current General Plan and Zoning designations if the proposed Project is not approved or constructed.
- **Reduced Footprint Alternative (Alternative B)**. The "Lake Tamarisk Alternative (Alternative 1)" in the Draft EIR has been renamed as the Reduced Footprint Alternative (Alternative B) throughout the Recirculated Draft EIR. As described in EIR Section 2.8.3, the Reduced Footprint Alternative would remove an additional 20 acres of solar panels directly north of the community of Lake Tamarisk (50 acres total). With this reduction in acreage, the electrical output would be reduced by approximately 7 to 10 MW (up to 390 MW) compared to the proposed Project (up to 400 MW).
- **Further Reduced Footprint Alternative with Berms (Alternative C).** EIR Section 2.8.4 describes an additional Reduced Footprint Alternative 2 (Alternative C), which includes the following components

shown in a new Figure 2-15 (see EIR Appendix A): (1) minimum buffer zone setback of one mile from the Lake Tamarisk Desert Resort borders, including the "Phase II" expansion area; (2) earthen berms at 2 locations; and (3) onsite substation relocation and gen-tie line relocation.

- **Offsite Alternative (Alternative D).** Commenters requested consideration of alternatives east of State Route (SR-) 177/Rice Road on BLM-managed lands farther from the community of Lake Tamarisk Desert Resort. Therefore, the Offsite Alternative would involve the construction, operation, maintenance, and decommissioning of an up to 400 MW solar facility, up to 650 MW BESS, and a 500 kV gen-tie line on lands that were originally included in the Applicant's application to BLM. The alternative is described in EIR Section 2.8.5.
- **Distributed Commercial and Industrial Rooftop Solar Alternative (Alternative E).** The Partially Recirculated Draft EIR analyzes a new Distributed Commercial and Industrial Rooftop Solar Alternative, which would involve the development of a number of geographically distributed small to medium solar PV systems (100 kilowatt hours to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout Riverside County. The alternative is described in EIR Section 2.8.6.

ES.5.2 Environmental Setting, Impacts, and Mitigation Measures (Chapter 3)

Certain subchapters within Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, have been revised and recirculated, as summarized below:

Aesthetics (Chapter 3.2)

The Aesthetics chapter has been revised to include updated information relating to the adjacent Oberon project, a new Key Observation Point 7 (facing north from Lake Tamarisk Desert Resort), additional discussion of glare impacts, and an updated analysis of County General Plan Policy LU 9.1 related to permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values.

Agriculture and Forestry (Chapter 3.3)

The Agriculture and Forestry chapter has been revised to change Impacts AG-1 and AG-3 to a less-than-significant impact. The EIR concludes that potentially significant impacts would be avoided through cancellation of the Williamson Act contracts and removal of lands within the Project site from County agricultural preserves, as requested by the Project applicant.

Biological Resources (Chapter 3.5)

The Biological Resources chapter has been revised to more clearly describe DRECP Conservation and Management Actions (CMAs) that would apply to the Project, including compensatory mitigation, as well as issues related to desert pavement. Certain mitigation measures have been revised to further clarify plan requirements and performance standards. The revisions do not result in greater environmental impacts or more significant impacts.

Cultural and Tribal Cultural Resources (Chapter 3.6)

The Cultural Resources chapter has been revised to address cultural and tribal resources impacts on BLM-administered land, comments raised about the Lake Tamarisk Desert Resort as a potential historic resource, and comments raised by the Colorado Indian River Tribes that the Project is located in and would adversely impact a cultural and tribal cultural resources. In the Partially Recirculated Draft EIR, cumulative visual impacts to Prehistoric Trails Network Cultural Landscape from the development of the Project in combination with other past, present, and reasonably foreseeable solar projects in the area would be significant and unavoidable, and the Project's incremental contribution to those visual impacts would be cumulatively considerable.

Hydrology and Water Quality (Chapter 3.11)

The Hydrology and Water Quality chapter has been revised to more clearly describe Project impacts to water supply. The section states that because the cumulative scenario under normal conditions indicates a potential groundwater deficit, the County conservatively concludes that cumulative impacts would be potentially significant., however, the Project's incremental contribution is not considered cumulatively considerable.

ES.5.3 Comparison of Alternatives (Chapter 5)

The Comparison of Alternatives chapter has been revised to combine and consolidate the analyses of Project alternatives that was previously separated and included within the Original Draft EIR under each subchapter of Chapter 3. The Comparison of Alternative chapter also includes new analysis of five new alternatives: No Project Alternative A2 (Uses Allowed by Right within Existing Land Designations), No Project Alternative A3 (Development of Other Renewable Energy within the Existing Land Designations), Alternative C (Further Reduced Footprint Alternative with Berms), Alternative D (Offsite Alternative), and Alternative E (Distributed Commercial and Industrial Rooftop Solar Alternative).

Chapter 5 now describes the environmentally superior alternative as the Further Reduced Footprint Alternative with Berms (Alternative C). While Alternative C is the Environmentally Superior Alternative, it would result in a reduction of 80 to 100 MW of renewable energy compared to the proposed Project, which reduces its ability to achieve the most important project objectives of meeting State and federal renewable energy goals to counter climate change. Therefore, because Alternative B, the Reduced Footprint Alternative (formerly called the Lake Tamarisk Alternative) meets these critical project objectives to a greater degree and reduces impacts to the Lake Tamarisk community compared to the proposed Project, it is considered to be the next most Environmentally Superior Alternative.

ES.5.4 References (Chapter 7)

References for sections included in the Partially Recirculated Draft EIR have been included and updated, as applicable.

ES.5.5 EIR Appendices

This Partially Recirculated Draft EIR includes updated and new appendices, as follows:

- **EIR Appendix A,** new and revised/updated figures include:
  - Revised Figure 2-3 (Easley Renewable Energy Project Preliminary Engineering)
  - Revised Figure 2-6 Typical Single Axis Tracker with Portrait Module Orientation
  - Revised Figure 2-14 (Alternative B: Reduced Footprint Alternative)
  - New Figure 2-15 (Alternative C: Further Reduced Footprint Alternative with Berms)
  - New Figure 2-16 (Alternative D: Offsite Alternative)
  - Revised Figure 3.1-1 (Cumulative Projects)
  - New Figure 3.3-1 (Parcels with Williamson Act Contracts)
  - New Figure 3.5-11 (Alternative D, Offsite Alternative, Biological Resources)
- **EIR Appendix C, Biological Resources Technical Report**, has been updated to discuss Crotch's bumble bee, as well as make consistency edits to the discussions of desert pavement and the rare plant inventory list.

- **EIR Appendix F, Jurisdictional Delineation**, has been revised to reflect updated disturbance acreages.
- **EIR Appendix G, Water Supply Assessment,** has been revised to clarify the connection between the data and the report conclusions.
- **EIR Appendix I, Visual Impact Analysis and Glare Assessment,** has been revised to add a new Key Observation Point as well as glare modeling of low-level military flight paths in the Desert Center area. The revisions have been incorporated into EIR Section 3.2 (Aesthetics).

The following new appendices have been added in the Partially Recirculated Draft EIR:

- **Appendix M** Bird and Bat Conservation Strategy
- **Appendix N** Integrated Weed Management Plan
- **Appendix O** Nesting Bird Management Plan
- **Appendix P** Desert Tortoise Protection and Translocation Plan
- **Appendix Q** Raven Management Plan
- **Appendix R** Wildlife Protection and Translocation Plan
- **Appendix S** Vegetation Resources Management Plan
- **Appendix T** Health, Safety and Noise Plan
- **Appendix U** Dust Control Plan
- **Appendix V** Fire Management and Prevention Plan
- **Appendix W** Hazardous Materials Management Plan
- **Appendix X** Environmental Compliance and Monitoring Plan
- **Appendix Y** Closure, Decommissioning, and Reclamation Plan
- **Appendix Z** Easley sUAS Flight Operations Plan
- **Appendix AA** Helicopter Safety Plan
- **Appendix BB** Hydrological Study
- **Appendix CC** BLM DRECP Conservation and Management Actions

ES.6 Commenting on the Partially Recirculated Draft EIR

A Notice of Completion (NOC) was filed with the State Clearinghouse to begin the public review period (Public Resources Code [PRC], Section 21161) for this Partially Recirculated Draft EIR. Pursuant to PRC Section 21092.3 and State CEQA Guidelines Section 15087(c), a notice of availability of the Draft EIR was posted in the Riverside County Clerk's office.

This Partially Recirculated Draft EIR has been distributed directly to agencies, organizations, and interested individuals, and made publicly available for review and comment in accordance with Section 15087 of the CEQA Guidelines and PRC 21092(b)(3). In compliance with CEQA Guidelines Section 15129, the County has contacted the U.S. Bureau of Land Management in preparation of this Recirculated Draft EIR.

The Partially Recirculated Draft EIR is available for review online at http://www.rctlma.org/planning/. To request a hardcopy, please reach out to Tim Wheeler whose contact information is below.

Consistent with the requirements of Sections 15087 and 15088.5(d) of the State CEQA Guidelines, this Partially Recirculated Draft EIR is being made available on May 24, 2024, for public review for a period of 45 days. During this period, the general public, agencies, tribes, and organizations may submit written comments on the content of this Partially Recirculated Draft EIR to Riverside County.

Written comments should be mailed, emailed or faxed using the following contact information:

Tim Wheeler, Planner
County of Riverside TLMA Planning Department
4080 Lemon Street, 12th Floor, Riverside CA, 92501
Phone: (951) 955-6060
Email: TWheeler@rivco.org

Pursuant to procedures set forth in Section 15088.5(f)(2) of the State CEQA Guidelines, reviewers are directed to limit their comments to the revised information contained in this Partially Recirculated Draft EIR. Reviewers need not resubmit comments on the Original Draft EIR.

Consistent with Section 15088.5(f)(2), the County will respond to (i) comments received during the initial circulation period that relate to chapters or portions of the Original Draft EIR that were not revised and recirculated as part of this Partially Recirculated Draft EIR, and (ii) comments received during the recirculation period that relate to the chapters or portions of the Original Draft EIR that were revised and recirculated as part of this Partially Recirculated Draft EIR. Riverside County will not respond to comments on the Partially Recirculated Draft EIR that do not pertain to the recirculated text.

Organizations and interested members of the public are invited to comment on the information presented in the Draft EIR during the 45-day public review period.

ES.7 Preparation and Certification of Final EIR and MMRP

Following consideration of the comments received during the Original Draft EIR and Partially Recirculated Draft EIR comment periods, the Final EIR will be prepared and circulated per CEQA requirements and will include responses to all comments that raise significant environmental issues. Consideration of the Final EIR and requested Project approvals by the County Board of Supervisors is anticipated in fall 2024.

The Final EIR will include comments received on the Original Draft EIR during the initial circulation period and comments received on the Partially Recirculated Draft EIR during the additional circulation period as described in Section 1.5 above, along with any modifications to the Original Draft EIR and Partially Recirculated Draft EIR. In addition, CEQA Guidelines Section 15097 requires that public agencies adopt a program for monitoring mitigation measures that reduce or eliminate significant impacts on the environment. Accordingly, a Mitigation Monitoring and Reporting Program (MMRP) will be prepared for the proposed Project and included as part of the Final EIR.

The County Board of Supervisors will consider all comments on the Original Draft EIR and Partially Recirculated Draft EIR before deciding whether to certify the Final EIR and make a decision whether or not to approve the Project.

2. DESCRIPTION OF THE PROPOSED PROJECT AND ALTERNATIVES

2.1. Introduction

IP Easley I, LLC, IP Easley II, LLC, and IP Easley III, LLC (Applicant or Proponent), ~~a~~ subsidiaries~~y~~ of Intersect Power, LLC, proposes to construct, operate and decommission the Easley Renewable Energy Project (Easley Project or Project), a utility-scale solar photovoltaic (PV) electrical generating and storage facility, and associated infrastructure to generate and deliver renewable electricity to the statewide electricity transmission grid.

The proposed Project application area is located on approximately 3,735 acres of private and BLM-administered land, in Riverside County north of Desert Center, California (see Figure 2-1). The Project would generate up to 400 megawatts (MW) of renewable electricity via arrays of solar photovoltaic (PV) panels, store up to 650 MW in a battery energy storage system (BESS), and include appurtenant facilities. A 6.7-mile 500 kilovolt (kV) generation-tie (gen-tie) line would mainly traverse across the Oberon Renewable Energy Project site (south of the Project site) and connect into an existing substation on the approved Oberon Project site. The Oberon Project is a solar PV and energy storage facility owned by Intersect Power. From the Oberon onsite substation, the power generated by the Easley Project would be transmitted to the Southern California Edison (SCE) Red Bluff Substation via the existing Oberon 500 kV gen-tie line (see Figure 2-2).

Public lands within the Project solar application area are lands designated as Development Focus Area (DFA) by the Desert Renewable Energy Conservation Plan (DRECP) and associated Record of Decision (ROD), and thus, have been targeted for renewable energy development. Because the proposed Project is partially located on federal land under management of the U.S. Bureau of Land Management (BLM), the BLM is the lead agency under the National Environmental Policy Act (NEPA), 42 U.S.C. section 4321 et seq.

Depending on the timing of the interconnection agreement, the Easley Project could be operational as early as late 2025. The Project would operate for a minimum of 35 years and up to 50 or more years. At the end of its useful life, the Project would be decommissioned, and the land returned to its pre-Project conditions. Revegetation would be conducted in accordance with the Decommissioning and Revegetation Plan.

2.1.1. Overview of Solar Technology

Solar cells, also called PV cells, convert sunlight directly into electricity. PV gets its name from the process of converting light (photons) to electricity, which is called the "photovoltaic effect." PV cells are located on panels, which are mounted at a fixed angle facing south or on a tracking device that follows the sun. Many solar panels on multiple rows combined together and controlled by a single motor create one system called a solar tracker. For large electric utility or industrial applications, hundreds of solar trackers are interconnected to form a utility-scale PV system.

2.1.2. Insolation

Insolation is a measure of solar radiation energy received on a given surface in a given time. It is commonly expressed as an average irradiance in watts per square meter (W/m2) or kilowatt-hours per square meter per day (kWh/m2/day). The region in which the proposed Project is located receives greater than 6.5 kWh/m2/day of solar radiation energy, giving it a higher degree of solar radiation than most areas within the United States.

2.2. Project Location and Surrounding Land Uses

The Easley Project is located in Riverside County, north of Interstate 10 (I-10) and approximately 2 miles north of the town of Desert Center, California. The Easley solar and energy storage facility is located on private and BLM-administered land, with the legal description by parcel presented in Table 2-1~~Table 2-1~~.

Figure 2-1 (Project Vicinity) illustrates the location of the proposed Project and its relationship to major highways, access roads, and communities. Figure 2-2 (Project Area) shows the Project area and the gen-tie line. Figure 2-3 (Project Layout) shows the Proposed Project's panel, substation and BESS layout with preliminary engineering. Nearby land uses include previously developed or developing solar facilities, transmission lines, fallow and active agriculture, and rural residences. The private parcels consist of primarily manmade features that include deciduous orchard/ fallow agriculture or developed areas.

The existing Desert Sunlight and Desert Harvest solar projects are north of the proposed Project, ~~and~~ the Athos Renewable Energy Project is located to the east, the Oberon Renewable Energy Project is located to the southeast. Solar Projects that are under construction nearby include ~~the Oberon Renewable Energy Project to the southeast and~~ the Arica and Victory Pass Solar Projects to the southeast. The Sapphire Solar Project, proposed by EDF Renewables, is adjacent to the northern area of the Easley Project. Figure 2-4 (Desert Center Solar Projects & DRECP Context) shows the proposed Easley Project in relation to other existing, approved, and proposed solar facilities in eastern Riverside County and illustrates the proposed consolidation of the gen-tie corridors. The Applicant is in negotiations with Metropolitan Water District (MWD) and EDF Renewables to ensure that there are no conflicts with existing or proposed easements across the Easley Project site.

Figure 2-5 (Easley Renewable Energy Project Site Photographs) includes ground-level photographs of the Project site.

Table 2-1. Solar and Energy Storage Facility Parcels

Property Owner	APNs	Section(s)	Township & Range	USGS Quad
Private Parcels				
American Coal Liquefaction, LLC	808-023-005 808-030-002	Sec. 12 E1/2 SE1/4	T. 5 S., R. 15 E.	East of Victory Pass, Corn Spring
Benedicto M Estoesta & Divina Gracia A. Estoesta Trust	808-023-032 808-023-031	Sec. 2, SE1/4 and SW1/4	T. 5 S., R. 15 E.	Victory Pass
Cook, Robert H. Cook, Laurie M.	811-270-015	Sec. 6, NW1/4SW1/4	T. 5 S., R. 16 E.	East of Victory Pass
Dean Trust	811-141-011	Sec. 7, NW1/4, N1/2NE1/4, SW1/4NE1/4, and N1/2SW1/4	T. 5 S., R. 16 E.	East of Victory Pass, Corn Spring
Draskovich, Todd Culver Draskovich, John Steven	808-240-007	Sec. 1, SE1/4SE1/4	T. 5 S., R. 15 E.	East of Victory Pass
Fundlandoil, LLC	811-270-006	Sec. 6, SW1/4SE1/4	T. 5 S., R. 16 E.	East of Victory Pass
JC Investments	808-030-011	Sec. 12, SE1/4SE1/4 Sec. 7, SW1/4SW1/4	T. 5 S., R. 15 E. T. 5 S., R. 16 E.	Corn Spring
JMP Inc., a Nevada Corporation	808-023-018	Sec. 13, W1/2NW1/4	T. 5 S., R. 15 E.	Corn Spring, Desert Center
MiJo Investments, LP, Blowers Family Trust	808-280-004 808-280-005 808-280-006	Sec. 13, NE1/4 and SE1/4NW1/4	T. 5 S., R. 15 E.	Corn Spring

Property Owner	APNs	Section(s)	Township & Range	USGS Quad
	808-280-007 808-280-008 808-280-002 808-280-003 808-280-001			
Spindle Top Bayou Farm, Inc., a Texas Corporation	811-270-001 811-270-002 811-270-003 811-270-004 811-270-005 811-270-007	Sec. 6, S1/2SE1/4 and S1/2SW1/4	T. 5 S., R. 16 E.	East of Victory Pass
BLM-Administered Parcels				
USA 807	807-172-027 807-172-015 807-191-029	Sec. 34, NE1/4, SE1/4, E1/2NW1/4, and E1/2SW1/4; Sec. 35	T. 4 S., R. 15 E.	Victory Pass
USA 808	808-023-022 808-023-030 808-023-024 808-270-012 808-270-007 808-230-005 808-023-027 811-122-005	Sec. 2, N1/2SW1/4; Sec. 3, E1/2NE1/4 and E1/2SE1/4; Sec. 10, E1/4NE1/4, and NE1/4SE1/4; Sec. 11; Sec. 12, NW1/4, NE1/4, N1/2SW1/4, and NW1/4SE1/4; Sec. 13, N1/2SW1/4, and SW1/4SW1/4; Sec. 14, NE1/4NE1/4	T. 5 S., R. 15 E.	Victory Pass, Desert Center, Corn Spring
USA 811	811-121-008 811-121-007	Sec. 5, W1/2SW1/4; Sec. 6, NE1/4 and NW1/4	T. 5 S., R. 16 E.	East of Victory Pass

2.3. Project Components

The proposed Project would consist of the following major components, which are described in greater detail in this section and illustrated on Figure 2-3 (Project Layout):

- **Solar and Energy Storage Facility** (990 acres of private land, 2,745 acres of BLM-administered land):
  - **Solar array field**, which may include thin-film PV panels, crystalline silicon panels, or any other commercially available PV technology. The proposed panel mounting system will depend on the PV panels ultimately selected but is expected to be single-axis trackers with a portrait module orientation. Either mono-facial or bi-facial modules could be used, and modules would either be mounted as single panels or stacked two high.
  - **Power conversion stations** on a concrete pad or steel skid for each 2 to 5 MW increment of generation, containing up to 6 inverters, a transformer, a battery enclosure, a switchboard 8 to 11 feet high, a shade structure (depending on meteorological conditions), and a security camera at the top of an approximately 20-foot wood or metal pole.
  - System of **34.5 kV interior collection power lines** located between inverters and the substation~~s~~, located ~~either~~ underground ~~or~~ and installed overhead on wood poles for short segments due to engineering or other feasibility constraints.

- ~~At least one, and up to 2, o~~**Onsite substation yard~~s~~**~~,~~ ~~each~~ with an onsite substation and associated equipment would require 25 acres within the Project site. Electrical transformers, switchgear, and related substation facilities would transform 34.5 kV medium-voltage power from the Project's delivery system to the 500 kV gen-tie line system.
- **Upgrades to the Oberon ~~Substation~~Switchyard**, including installation of a circuit breaker, disconnect switches, steel H-frame (transmission getaway), and controls upgrades, within its fenceline to accommodate interconnection of the Easley 500 kV gen-tie line.
- ~~One o~~**Operations and maintenance (O&M) ~~building~~ facilities** near the main substation yard for Project security, employee offices, and parts storage separate buildings for substation and BESS operations. ~~The O&M building would be constructed on a concrete foundation, approximately 6 feet by 20 feet in size and approximately 15 feet at its tallest point. The O&M facility would also include four to six 40-foot CONEX containers spaced about 15 feet apart with some of the space between covered by shade structures. The location of the O&M building within the Project site has not yet been determined, but it is anticipated to be near the main substation yard.~~
- **12 kV electrical distribution line** would supply electricity to the O&M building and substation via a new overhead or underground 12 kV distribution line from the existing SCE distribution system adjacent to the solar facility site.[1] In addition, approximately 0.25 mile of existing SCE 12 kV distribution line would need to be relocated to accommodate development of solar panels. The relocated distribution line would be located on BLM-administered land east of SR-177/Rice Road and would follow existing linear infrastructure.
- **Supervisory Control and Data Acquisition System (SCADA) and telecommunications facilities** to allow remote monitoring of facility operation and/or remote control of critical components. The fiber-optic or other cabling typically would be installed in buried conduit within the access road, leading to a SCADA system cabinet centrally located within the Project site or a series of appropriately located SCADA system cabinets constructed within the O&M building. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers.
- **Meteorological (MET) data collection system** with up to ~~XX~~14 MET stations throughout the solar facility. Each MET station would be up to 10 feet tall with multiple weather sensors.
- **Battery energy storage system (BESS)**, requiring up to 35 acres, located near the substation. Utilizing an AC-coupled battery or other similar storage system housed in electrical enclosures and capable of storing up to 650 MW of power for 2 to 4 hours.
- **Standby power source,** if needed, is anticipated to be a diesel-powered backup generator rated at 45 kilowatts or approximately 61 horsepower, to power the site security system in the event of an outage.
- **Perimeter fencing** would be installed around the boundary of the developed areas using chain-link perimeter fences.
- **Newly constructed access roads** from State Route (SR-) 177/Rice Road and throughout the interior of the Project limits. Ingress/egress would be accessed via locked gates located at multiple points.
- **Nighttime security lighting** limited to areas required for operation, safety, or security. Lighting would be directed away or shielded from major roadways or possible outside observers on adjacent pro-

[1] Electrical distribution systems carry power the last few miles from the transmission or sub-transmission grid to interconnect with consumers at a lower voltage. Distribution networks are distinguished from transmission networks by their voltage level and topology.

perties. Lighting would be controlled by switches, motion detectors, etc., to light the areas only when required. Portable lighting may be used occasionally and temporarily for maintenance activities during operations.

- **Site security system** includes infrared security cameras, motion detectors, and/or other similar technology to allow for monitoring of the site through review of live footage 24 hours a day, 7 days a week. Such cameras or other equipment would be placed along the perimeter of the facility and/or at the inverters.

■ **New 500 kV Gen-tie Line** (approximately 6.7 miles, within a 175-foot right-of-way [ROW] on BLM-administered land).

2.3.1. Photovoltaic Modules and Support Structures

The proposed solar facility would include several million solar panels; the final panel count would depend on the technology ultimately selected at the time of procurement. The ultimate decision for the panel types and racking systems described here would depend on market conditions and environmental factors, including the recycling potential of the panels at the end of their useful lives.

Types of panels that may be installed include thin-film panels, crystalline silicon panels, or any other commercially available PV technology. Solar thermal technology, in which solar energy is used to heat a liquid as an intermediate step to generating electricity, is not under consideration. The proposed panel mounting system will depend on the PV panels ultimately selected, but the Applicant is currently planning to use a single-axis tracker with a portrait module orientation. Either mono-facial or bi-facial modules could be used, and modules would ~~either~~ be mounted as single panels ~~or stacked two high~~. A diagram of a typical single-axis tracker is shown in Figure 2-6 and 2-7.

The PV modules would be manufactured at an offsite location and transported to the Project site. Panels would be arranged in strings with a maximum reveal height of 14 feet at full tilt or slightly higher due to topography. Panel faces would be minimally reflective, dark in color, and highly absorptive.

For single-axis tracking systems, each row of panels would be up to 450 feet along a north/south axis. For fixed-tilt systems, a row consists of multiple tables (4 panels high by 10 panels wide, depending on design), each table approximately 65 feet along the east/west axis, with 1 foot spacing between each table. Spacing between each row would be a minimum of 4 feet. The solar panel array would generate electricity directly from sunlight, which would be collected, converted to alternating current, stored, and delivered to the on-site Project substation.

Structures supporting the PV modules would consist of steel piles (e.g., cylindrical pipes, H-beams, helical screws, or similar structures), which would be driven into the soil using pneumatic techniques such as a hydraulic rock hammer attachment on the boom of a rubber-tired backhoe excavator. The piles typically would be spaced 10 feet apart north-to-south, and 17 feet to 25 feet apart east-to-west with a 50% to 30% ground cover ratio (GCR). For a single-axis tracking system, piles typically would be installed to a reveal height of approximately 4 feet above grade (but could be higher to compensate for terrain variations and clearance due to water/flooding). For single-axis tracking systems, following pile installation, the associated motors, torque tubes, and drivelines (if applicable) would be placed and secured. Some designs allow for PV panels to be secured directly to the torque tubes using appropriate panel clamps. For some single-axis tracking systems, a galvanized metal racking system, which secures the PV panels to the installed foundations, would be field-assembled and attached according to the manufacturer's guidelines. Tracking arrays would be oriented along a north-south axis with panels tracking east to west to follow the movement of the sun. The panels would be stowed at their maximum tilt (60 degrees) overnight. Panels may be temporarily stowed in a different angle position if needed due to mechanical or electrical maintenance or for high wind protection

Where excavations are required, the majority of proposed construction activities would be limited to less than 6 feet in depth; however, some excavations, such as those undertaken for the installation of the gen-tie structures and substation components, may reach depths of 45 feet or more.

2.3.2. Inverters, Transformers, and Electrical Collection System

The Project would be designed and laid out primarily in module blocks of 2 to 5 MW. Each module block would include a Power Conversion Station area measuring 40 feet by 25 feet. The color of the Power Conversion Station would be desert tan, depending on availability from the manufacturer, or treated BLM standard environmental color Carlsbad Canyon. As necessary, module blocks would be designed and sized as appropriate to accommodate the irregular shape of the Project footprint. The final module block sizes ultimately would depend on available technology and market conditions. Each 2 to 5 MW block would include a Power Conversion Station constructed on a concrete pad or steel skid centrally located within the PV arrays. Each Power Conversion Station would contain up to six inverters, a transformer, a battery enclosure, and an 8 to 11 feet high switchboard (see Figure 2-7 for the layout of a typical inverter skid). The pads would contain a security camera at the top of an approximately 20-foot wood or metal pole. If required based on site meteorological conditions, an inverter shade structure would be installed at each pad. The shade structure would consist of wood or metal supports and a durable outdoor material shade structure (metal, vinyl, or similar). The shade structure, if utilized, would extend up to 10 feet above the ground surface, and depending on the material used would be Carlsbad Canyon or a similar desert tan provided by the manufacturer.

Panels would be electrically connected into panel strings using wiring secured to the panel racking system. Underground cables would be installed to convey the direct current (DC) electricity from the panels via combiner boxes located throughout the PV arrays, to inverters located at the Power Conversion Station that would convert the DC to alternating current (AC) electricity. The output voltage of the inverters would be stepped up to the required collection system voltage at pad mount transformers located near the inverters within the Power Conversion Station.

The Applicant anticipates undergrounding the Easley 34.5 kV collector lines except for short segments where overhead lines may be required due to engineering or other feasibility constraints. The 34.5 kV collection cables would be buried underground in a trench about 4 feet deep, with segments installed overhead on wood poles to connect all of the solar facility development areas to the onsite substation, which would involve an overhead or underground crossing of SR-177/Rice Road to connect the solar panels located to the east of SR-177/Rice Road to the onsite substation. Thermal specifications require 10 feet of spacing between the medium-voltage lines, and in some locations closer to the onsite substation interconnection more than 20 medium-voltage AC lines could run in parallel.

If/where the collection system is installed overhead, up to approximately 30 wood poles located between 150 to 250 feet apart could be installed on the site in areas where several circuits would need to cross each other. The typical height of the poles would be approximately 30 to 60 feet, with diameters varying from 12 to 20 inches (see Figure 2-9, Typical 34.5 kV Medium Voltage Line Structures).

2.3.3. Project Substation Yard~~s~~

~~At least one, and up to 2,~~ A Project substation yard~~s~~ would transform or "step up" the voltage from 34.5 kV to 500 kV. The area of ~~each~~ the substation and associated equipment would require approximately 25 acres within the Project site. The substation~~(s)~~ would collect consolidated intermediate voltage cables from the medium voltage (MV) and PV collector system. Electrical transformers, switchgear, and related substation facilities would be designed and constructed to transform medium-voltage power from the Project's delivery system via the new gen-tie to the Oberon ~~Substation~~Switchyard, at which point Easley solar-generated power would be transmitted to the SCE Red Bluff Substation via the existing Oberon 500 kV gen-tie line~~, which is currently under construction and anticipated to be online by the end of 2023~~ (see Figure 2-2).

The internal arrangement for each substation would include:

- Power and auxiliary transformers with foundations
- Pre-fabricated control buildings to enclose the protection and control equipment, including relays and low-voltage switchgear (each building is approximately 20 feet by 40 feet, and 10-20 feet high);
- Metering stand;
- Capacitor bank(s);
- Circuit breakers[2] and disconnect switches;
- One microwave tower adjacent to the control building comprising a monopole structure up to 100 feet in height mounted with an antenna up to 5 feet in diameter;
- Dead-end structure(s) up to 199 feet in height to connect the Project substation to the grid; and
- One or more Control Buildings.

The substation area would be graded and compacted to an approximately level grade, although the substation pad may be elevated a few feet pending detailed hydrological study of the area. Concrete pads would be constructed on site as foundations for substation equipment, and the remaining area would be graveled to a maximum depth of approximately 12 inches. Because each of the substation transformers would contain mineral oil, the substation would be designed to accommodate an accidental spill of transformer fluid by the use of containment-style mounting. Each substation would be surrounded by an up-to 7-foot-high chain-link fence topped with one foot of barbed wire. Each of the dead-end structures would require foundations excavated to a depth of 20 feet or more.

2.3.4. 500 kV Gen-tie Transmission Line

The Project would include an approximate 6.7-mile 500 kV gen-tie line starting at the onsite substation located on private property (APN 808-023-018). Just south of the substation, the 500 kV gen-tie line would enter the Oberon Renewable Energy Project site and would be located on BLM-administered land for the remainder of the route. The gen-tie line would exit the substation and travel approximately 0.2-mile due south to cross SR-177/Rice Road, where it would turn southwest to parallel the eastern side of SR-177/Rice Road for 1.1 miles before turning east and then southeast for nearly 1 mile to meet BLM Open Route DC379. The line would parallel the north side of BLM Open Route DC379 and the existing Desert Sunlight and Desert Harvest 230 kV gen-tie lines for 3.8 miles before turning south for 0.6 miles to interconnect to the Oberon ~~Substation~~Switchyard.

The Oberon Substation and Switchyard area was constructed by Intersect Power anticipating a potential future interconnection of other projects. In order for the Easley gen-tie line to interconnect, upgrades to the Oberon Switchyard would be required within its fence line to accommodate interconnection of the Easley 500 kV gen-tie line. The upgrades are expected to include installation of:

- 500 kV Circuit Breaker;
- 500 kV Disconnect Switches (2);
- Steel H-Frame (transmission getaway); and

[2] In accordance with CARB requirements, use of SF6 equipment will be avoided to the greatest extent feasible.

- Controls Upgrades.

From the Oberon ~~Substation~~Switchyard, the solar power generated by the Easley Project would be transmitted to the SCE Red Bluff Substation via the Oberon 500 kV gen-tie line. The Project 500 kV gen-tie line would be located within a 175-foot ROW, across BLM-administered lands. Conductor span lengths generally range from a minimum of 400 feet to a maximum of 2,200 feet for 500 kV lines.

The Project gen-tie line would be constructed with ~~either~~ monopoles, ~~lattice steel structures, or wooden H-frame poles. Gen-tie structures~~ and would be on average 120 feet tall, with a maximum height up to approximately 199 feet where the proposed gen-tie line would cross above existing transmission lines. The total number of gen-tie support structures would be approximately ~~25~~ 45 structures with the exact number to be determined by the final alignment of the gen-tie line. See Figure 2-10 for a depiction of typical 500 kV gen-tie line structures.

The BLM is coordinating with the Department of Defense (DoD) regarding concerns about potential interference of the 500 kV gen-tie structures with low-level military flight paths in the Project area. Depending on the outcome of the BLM-DoD consultation, infrared obstruction lighting may be installed on structures over 180 feet high that are located in areas where the new structures would be taller than existing nearby structures. While it is expected that all gen-tie structures would be under 180 feet, for the purposes of this environmental analysis, it is assumed that no more than 6 structures may require up to two infrared lights installed in a manner to ensure an unobstructed view of one or more infrared lights by a military pilot. Note, that because any required lighting would be infrared, it would not be visible to the human naked eye.

2.3.5. Operations and Maintenance ~~Building~~ Facilities

New O&M facilities would be constructed at the Project site. The facilities would be designed for Project security, employee offices, and parts storage with separate operations buildings for the solar facility and BESS. The O&M facility would include the following components: two O&M office buildings (which may share a wall), each approximately 3,000 square feet and 15 feet at the tallest point, up to 16 storage CONEX containers for spare parts covering a total area of approximately 7,500 square feet, laydown yards, and a parking area. The O&M area would also include a shade canopy not to exceed 20 feet in height. ~~The O&M building would include a 60-foot by 20-foot building plus four to six 40-foot CONEX containers, each separated by 15 feet and with some of the spaces covered by a shade structure. The O&M building would be approximately 15 feet at its tallest point.~~ The O&M buildings may be constructed on a concrete foundation. A diagram of a typical O&M building floor plan is shown in Figure 2-11.

2.3.6. SCADA and Telecommunications Facilities

The facility would be designed with a comprehensive Supervisory Control and Data Acquisition System (SCADA) system to allow remote monitoring of facility operation and/or remote control of critical components. The fiber-optic or other cabling required for the monitoring system would typically be installed in buried conduit, leading to a SCADA system cabinet centrally located within the Project site or a series of appropriately located SCADA system cabinets constructed within the O&M building. External telecommunications connections to the SCADA system cabinets could be provided through wireless or hard-wired connections to locally available commercial service providers. The Project's SCADA system would interconnect to this fiber-optic network at the onsite substation and may include an up to 50-foot telecom pole.

The California Independent Systems Operator (CAISO) and Project's interconnecting utility, SCE, require that 500 kV power plant interconnection facilities contain three fiber-optic communications lines -- one primary and two redundant. They must be separate to ensure full and true redundancy.

Therefore, the Easley Project requires three paths of communication between the substations with at least 30 feet of separation between each line. As a result, two of those communication lines would be attached on the 500 kV gen-tie line transmission structures. A third fiber-optic line would be installed underground, likely in the gen-tie line access road to accommodate the separation requirements and minimize operational visual impacts. The underground fiber-optic line would be installed in a trench approximately 1 foot wide by 2 feet deep.

2.3.7. Battery Energy Storage System

Battery energy storage systems (BESS) can assist grid operators in more effectively integrating intermittent renewable resources into the statewide grid. The Project could include, at the Applicant's option, a battery ~~or flywheel~~ storage system capable of storing up to 650 MW of electricity for 4 hours, requiring up to 35 acres that would be located near the substation or inverters (see Figure 2-12 for a photograph of a typical BESS enclosure). If provided, the storage system would consist of battery ~~or flywheel~~ banks housed in electrical enclosures and buried electrical conduit. The battery system would be located near the Project switching station to facilitate interconnection and metering. Alternatively, smaller individual BESS systems may be located near each inverter.

~~Up to 300~~ Over 500 electrical enclosures ("Megapacks") would be installed in six 4-foot storage containers, each measuring approximately 40 feet by 8 feet by 8.5 feet high ~~would be installed~~, on concrete foundations designed for secondary containment. The Project could use any commercially available battery technology, including but not limited to lithium ion, zinc, lead acid, vanadium, sodium sulfur, and sodium or nickel hydride.

Battery systems would require air conditioners or heat exchangers and inverters. In addition, a 10,000-gallon water tank is anticipated for each BESS unit/area to provide fire safety.

The BESS would comply with the current California Fire Code (CFC), which governs the code requirements to minimize the risk of fire and life safety hazards specific to battery energy storage systems used for load shedding, load sharing and other grid services (Chapter 12 Section 1206 of the 2019 CFC). In accordance with the CFC, the battery enclosure and the site installation design are all required to be approved by the State Fire Marshal.

In addition to the BESS containers, the BESS area would include one double-wide office trailer (60 feet by 24 feet) with a shade canopy (no more than 20 feet high), a staging area, a clearance area, and a parking area, which are discussed in Section 2.3.5 (Operations and Maintenance Facilities).

2.3.8. Meteorological Data Collection System

The Project would include a meteorological (MET) data collection system with up to 14 MET stations, such as a Soil Climate Analysis Network (SCAN) station or other applicable technology. Each MET station would have multiple weather sensors: a pyranometer for measuring solar irradiance, a thermometer to measure air temperature, a barometric pressure sensor, and wind sensors to measure speed and direction. The 4-foot horizontal cross-arm of each MET system would include the pyranometer mounted on the left-hand side and the two wind sensors installed on a vertical mast to the right. The temperature sensor would be mounted inside the solar shield behind the main mast. Each sensor would be connected by cable to a data logger inside the enclosure.

2.3.9. Access Roads

Figure 2-2 and Figure 3.18-1 (Project Roads and Access) illustrate the proposed driveways access roads to the solar facility site from SR-177/Rice Road and Kaiser Road, as well as interior dirt access roads within the solar facility site.

2.3.9.1. Main Access

Access to the Project site would be provided from SR-177/Rice Road through multiple primary and secondary driveway entrances and from Kaiser Road. BLM open routes and agricultural roads would also be improved. If building structures, such as the O&M Building, and associated access roadways would be within 1,320 feet of ~~Highway 177~~State Route 177, secondary access is not required by the Riverside County Fire Department.

All new and improved access roads would be at least 24 feet wide with a two-foot-wide shoulder on each side, for a total width of approximately 30 feet, including allowances for side slopes and surface runoff control. Construction of the access road segments would include compacting subsurface soils and placing a four-inch-thick layer of asphalt concrete over a 6-inch-thick layer of compacted aggregate base.

2.3.9.2. Internal Roadway System

The Project's on-site roadway system would include a perimeter road surrounding the solar panels within the development fencelines, access roads, and internal roads. Inverters are provided dedicated access roads for maintenance and emergency services, including turnarounds that would accommodate standard fire and emergency vehicle standards.

The perimeter road and main internal access roads and gates would be consistent with the California Building Code and County requirements. These roads would be surfaced with gravel, compacted dirt, or another commercially available surface and would provide a fire buffer, accommodate Project O&M activities, such as cleaning of solar panels, and facilitate on-site circulation for emergency vehicles.

Dust control would be implemented as necessary to mitigate dust plumes. If wildlife-friendly fencing is installed during operation and following substantial reestablishment of vegetation, the roadway system would be specially ~~designed~~ updated to accommodate the safe passage of desert tortoise and other wildlife across the site since desert tortoise exclusion fencing would be removed in those areas. If gravel is used for road surfaces, portions of road lengths would remain free of gravel in strategic locations to facilitate tortoise movement. Culverts may also be placed along internal roads.

2.3.10. Solar Facility Site Security, Fencing and Lighting

2.3.10.1. Controlled Access

Multiple points of ingress/egress would be accessed via locked gates located at multiple points. Each Project unit would have at least one point of access. The driveway aprons off of SR-177/Rice Road and approximately 100 feet of roadway (or as dictated by Caltrans) would be paved to prevent trackout.

2.3.10.2. Fencing

The solar facility would be enclosed with fencing that meets National Electric and Safety Code (NESC) requirements for protective arrangements in electric supply stations. The boundary of the Project components (i.e., solar arrays, substation, BESS) would be secured by at least 6-foot-high chain-link perimeter fences, likely topped with one foot of three-strand barbed wire. The fence would be set approximately 10 to 100 feet (average of 20 feet) from the edge of an array. Desert tortoise exclusion fencing would be constructed along the bottom of the security fence for Project construction. Desert tortoise exclusion fencing would remain in place during operations, except it would be removed in places where wildlife-friendly fencing may be implemented over a portion of the solar facility site, as described in Section 4.6 (Wildlife-Friendly Fencing).

Project infrastructure would maintain 20-foot setbacks from external private land property boundaries, and internally, panel infrastructure would be set back 5 feet on the private side from public/private parcel boundaries. External fencing would be set back 5 feet from all external parcel boundaries. Linear features, such as fences, medium voltage collector line cabling, internal roadways, etc., may cross public/private property boundaries.

2.3.10.3. Lighting

Care would be taken to prevent undue light pollution from the nighttime security lighting. Lighting at high illumination areas is not required on a continuous basis so would be controlled by switches, motion detectors, etc., to light areas only when required. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties and major roadways.

To reduce offsite lighting impacts, lighting at the facility would be restricted to areas required for safety, security, and operation, such as the O&M building. Security lights would use motion sensor technology that would be triggered by movement at a human’s height, as not to be triggered by smaller wildlife. The level and intensity of lighting during operations would be the minimum needed. Portable lighting may be used occasionally and temporarily during construction and for maintenance activities during operations, such as emergency work that must occur at night.

2.3.10.4. Other Security Measures

Nighttime activities are anticipated to be minimal during Project operations. Offsite security personnel could be dispatched during nighttime hours or could be on site, depending on security risks, emergency maintenance requirements, and operating needs. Infrared security cameras, motion detectors, and/or other similar technology would be installed to allow for monitoring of the site through review of live footage 24 hours a day, 7 days a week. Such cameras or other equipment would be placed along the perimeter of the facility, at the inverters, laydown areas and/or pre-fabrication areas. Security cameras located at the inverters would be posted on poles approximately 20 feet high.

2.3.11. Water Requirements During Construction

Water for construction needs and related dust control would be obtained from ~~either an~~ onsite or offsite groundwater wells~~ or purchased off site~~. Water tanks would likely be set up by any groundwater wells and near the O&M building.

During the construction phase, it is anticipated that a total of up to ~~1,0~~800 acre-feet of water would be used for dust suppression (including truck wheel washing) and other purposes during the 20-month construction timeframe[3]. To reduce water usage, calcium chloride may be applied to dirt roadways for dust abatement purposes.

[3] The Applicant has updated its construction water requirements based on water usage data obtained following construction of other projects in the area, such as the Oberon Renewable Energy Project. The analysis in EIR Section 3.11 (Hydrology and Water Quality) and EIR Appendix G (Water Supply Assessment) conservatively still assumes use of 1,000 AF during construction.

During construction, restroom facilities would be provided by portable units to be serviced by licensed providers.

2.3.12. Waste Generation

Waste would be stored in a locked container within a fenced and secure temporary staging area. As there would be regulated hazardous materials on site, storage procedures would be dictated by a Hazardous Materials Plan that would be developed prior to construction. Spill prevention measures and secondary containment would be implemented as part of the Project where warranted; however, strict compliance under 40 CFR 112 or CWA Section 311 would not be required, because there would be no discharges to waters of the U.S. (i.e., navigable waterways or shorelines).

Trucks and construction vehicles would be serviced from offsite facilities. The use, storage, transport, and disposal of hazardous materials used in construction of the facility would be carried out in accordance with federal, state, and county regulations. No extremely hazardous substances (i.e., those governed pursuant to Title 40, Part 355 of the Code of Federal Regulations) are anticipated to be produced, used, stored, transported, or legally disposed of as a result of Project construction. Material Safety Data Sheets for all applicable materials present on site would be made readily available to on-site personnel.

Construction materials would be sorted on site throughout construction and transported to appropriate waste management facilities. Recyclable materials would be separated from non-recyclable items and stored until they could be transported to a designated recycling facility. Recycling would be in accordance with application California state requirements.[4] Wooden construction waste (such as wood from wood pallets) would be sold, donated, recycled, or chipped and composted. Other compostable materials, such as vegetation, might also be composted offsite. Non-hazardous construction materials that cannot be reused or recycled would likely be disposed of at county landfills. Hazardous waste and electronic waste would not be placed in a landfill, but rather would be transported to a hazardous waste handling facility (e.g., electronic-waste recycling). All contractors and workers would be educated about waste sorting, appropriate recycling storage areas, and how to reduce landfill waste.

2.3.13. Fire Safety During Construction

Fire protection would be provided to limit risk of personnel injury, property loss, and possible disruption of the electricity generated by the Project. Fire protection would include minimizing flammable materials in the solar field, such as vegetation.

A Fire Management and Prevention Plan would be prepared for construction, operation, and decommissioning of the facility. The plan would include measures to safeguard human life, preventing personnel injury, preserve property and minimize downtime due to fire or explosion. Of concern are fire-safe construction, including during any welding, reduction of ignition sources, control of fuel sources, availability of water, and proper maintenance of firefighting systems.

Vegetation would be cleared for construction of the drainage controls, including berms if needed. Construction of the Project would involve preparation, installation, and testing of electrical components such as cables, inverters, wiring, modules, and a transformer. Wires would be buried at a minimum of 18 inches below grade, minimizing the potential for faulty wiring to ignite a fire. All electric inverters and the transformer would be constructed on concrete foundation structures or steel skids and tested prior to use to ensure safe operations and avoid fire risks. Prior to wire setup, work areas would be cleared of vegetation to reduce the risk of ignition from any vehicles or equipment. Small quantities of hazardous chemicals

[4] As of January 1, 2020, CALGreen requires covered projects to recycle and/or salvage for reuse a minimum 65% of the nonhazardous construction and demolition waste or meet a local construction and demolition waste management ordinance, whichever is more stringent.

such as fuels and greases would be stored at the site during construction. Due to the remote location of the Project site, if on-site fuel tanks are utilized for equipment refueling, they are assumed to be no larger than 1,000 gallons each and they would comply with all applicable regulations. All hazardous chemicals would be stored in appropriate containers in an enclosed and secured location with secondary containment to prevent leakages and accidental fires.

During construction, a fire-suppression system may be placed in service if required by the County or BLM Fire. Fire extinguishers and other portable fire-fighting equipment would be available onsite, as well as additional water for use at the O&M facility. These fire extinguishers would be maintained in accordance with local and federal Occupational Safety and Health Administration (OSHA) requirements.

Locations of portable fire extinguishers would include, but not be limited to, office spaces, hot work areas, flammable storage areas, and mobile equipment such as work trucks and other vehicles. Fire-fighting equipment would be marked conspicuously and be accessible. Portable equipment would be routinely inspected, as required by local and federal laws, ordinances, regulations, and standards, and replaced immediately if defective or needing charge.

2.4. Construction Activities

2.4.1. Construction Schedule and Workforce

Construction is anticipated to require approximately 20 months, depending on Power Purchase Agreement (PPA) and financing requirements. The on-site workforce would consist of laborers, craftsmen, supervisory personnel, supply personnel, and construction management personnel. The onsite workforce is expected to reach its peak of approximately 530 individuals with an average construction-related on-site workforce of 320 individuals.

Preconstruction surveys, including desert tortoise exclusion fencing installation and clearance surveys, would be conducted, followed by construction of the main access road, security fencing around solar facility site, clearing and construction of a laydown yard, site grading and preparation, construction of the O&M building, parking area, and pad mounts for transformers. Construction would continue with the installation of temporary power, construction of on-site roads, construction of the Project substation, and assembly and installation of panel blocks and wiring.

Construction would occur between the hours of 6:00 a.m. and 7:00 p.m. Monday through Friday for up to a maximum of 13 hours per day. During summer months, construction may begin earlier to minimize work during the hottest periods of the day. Likewise, limited, targeted night work may also be required by the interconnecting utility or for similar electrical work. Weekend construction work is not expected to be required on a regular basis, but may occur on occasion, depending on scheduling considerations.

2.4.2. Ground Disturbance

Table 2-2 provides the details of the ground disturbance required by construction, operation, and decommissioning of the solar and BESS facility, gen-tie line, and access roads on BLM and private land. Ground disturbance estimates would be refined during final engineering.

Table 2-2. Disturbance Estimates for Easley Renewable Energy Project

Component	~~Temporary Disturbance (acres)~~	~~Permanent~~ Disturbance (acres)
Solar & BESS Facility	~~0~~	~~2,050.5~~ 1,881.3
Exterior Components (Roads & Collector/Distribution Lines)	~~0~~	~~40.7~~ 71.8

Component	~~Temporary Disturbance (acres)~~	~~Permanent~~ Disturbance (acres)
500 kV Gen-tie Line (monopole structures, conductor pull and tensioning sites, guard structures at road/line crossings, spur roads)	~~18~~	~~0.6~~ 41.5 (175-ft ROW: 138.3 acres)
~~Conductor Pull & Tensioning Sites (outside of structure erection areas)~~	~~46~~	~~0~~
~~Guard Structures at Road/Line Crossings~~	~~1.8~~	~~0~~
~~Spur Roads~~	~~0~~	~~0.04~~
TOTAL	~~**65.8 acres**~~	~~**~2,100**~~**1,995 acres**

Ground Disturbance Assumptions

- Permanent disturbance at each 500 kV pole location would be ~0.03 acre. Up to approximately ~~20~~ 45 gen-tie structures would be located on BLM-administered land within a 175-foot ROW. Final gen-tie line impact acreages will be less than the 175-foot-wide ROW shown in the table, as impacts would occur only at structures and spur roads. Furthermore, structures would be micro-sited to minimize impacts to sensitive habitats and resources to the maximum extent feasible.
- Span length for the 500 kV line would vary from 400 to 2,200 feet.
- Temporary structure erection is 200 feet by 200 feet (~0.9 acre) at each structure location.
- Temporary pull and tension sites: 600 feet long by 200 feet wide (~2.8 acre); Angle poles sites: 1,000 feet long by 200 feet wide (~4.6 acre) Temporary disturbance for pull and tensioning generally extends past each dead-end or angle structure. Necessary for conductor stringing equipment and placement of wire reels (approximately 10 wire pulling sites are needed, most of which are angle poles). For all but angle structures, temporary disturbance for pull and tensioning would occur within the 175-foot ROW or extend into the solar facility development footprint.
- New spur roads would typically have circle-type turnaround areas averaging 450 square feet around each structure location.
- Guard Structures: 100 feet wide by 100 feet long (~0.23 acre). Placed on either side of existing roads, crossings of existing lower voltage distribution or transmission lines, or other obstacles to maintain vertical clearance during construction activities only (approximately 8 guard structures needed).
- Temporary trench width per 34.5 kV line: 40-foot width.

2.4.3. Pre-Construction Activities

Pre-construction activities at the Project site would be undertaken to prepare the site and crews for construction. These pre-construction activities are listed below.

2.4.3.1. Pre-Construction Surveys

Qualified biologists would conduct pre-construction surveys for sensitive species. Sensitive resource areas would be flagged or fenced so they are avoided or appropriately managed during construction. If necessary, wildlife, and certain types of qualifying cacti would be removed from the site and relocated so that construction and necessary conservation work may be conducted in the work area. Species relocation areas would be established in consultation with U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), BLM, and County staff.

2.4.3.2. Geotechnical Evaluation

The Applicant would conduct a geotechnical evaluation to gather information on the physical properties of the soil and rock for incorporation into the design of the facility. Subsurface scientific testing and analysis would include geotechnical borings, trenching, and pile testing along the routes. Geotechnical work may be conducted in advance of issuance of an executed ROW Grant on BLM-administered land under a scientific collection permit from the BLM. In all cases, biological and cultural resources surveys would occur in advance of any ground-disturbing activities, and environmental monitoring would occur during such activities.

2.4.3.3. Construction Crew Training

Prior to construction, all contractors, subcontractors, and Project personnel would receive a County and BLM approved Worker Environmental Awareness Program (WEAP) training, which would emphasize the following:

- Appropriate work practices necessary to effectively understand and implement the environmental resource commitments in the project description;
- Implementation of the mitigation measures;
- Compliance with applicable environmental laws and regulations;
- How to avoid and minimize impacts; and
- Understanding the importance of environmental resources and the purpose and necessity of protecting them.

2.4.3.4. Surveying, Staking, and Flagging

Pre-construction field survey work would include identifying precise locations of the site boundary, security fence, and ROW boundary. These features would be subsequently staked in the field. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate survey or construction limits. All off-road vehicle travel across BLM-administered land would be monitored by qualified biologists, archaeologists, and tribal monitors, as appropriate.

2.4.3.5. Desert Tortoise Fence Installation

A desert tortoise exclusion fence, ~~if required,~~ would be installed per the USFWS protocol. The permanent desert tortoise fence would be integrated with the site security fence for maximum durability. Fence installation would be monitored by qualified biologists, archaeologists, and tribal monitors, as appropriate. Following installation, clearance surveys would be conducted.

2.4.3.6. Biological Clearance Surveys

Desert tortoise, mammal, and burrowing owl clearance surveys would be conducted following fence installation. Mammals and owls would be passively relocated using one-way doors or other techniques. Desert tortoise individuals within the solar facility fence line would be actively translocated to an approved site pursuant to an approved Translocation Plan to be developed in consultation with USFWS and the CDFW.

Due to its low elevation, the Chuckwalla Valley historically becomes warmer much earlier than the majority of the desert tortoise range in higher elevation. Clearance surveys are challenging to complete within the limited temperature constraints during the protocol survey period since ambient temperatures often exceed 100 degrees Fahrenheit before the end of April and into October in Chuckwalla Valley. Therefore, temperature thresholds for clearance surveys may be up to 40 degrees C (104 degrees F) in areas that do not have a high modelled desert tortoise occupancy; and/or historical data did not have active desert tortoise sign within the area or in immediate adjacent areas; and/or are adjacent to SR-177/Rice Road, with a higher level of human disturbances. If a desert tortoise is found within the fenced areas during clearance surveys when temperatures are beyond 35 degrees C (95 degrees F), the desert tortoise would be observed for the day by a biologist (at a distance with binoculars) until dusk when it settles. It will be located at dawn again and observed until it can be handled within the proper temperature to affix a transmitter by an authorized biologist. Any handling of desert tortoises would always be below the temperature of 95 degrees F.

2.4.3.7. Establishment of Construction Staging Area

Several staging areas would be established within the solar facility site boundaries for storing materials, construction and pre-fabrication equipment, and vehicles. The staging areas would be surveyed and monitored by qualified biologists, archaeologists, and tribal monitors, as appropriate.

2.4.4. Construction Phase 1: Site Preparation

2.4.4.1. Construction-Related Grading and Vegetation Management

Mass grading would not be conducted on the Project site. Several solar and storage facility locations would require specific ground treatments, but this represents a minority of the ground surface of the facility. The substation, storage container, O&M facility, laydown yards, pre-fabrication areas, and internal and external road locations would require mowing, grubbing, grading and compaction. Inverter station locations would require light grubbing. The solar array areas would require mowing and rolling of woody vegetation to a height of 12 inches in an effort to preserve vegetation and provide for better and faster post-construction site revegetation. In some locations, root balls would need to be removed, which would require light grading. Woody vegetation, such as palo verde trees, that are in areas adjacent to infrastructure where it does not impact solar panel performance would be partially cut, leaving the lower trunk intact to allow regrowth of branches and leaves. Certain areas of the site with highly irregular topography that provide important hydrologic functions to the site would be avoided by Project design. Other irregular areas would be leveled or smoothed to provide for construction access and installation.

Best management practices (BMPs) identified in the Project's Fugitive Dust Control Plan would be implemented during all grading and vegetation removal activities, including the possibility of using mulching. Additional best management practices (BMPs) for site preparation and construction are also listed in Section 2.7 (Applicant Proposed Measures and Best Management Practices) to address concerns raised during the Draft EIR comment period. To reduce water usage, calcium chloride or a similar soil binder may be applied to dirt roadways for dust abatement purposes.

The site cut and fill would be approximately balanced, as shown in Table 2-3 (final design may require slightly different volumes). The Project would require some import of non-native materials, but minimal import/export would be necessary. The substation and BESS would be graded to an elevation above the surrounding grade to avoid flooding and excavated soils (net export) would likely be used at the to create a balanced cut/fill for the project. On-site pre-assembly of trackers would take place in the staging area. Temporary laydown/prefabrication areas would be located within the solar facility footprint, gen-tie work areas, and/or Oberon Substation/Switchyard yard.

Table 2-3. Estimated Cut and Fill Volumes (Pending Final Engineering)

Project Component	Approximate Acreage	Cut/Fill (CY)	Comments
Solar Arrays, including Access Roads	~2,000	Balanced	The solar array areas would be mowed and grubbed, and more-or-less leveled or smoothed to provide for construction access and installation.
Substation	25	40,333 CY* Import	These sites would be graded and backfilled to an elevation above the surrounding grade to avoid flooding. In addition to imported base, excess soils from storm water basin excavations would be used as well.
BESS	35	56,467 CY* Import	
O&M	10	Balanced	The O&M site would be graded and compacted.

Project Component	Approximate Acreage	Cut/Fill (CY)	Comments
Storm Water Basins	n/a	Export	Excavated soils would be relocated and used in the substation/BESS areas.
Temporary Parking & Laydown	5	Balanced	Temporary parking and laydown areas would be graded and compacted.

*Estimated base, assuming 12-inch depth.

2.4.4.2. Erosion and Sediment Control and Pollution Prevention

A Stormwater Pollution Prevention Plan (SWPPP) or SWPPP-equivalent document would be prepared by a qualified engineer or erosion control specialist, and once approved by the State Water Resources Control Board and a BLM hydrologist, would be implemented before and during construction. The SWPPP would reduce potential impacts related to erosion and surface water quality during construction activities and throughout the life of the solar and storage facility. It would include Project information and best management practices (BMPs). The BMPs would include stormwater runoff quality control measures, management for concrete waste, stormwater detention, watering for dust control, and construction of perimeter silt fences, as needed.

2.4.5. Construction Phase 2: Photovoltaic Panel System

Construction of the O&M building and the 12 kV distribution line connection (including relocation of existing distribution line(s)) would be part of the initial solar facility development in tandem with the beginning of PV module construction. The construction activities associated with the distribution line would be similar to the medium-voltage collector lines described below. Dismantling and removal of existing SCE distribution line for relocation would be similar to the process described for decommissioning. The poles and conductor would be disposed of as described in Section 2.3.12 (Waste Generation). The site of the O&M building would be cleared and graded, followed by installation of a concrete foundation.

All or a portion of the PV panel arrays may be pre-assembled in a fabrication assembly plant located on site.

The structures supporting the PV module arrays would consist of steel piles (e.g., cylindrical pipes, H beams, or similar) driven into the soil using pneumatic techniques, similar to a hydraulic rock hammer attachment on the boom of a rubber-tired backhoe excavator. The piles typically are spaced 10 feet apart in the north-south direction and 22 feet apart in the east-west direction. For a single-axis tracking system, piles typically would be installed to a reveal height of approximately 4 to 6 feet above grade, while for a fixed-tilt system the reveal height would vary based on the racking configuration specified in the final design. For single-axis tracking systems, following pile installation the associated motors, torque tubes, and drivelines (if applicable) would be placed and secured. Some designs allow for PV panels to be secured directly to the torque tubes using appropriate panel clamps. For some single-axis tracking systems and for all fixed-tilt systems, a galvanized metal racking system, which secures the PV panels to the installed foundations, would be field-assembled and attached according to the manufacturer's guidelines.

2.4.6. Construction Phase 3: Inverters, Transformers, Substations, Electrical Collectors, & BESS

Direct current (DC) lines would be installed in conduits. The lines would be collected and combined and routed to the inverters to be converted to alternating current (AC) and stepped up to 34.5 kV via a pad-mount transformer. Within the arrays this wiring would typically be hung from the racking equipment.

Final sections would be connected to the inverters via an underground stub. Trenches for the collector lines would be run from the inverters to the onsite Project substation.

Electrical inverters would be placed on steel skids or concrete pads, elevated as necessary with steel piles to allow for runoff to flow beneath the inverter structures. Commissioning of equipment would include testing, calibration of equipment, and troubleshooting. The substation equipment, inverters, collector system, and PV array systems would be tested prior to commencement of commercial operations. Upon completion of successful testing, the equipment would be energized.

Medium-voltage (34.5 kV) cabling from the inverters to the 34.5 kV/500 kV substation would be installed either underground, or overhead along panel strings in a CAB[5] system to avoid the need for underground cabling and trenching. At the combiner box, cables would be combined and routed overhead on wood poles roughly 30 to 50 feet high, depending on voltage.

Underground cables would be installed using direct-bury equipment and/or ordinary trenching techniques, which typically include a rubber-tired backhoe excavator or trencher. An underground 34.5 kV line would likely be buried at a minimum of 36 inches below grade, but could go as deep as 6 feet and include horizontal drilling to avoid environmental resources. Shields or trench shoring would be temporarily installed for safety to brace the walls of the trench, if required based on the trench depth. After the excavation, cable rated for direct burial would be installed in the trench, and the excavated soil would be used to fill the trench and compress to 90 to 95 percent maximum dry density or in accordance with final engineering.

For any overhead 34.5 kV line, pole foundations would be excavated to an average depth of approximately 10 feet. Installation would consist of the following basic steps:

- Deliver new pole to installation site;
- Auger new hole using line truck attachment to a depth of up to 35 feet and include concrete supports depending on final engineering;
- Pour concrete foundation;
- Install bottom pole section by line truck, crane, or helicopter; and
- Install top pole section(s) by line truck, crane, or helicopter, if required.

Once poles are erected, the 34.5 kV conductor would be strung generally using a wire truck, crane and/or helicopter, splicing rig and puller from conductor pull and tension sites at the end of the power line. Each conductor would be pulled into place at a pre-calculated sag and then tension-clamped to the end of each insulator using sag cat and static truck/tensioner equipment. The sheaves and vibration dampers and accessories would be removed once installation is complete.

Substation areas would be excavated for the transformer equipment and control building foundation and oil containment area. The site area for the substation would be graded and compacted to approximately level grade. Foundations for the substation would be formed with plywood and reinforced with structural rebar. Concrete pads would be constructed as foundations for substation equipment, and the remaining area would be graveled. Concrete for foundations would be brought on site from a batching plant in Blythe or would be produced by a portable batch plant on site as necessary.

The energy storage facility must be nearly level; therefore, the proposed BESS area would be cleared and graded. Site preparation also would include construction of drainage components to capture and direct stormwater flow around the BESS facility. Once the concrete foundations are in place for the BESS, the

5 Cambria Association for the Blind and Handicapped produces overhead cable management systems comprised of cable trays, hooks, and other devices. The sale of CAB Products helps support its services to persons with disabilities.

batteries, inverters, and other electrical equipment would be mounted and installed. Equipment would be delivered to the site on trucks.

2.4.7. 500 kV Gen-tie Line Construction

The Project gen-tie line would be located within a 175-foot ROW, and would be primarily overhead, but undergrounding could be an option based on design constraints, existing utilities, and resources. The overhead gen-tie line structure foundations would be excavated to a depth of 45 feet or more and include concrete supports depending on final engineering. Gen-tie structures would be on average 120 feet tall but could be as tall as 199 feet where the proposed gen-tie line would cross above existing transmission lines and would be composed of ~~lattice steel structures, steel H-frames, and~~ monopole steel structures. A 3-phase 500-kV bundled set of conductors would be strung along the structures, and the line would be equipped with a ground wire and a telecommunications fiber-optic cable. Helicopters would be used to support overhead construction. Drones may also be used to support gen-tie and medium voltage collector line construction, as described in Section 2.5.5 (Drone Use).

During stringing of the conductor, pull and tensioning and temporary work areas may be required outside of the 175-foot ROW. The temporary disturbance area for each structure is 200 feet by 200 feet on the generally flat terrain of the Project area. The average size of pull and tension sites is 600 feet long by 200 feet wide; however, angle poles sites can increase to 1,000 feet by 200 feet. Foundation sizes (permanent disturbance) would be 30 to 40 feet in diameter depending on topography.

The Applicant would also perform any required upgrades to the Oberon ~~Substation~~ Switchyard during this time.

2.4.7.1. Helicopter Use

Helicopters would likely be used for wire stringing activities including hanging travelers, pulling conductor and optical ground wire (OPGW), dead-end activities, and the installation of bird diverters for the gen-tie line. There would be one Helicopter Landing Zone (HLZ), likely located within a disturbed area of the Project site, such as in the project substation laydown yard. A water truck would be onsite to water the HLZ prior to helicopter activities to prevent fugitive dust from rotor wash. Helicopter refueling will be done within the HLZ from a construction vehicle equipped as a fuel truck. Refueling may also occur at the Desert Center Airport or another regional airport, where the helicopter may be hangered overnight, before and/or after each day the helicopter is utilized. While the helicopter may land briefly within approved, existing disturbance areas on the gen-tie line to pick up equipment, materials, or personnel, no helicopter refueling will occur on BLM-administered land. Helicopter activities would occur over a temporary period within the proposed ~~2-year~~20-month construction of the Project and would occur within the typical construction hours Monday through Friday 7:00am to 7:00pm. It is estimated that helicopters would be used for up to 200 hours over approximately 40 days. The helicopter activities would reduce ground disturbance by eliminating certain on-the-ground equipment that is typically used for overhead gen-tie line construction, including cranes, backhoe, and trucks. Helicopter use would also reduce the total duration of gen-tie construction by approximately 10 to 15 days. A full-time avian monitor would be onsite for the full duration of helicopter activities to specifically monitor helicopter activities.

All helicopter operations would be in accordance with a County and BLM approved Helicopter Use Plan, and all aircraft, pilots, linemen, and mechanics would be in full compliance with applicable FAA requirements and standards.

2.4.8. Construction Access, Equipment, and Traffic

All equipment and materials for the Project's construction would be delivered by flatbed trailers and trucks. Most truck traffic would occur on designated truck routes and major streets. Project components would be assembled on site. Traffic congestion resulting from construction activities would be temporary and could occur along area roadways as workers commute and materials move to and from the Project site. Helicopters and drones could be used to support construction activities and designated landing and refueling zones would be established. Materials deliveries during construction would travel up to 150 miles one way from sources to the Project site.

During construction, an average of 320 workers per day would commute to the Project site with a maximum of 530 workers during peak construction. In addition, an estimated ~~80~~ 60 round trips per day would be required to deliver materials and equipment to the Project site. Water for construction-related dust control and operations would be obtained from several potential sources, including ~~multiple~~ up to 2 onsite or offsite groundwater wells~~, and/or trucked from an offsite water purveyor~~.

Flagging operations at site access points may be implemented during construction if/when traffic control needs are indicated through either monitoring traffic operations during construction or determined to be required during construction stage planning.

2.4.9. Post-Construction Cleanup

Construction sites would be kept in an orderly condition throughout the construction period by using approved enclosed refuse containers. All refuse and trash would be removed from the sites and disposed of in accordance with BLM regulations. No open burning of construction trash would occur. All vegetation that may interfere with equipment would be trimmed and removed using manual non-mechanical means or sprayed with an approved herbicide, as necessary.

2.4.10. Construction Site Stabilization, Restoration, and Wildlife Monitoring

Following the completion of major construction, temporarily disturbed areas would be revegetated pursuant to an approved Restoration Plan. The Plan would describe the Applicant's strategy to minimize adverse effects on native vegetation, soils, and habitat. Where necessary, native re-seeding or vertical mulching techniques to alleviate compaction would be used. However, it is anticipated that many species will regenerate post-construction due to preservation of desert vegetation during the construction phase.

At the conclusion of restoration activities, and if determined beneficial by USFWS, CDFW, and BLM biologists, any previously relocated plants and wildlife would be reintroduced to the Project site and monitored for safety and health.

2.5. Operation and Maintenance Activities

Upon commissioning, the Project would enter the operations phase. The solar modules at the site would operate during daylight 7 days a week, 365 days a year. Operational activities at the Project site would include:

- Maintaining safe and reliable solar generation;
- Site security;
- Responding to automated electronic alerts based on monitored data, including actual versus expected tolerances for system output and other key performance metrics; and
- Communicating with customers, transmission system operators, and other entities involved in facility operations.

Site standby power would be provided by backup generator(s). The California Air Resources Board (CARB) requires stationary generator engines rated 50 brake-horsepower (bhp) (equivalent to 37 kW) or greater to obtain an air quality permit issued by the local air district. If backup generators for the substation are 50 MW or greater, then the Applicant would obtain necessary permits from the California Energy Commission as well.

2.5.1. Operation and Maintenance Workforce

During operation of the proposed Project, up to 10 permanent staff could be on the site at any one time for ongoing facility maintenance and repairs. Alternatively, approximately 2 permanent staff and 8 Project operators would be located off site and would be on call to respond to alerts generated by the monitoring equipment at the Project site. Security personnel would be on call. The staff would be sourced from near-by communities in Riverside County. The O&M building would house the security monitoring equipment, including security camera feeds for monitoring the Project 24 hours per day.

2.5.2. Site Maintenance

The Project site maintenance program would be largely conducted during daytime hours. Equipment repairs could take place in the early morning or evening when the plant would be producing the least amount of energy. Key program elements would include maintenance activities originating from the on-site O&M facility.

Maintenance typically would include: panel repairs; panel washing; maintenance of transformers, inver-ters, energy storage system, and other electrical equipment; road and fence repairs; and vegetation and pest management. The Applicant would recondition roads up to approximately once per year, such as after a heavy storm event that may cause destabilization or erosion.

Revegetation would be the primary strategy to control dust across the solar facility site. Soil binders would be used to control dust on roads and elsewhere on the solar facility site, as needed.

On-site vegetation would be managed to ensure access to all areas of the site, reduce fire risk, and to assist in screening Project elements as needed. Onsite vegetation may be trimmed approximately once every three years, as needed. For the first year, weed management and control would be performed quarterly.

Solar modules would be washed as needed (up to four times each year) using light utility vehicles with tow-behind water trailers to maintain optimal electricity production. No chemical agents would be used for module washing.

No heavy equipment would be used during normal operation. O&M vehicles would include trucks (pickup and flatbed), forklifts, and loaders for routine and unscheduled maintenance and water trucks for solar panel washing. Large heavy-haul transport equipment may be brought to the solar facility infrequently for equipment repair or replacement. No helicopter use is proposed during routine operations although they may be used for emergency maintenance or repair activities.

Long-term maintenance schedules would be developed to arrange periodic maintenance and equipment replacement in accordance with manufacturer recommendations. Solar panels are warrantied for 35 years or longer and are expected to have a life of 50 or more years, with a degradation rate of 0.5 percent per year. Moving parts, such as motors and tracking module drive equipment, motorized circuit breakers and disconnects, and inverter ventilation equipment, would be serviced on a regular basis, and unscheduled maintenance would be performed as necessary.

2.5.3. Fire Safety During Operation

Solar arrays and PV modules are fire-resistant, as they are constructed largely of steel, glass, aluminum, or components housed within steel enclosures. As the tops and sides of the panels are constructed from glass and aluminum, PV modules are not vulnerable to ignition from firebrands from wildland fires. In a wildfire situation, the panels would be rotated and stowed in a panel-up position. The rotation of the tracker rows would be controlled remotely via a wireless local area network. All trackers could be rotated simultaneously in a hazard situation.

The BESS would comply with the current California Fire Code (CFC), which governs the code requirements to minimize the risk of fire and life safety hazards specific to battery energy storage systems used for load shedding, load sharing, and other grid services (Chapter 12 Section 1206 of the 2019 CFC). In accordance with the CFC, the battery enclosure and the site installation design are all required to be approved by the State Fire Marshal. If applicable, the BESS would be certified to UL 9540, the standard associated with control, protection, power conversion, communication, controlling the system environment, air, fire detection and suppression systems related to the functioning of the energy storage system. The battery would be tested to UL 9540A, a test method intended to document the fire characteristics associated with thermal event or fire and would confirm that the system will self-extinguish without active fire-fighting measures. The system would be designed such that, during a fire event, the results of the UL 9540A test would show that any internal fire is contained within the enclosure and not spread to the other parts of the facility. The results of this test are used to inform facility safety system design and emergency response plans which would be shared with first responders. If applicable, the system would use a chemical agent suppressant-based system to detect and suppress fires. If smoke or heat were detected, or if the system were manually triggered, an alarm would sound, horn strobes would flash, and the system would release suppressant, typically FM-200, NOVEC 1230 or a similar clean agent[6] from pressurized storage cylinders. However, final safety design would follow applicable standards and would be specific to the battery technology chosen, including, but not limited to, National Fire Protection Association 855 (standard for the Installation of Stationary Energy Storage Systems) and Section 1206 of the California Fire Code.

During O&M activities, standard defensible space requirements would be maintained surrounding any welding or digging operations. Fire safety and suppression measures, such as smoke detectors and extinguishers, would be installed and available at the O&M facility, if required by the County and/or BLM.

As described above, a Fire Management and Prevention Plan will be prepared in coordination with the County, BLM Fire, or other emergency response organizations to identify the fire hazards and response scenarios that may be involved with operating the solar facility and BESS. This would include information on response to accidents involving downed power lines or accidents involving damage to solar arrays and facilities.

Wildlife-Friendly Fencing

The Applicant may elect to utilize wildlife-friendly fencing on portions of the proposed facility based on its success at the Oberon Project. If wildlife-friendly fencing is implemented, after vegetation is substantially reestablished following the completion of construction, temporary desert tortoise exclusion fencing ~~may~~ would be removed only in the area(s) of wildlife-friendly fencing ~~after construction~~. If wildlife-friendly fencing is implemented, it would likely be located in the portion of the solar facility within the Pinto Wash Linkage and/or areas adjacent to desert dry wash woodland that provide higher value wildlife habitat.

[6] Clean agents, including inert gases, are commonly used to suppress fires in machinery and electrical equipment, including occupied spaces, because they do not damage components and are considered safe for people and the environment.

This would allow desert tortoise and other wildlife passage through portions of the Project site for the life of the Project. In areas where wildlife-friendly fencing is implemented, the security fence would leave a 6- to 8-inch gap between the lower fence margin (rail or mesh) and the ground. The bottom of the fence fabric (chain-link or similar material) would be wrapped upward so that no sharp edges are exposed along the lower fence margin. O&M safety practices, including worker training and biological monitoring of nesting, burrowing, or denning wildlife, would be implemented to maximize long-term safety of desert tortoises and other wildlife present at the site.

2.5.4. Drone Use

Drones would be used to perform annual thermal and visual inspections of the gen-tie line and overhead medium-voltage collector line structures. The maximum drone operation heights would be restricted to 300 feet, which is higher than the maximum height of the gen-tie line structures.

Annual visual inspections are required by NERC FAC-003-4 Transmission Vegetation Management and utilized for preventative maintenance to reduce the risk of equipment malfunction or failure. Drone inspections would be performed once per year between September and November to avoid potential impacts to nesting native and migratory birds. A team of two Federal Aviation Administration (FAA) approved and Unmanned Aircraft System (UAS) certified pilots would drive a truck on gen-tie ROW access roads as close to the inspection sites as is safe and feasible, park on the road, and begin the inspection. The drones used would be battery-powered *Matrice 300 RTK or Matrice 200 series* drones or similar and would perform the inspections between approximately 76-300 feet above ground level (AGL). Operating hours for inspections would be between the hours of 10:00 a.m. and 3:00 p.m. The drone pilots would work in pairs with one flying and one spotting for safety. The use of drones for gen-tie infrastructure inspections would minimize the need for larger vehicles, such as bucket trucks, and no ground disturbance would occur during drone use.

2.5.5. O&M Water Requirements

During the operations and maintenance phase, water would be required for panel washing and maintenance and for workforce facilities. Substation restroom facilities would be located adjacent to the O&M building. If the septic system is not self-contained, an associated leach field would be required. The leach field would be permitted by Riverside County and would not be located within 0.25 mile of any drinking water well.

During operation, the solar array portion of the Project would require the use of a total of approximately 50 acre-feet of water annually for panel washing (which would occur up to four times per year) and other uses. No wastewater would be generated during panel washing as water would be absorbed into the surrounding soil or would evaporate. Water would be obtained from an onsite or offsite groundwater well ~~or purchased off site~~.

2.6. Decommissioning and Repowering

The facility's equipment has a useful life of 30 to 50 years. At the end of the initial power purchase agreement's contract term of approximately 10 to 25 years, the Project would still be able to generate power. At that time, the facility would likely be optimized to increase the plant's efficiency by swapping out inverters for more efficient units, and potentially swapping out some of the facility's modules. Ground-disturbing work would not be necessary for optimization activities. The Project would be offline for several weeks or months during optimization activities but would subsequently continue delivering electricity to the wholesale market for many decades. Conditional Use Permit (CUP), Public Use Permit (PUP), and ROW renewals would be sought from the County and BLM, as necessary. Long-term operations would be the same as described above.

At the end of the Project's useful life, the solar arrays and gen-tie line would be decommissioned and dismantled per an agency-approved Closure and Decommissioning Plan. It is assumed that decommissioning would take approximately 20 months, similar to the construction duration, and would likewise use up to 1,000 AF of water for dust suppression (including truck wheel washing) and other purposes during the 20-month period.

Upon ultimate decommissioning, a majority of Project components would be suitable for recycling or reuse, and Project decommissioning would be designed to optimize such salvage as circumstances allow and in compliance with all local, State, and federal laws and regulations in effect at the time of decommissioning. Following removal of the above-ground and buried Project components as required in the Closure and Decommissioning Plan, the site would be restored to its pre-solar facility conditions, or such condition as appropriate in accordance with County and BLM policies at the time of decommissioning.

Decommissioning activities would require similar equipment, workforce, and duration (20 months) as construction, but would be substantially less intense. The following activities would be involved:

- Dismantling and removal of all above-ground equipment (solar panels, track units, transformers, inverters, substation, O&M buildings, switchyard, distribution lines, etc.)
- Excavation and removal of all above-ground cables
- Removal of solar panel posts
- Removal of primary roads (aggregate-based)
- Break-up and removal of concrete pads and foundations
- Removal of septic system and leach field
- Removal of 34.5 kV collector lines
- Dismantling of gen-tie line
- Scarification of compacted areas

The panels could be sold into a secondary solar PV panel market. The majority of the components of the solar installation are made of materials that can be readily recycled. If the panels can no longer be used in a solar array, the silicon can be recovered, the aluminum resold, and the glass recycled. Other components of the solar installation, such as the tracker structures and mechanical assemblies, can be recycled, as they are made from galvanized steel. Equipment such as drive controllers, inverters, transformers, and switchgear can be either reused or their components recycled. The equipment pads are made from concrete, which can be crushed and recycled. Underground conduit and wire can be removed by uncovering trenches, removing the conduit and wire, and backfilling. The electrical wiring is made from copper and/or aluminum and can be reused or recycled, as well. It is estimated that 100 percent of copper components would be recycled and approximately 50 percent of aluminum and other components would be recycled.

Decommissioning of the aboveground portion of the gen-tie, ~~and~~ overhead medium voltage collector lines, and distribution lines consists of removal of the overhead conductors and removal of poles (risers). All steel would be recycled, and the overhead structure foundations removed to a depth of at least 2 feet below the ground surface. Aluminum from overhead conductors would be recycled. Procedures would be designed to ensure public health and safety, environmental protection, and compliance with all applicable laws, ordinances, regulations, and standards.

2.7. Applicant Proposed Measures, Best Management Practices, and DRECP CMAs

As part of the Project, the Applicant proposes to implement measures to ensure the Project would occur with minimal environmental impacts and in a manner consistent with applicable rules and regulations. These measures would be implemented during the design, construction, and operation of the Project.

2.7.1. Applicant Proposed Measures

The Applicant Proposed Measures (APMs) listed below are considered part of the Project and are considered in the evaluation of environmental impacts (see Section 3, Environmental Analysis). Project approval would be based upon the Applicant adhering to the Project as described in this document, including this project description and the APMs, as well as any mitigation measures that may be imposed as conditions of approval.

APM AES-1 **Weathering Coating of Security Fencing.** To reduce operational visual impacts of the Project to the community of Lake Tamarisk, the Project owner will apply a weathering coating (Natina or substantially similar) to the Project security fencing located closest to the Community. The coating would reduce the occurrence of reflectance, which would be visually distracting and the typically earth-tone color of the coating would reduce the industrial character of the fencing and help it to blend more effectively with the surrounding landscape. The total length of fencing that will be coated is approximately one mile and may be contiguous or separate sections, depending on the final Project design and the location(s) of most visible security fencing.

APM NOISE-1 **Construction Timing**. Applicant will avoid or minimize use of any impact hammer for pile driving or other equipment similarly capable of producing disruptive noise during construction activities within a one-mile radius from the residential parcel on the northeast corner of the Lake Tamarisk Desert Resort community during the winter months of highest residency (November 1 to March 31). If based on the final construction schedule, use of such equipment is necessary within this geographic area during the aforementioned time period, the Applicant will avoid or minimize this construction activity prior to 7:00 am and after 6:00 pm. The Applicant will also avoid nighttime equipment deliveries between 10:00pm and 7:00am.

Figure 2-13 depicts the one-mile radius described in APM NOISE-1.

2.7.2. Best Management Practices

In response to comments raised during the Draft EIR comment period, the Applicant also commits to the following best management practices (BMPs) during site preparation and construction. Additional BMPs identified in the Project's Fugitive Dust Control Plan would also be implemented during all grading and vegetation removal activities.

- Utilize 'Overland Travel' as much as possible instead of high-impact methods like disk and roll or grading.
- Assemble as much of the racking material as possible in laydown areas, which minimizes travel along panel rows.

- Designate primary travel routes every few rows between panel arrays to minimize disturbance along other rows. Focus disturbance to few primary travel paths to avoid zigzagging, which in the long run reduces other impacts.
- Ensure that there are well-trained construction monitors on site focused on ensuring that construction/vehicle trips impacts are minimized.
- Limit grading to specific areas – roads, substation, O&M facilities, laydown areas, some equipment pads, and in discrete areas within the arrays due to structural design limitations.
- Utilize smaller rubber-wheeled vehicles, lightweight skid steers, small cranes, tractors, and rubber-tired forklifts where possible to minimize soil disturbance.
- Keep soils out of drainages, preserve protective buffers alongside washes, and maintain hydrologic flow patterns within the site.
- If possible, bend and pin tortoise fencing instead of trenching it in, to minimize disturbance along the fence line.
- Incorporate propagule islands, patches of intact vegetation and soils that provide seeds and soil microbial propagules, to facilitate revegetation or recolonization of adjacent disturbed areas.
- Construct the project in phases, which reduces dust and allows areas to begin recovery sooner.
- Monitor vegetation recovery on site after construction by developing a Restoration Plan. Use benchmarks and required restoration measures (if much disturbance has taken place) to ensure sufficient plant growth after construction.

2.7.3. DRECP Conservation and Management Actions

The BLM Desert Renewable Energy Conservation Plan (DRECP) is a collaborative, interagency landscape-scale planning effort covering 22.5 million acres in seven California counties—Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego. The DRECP has two primary goals. One is to provide a streamlined process for the development of utility-scale renewable energy generation and transmission in the deserts of southern California consistent with federal and state renewable energy targets and policies. The other is to provide for the long-term conservation and management of special-status species and desert vegetation communities, as well as other physical, cultural, scenic, and social resources within the DRECP Plan Area using durable regulatory mechanisms. DRECP planning decisions are "designed to both provide effective protection and conservation of important desert ecosystems, while also facilitating the development of solar, wind and geothermal energy projects in those unique landscapes." The DRECP Land Use Plan Amendment (LUPA) and supporting FEIS, identified lands within the California desert that would be appropriate for conservation and lands that would be appropriate for renewable energy development, called Development Focus Areas (DFA), and as noted above, such DFA lands are proposed for the Easley Project.

Approval of the Easley Project on public lands involves a federal action and is thus subject to the environmental analysis requirements of the National Environmental Policy Act (NEPA). Because the construction, operation, and decommissioning of the proposed Action would be conducted in accordance with DRECP Conservation and Management Actions (CMAs), an Environmental Assessment (EA) under NEPA is anticipated to be published in 2024. The EA would tier to the DRECP Final Environmental Impact Statement (FEIS).

The FEIS supporting the DRECP ROD comprehensively evaluated utility-scale renewable energy development in the California desert including the DFAs where the Project is located. The FEIS considered impacts to all resources potentially impacted by renewable development. It included CMAs designed to reduce the effects of development on sensitive resources as well as highlighting other types of mitigation that might be required to further reduce impacts.

The Easley Project will fully comply with all applicable DRECP CMAs on BLM-administered land, and the Applicant has stated that the Easley Project will also voluntarily comply with all applicable DRECP CMAs on private lands. A detailed BLM Project consistency CMA analysis is provided in EIR Appendix CC.

2.8. Alternatives Analyzed in Detail

2.8.1. CEQA Requirements for Alternatives

Section 15126.6(a) of the State California Environmental Quality Act (CEQA) Guidelines states that an Environmental Impact Report (EIR) "shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Further, an EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The CEQA Guidelines state that factors that may be considered when determining the feasibility of alternatives are "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context) and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent)" [CEQA Guidelines Section 15126.6(f)(1)].

Additionally, the No Project Alternative must be analyzed. The EIR must explain the rationale for selecting the alternatives to be discussed, identify those that were not carried forward because they were infeasible, and briefly explain why these were not carried forward. The "environmentally superior" alternative to the Project must be identified and discussed (see Section 5, Comparison of Alternatives). If the environmentally superior alternative is the No Project Alternative, the EIR must identify an additional "environmentally superior" choice among the other Project alternatives.

As presented below, a variety of alternatives to the Project were considered to determine potential alternatives which might produce fewer significant impacts, or reduce the severity of those significant impacts, than the proposed Project, including the No Project Alternative. Possible alternatives were assessed as to whether they would satisfy the following:

- The alternative is technically feasible;
- The alternative would avoid or substantially lessen any of the significant impacts of the proposed Project; and
- The alternative would attain most of the basic proposed Project objectives defined in Section 1.3.

Alternatives considered included the No Project Alternative and those associated with a revised configuration of the solar and BESS facility. The No Project Alternative and other alternatives carried forward for evaluation in Section 5~~3~~ (Environmental Analysis) are presented in Section 2.7. An alternative comparison is provided in Section 5. Alternatives considered, but not carried forward for further analysis are presented in Section 2.8.

2.8.2. Alternative A~~1~~: No Project Alternative

2.8.2.1. No Project Alternative A1: No Build Alternative

Consideration of t~~T~~he No Project Alternative is required by CEQA. Under the No Project Alternative, the construction of a solar generating facility and associated infrastructure would not occur. This alternative discusses existing conditions as well as what would be reasonably expected to occur in the foreseeable future if the Project is not approved and does not take place.

Under the No Project Alternative, the construction of the Easley Renewable Energy Project and associated infrastructure would not occur. Because no Project would be constructed, none of the construction, operation, or decommissioning impacts associated with the Project would occur to any of the resources identified and discussed in Section 3. Project-related offsite mitigation and contributions to cumulative impacts would not occur.

Consistency with Project Objectives. The No Project Alternative would not meet any of the Applicant's objectives for the Project and would not contribute to achieving any of the energy generation goals or GHG reduction goals under Senate Bill 350, Senate Bill 100, and AB 32. The DRECP ROD notes that "it is designed to both provide effective protection and conservation of important desert ecosystems, while also facilitating the development of solar, wind and geothermal energy projects in those unique landscapes."

Furthermore, Executive Order 14008, issued January 27, 2021, "Tackling the Climate Crisis at Home and Abroad," directs the Secretary of the Interior to identify steps that can be taken to increase renewable energy production on public lands and manage federal lands to support robust climate action (see sections 204 and 207).

If energy that would have been produced by the proposed Project is not replaced with energy provided from renewable sources, the alternative energy projects could result in greater emissions from, for example, the burning of fossil fuels. Such replacement projects would not contribute to meeting state or federal GHG reduction goals.

2.8.2.2. No Project Alternative A2: Uses Allowed by Right within Existing Land Designations

No Project Alternative A2 considers only uses that may occur on both Federal and County land that would not require discretionary approvals from the jurisdiction. Given this limitation, BLM lands would not be developed under Alternative A2, since any development on BLM lands requires a discretionary decision from the agency. In contrast, lands under County jurisdiction have various allowed uses as identified in the zoning code that do not require discretionary approval by the County. Parcels under County jurisdiction that fall within the Project boundary include lands zoned as A-1, W-2, and N-A., as described in County Ordinance No. 348.

- Under A-1 (Light Agricultural) zoning permitted uses include one-family dwellings, water works, a wide range of agricultural activities and structures, parks and playgrounds, mining, outside storage of farming equipment, and employee housing.
- Under W-2 (Controlled Development Areas) zoning permitted uses are largely similar to zone A-1 but distinguish between lots of one acre or greater and those less than one acre.
- Under N-A (Natural Assets) zoning permitted uses are limited and include one-family dwellings, guest dwellings, garages and accessory buildings, field and tree crops, and limited grazing.

Under the County zoning ordinance these properties could be developed or employed in any of the permitted uses without discretionary approval. In addition, the Riverside County Code of Ordinances (Sec.

17.208.010) provides for a public use permit in any zone, allowing a range of uses that includes educational institutions, energy storage or transmission facilities, hospitals, and public utilities.

Under Alternative A2 BLM-administered lands would not be developed. For lands under County jurisdiction, a reasonable development scenario ~~w~~could include agricultural-related uses, construction of scattered rural residences, and/or development of facilities allowed under Sec. 17.208.010.

Consistency with Project Objectives. Similar to Alternative A1 (No Build), Alternative A2 would not meet any of the Applicant's objectives for the Project and would not contribute to achieving any of the energy generation goals or GHG reduction goals.

2.8.2.3. No Project Alternative A3: Other Renewable Energy Development within Existing Land Designations

This~~e~~ No Project Alternative considers what would be reasonably expected to occur on lands within the Project boundary in the foreseeable future if the proposed Project is not approved and does not take place. The Project site is located on BLM-administered land within a Development Focus Area (DFA)~~,~~ and on private lands adjacent to the DFA~~a Development Focus Area~~. The Project area is near an existing substation with available capacity for additional energy transmission.

The BLM's DRECP LUPA defines 148,000 acres in Riverside County as a DFA with allowable technologies being "Solar, Wind, and Geothermal." The DFA lands are around Desert Center and in the area west and northwest of Blythe. There are no other defined acceptable uses for lands within a BLM DFA.

No wind or geothermal projects have been proposed in Riverside County DFAs, and the resources required to generate this power are not known to exist in the Desert Center area. However, since solar, wind, and geothermal are the only currently allowed technologies in a DFA, this alternative (A2) considers the potential that these lands could be subject to a successful land development application ~~and~~for any of these technologies if the proposed Project is not approved or constructed.

Solar Generation by Other Developers. If the Project were not constructed, ~~it~~ the DFA designation makes it ~~is~~ highly likely that a different solar developer would apply to the BLM to construct a similar solar project at this location. If a different solar project were to be constructed in this location, the impacts of that solar project would be evaluated under CEQA and NEPA and may be similar to those identified for the proposed Project, as presented in Section 3 of this EIR.

Geothermal Generation. A typical geothermal project could generate about 150 MW on a site of 50 to 75 acres. Three to four of these facilities would be required to generate the 400 MW that would result from the proposed Project. Geothermal facilities generate electricity by producing steam from geothermal fluids in order to power turbines. They then inject the spent (cooled) fluids back into the ground. Facilities use high pressure systems to separate chemicals and solids from the geothermal fluids.

Geothermal projects require use of geothermal production wells, pipelines, fluid and steam handling facilities, a solids handling system, surface impoundment for wastewater, a service water pond, a stormwater retention basin, process fluid injection pumps, a power distribution center, borrow pits, and inject-tion wells. Wells must be spaced apart from each other in order to produce adequate amount of steam.

The major operational components of a geothermal facility include a steam turbine generator system, geothermal fluid processing system, cooling towers, and well pads. Geothermal generation facilities also require onsite substations and gen-tie lines connected to the State or regional electrical grid.

The impact drivers for geothermal generation include the following:

- ***Construction***:
  - Grading and vegetation removal is required where all facilities are to be installed, with potential effects on biological and cultural resources and creation of wind-blown dust.
  - Pipeline construction extends across many acres, so pipeline rights-of-way are cleared around the site, along with access roads. Pipes are generally installed aboveground (on supports that are elevated above grade).
  - Construction of well pads around the site, sufficiently spaced to prevent interaction of the injection fluid with produced water.
  - Brine ponds are required for impoundment of operational fluids during upset conditions or other operational events.
  - Steam turbine generator systems operate at high pressure to generate electricity. Turbines are installed within structures.
  - Multiple-cell cooling towers are required to cool the circulated fluids after steam generation.
  - Management systems are installed for hazardous and nonhazardous wastes.
  - Construction creates noise and vibration that varies in intensity depending on activities ongoing. The loudest activities include excavation, concrete pouring, steel erection (using derrick cranes and jack hammers), installation of mechanical equipment (using pneumatic tools and cranes). Pile driving or blasting may be required.

- ***Operation***:
  - Well drilling for both production of steam and for injection of spent geothermal fluids (up to 7,500 feet of depth). Geothermal fluids tend to have significant amounts of dissolved solids (zinc, manganese, iron, and silica).
  - Reservoir fluids are at high temperatures and are corrosive.
  - Well drilling requires drill rigs at dispersed well pads, operating 24 hours a day.
  - Industrial operations include facilities for solids dewatering, high- and low- pressure separators and scrubbers, tanks, gas removal systems, control room and maintenance building.
  - Cooling towers include components up to 50 feet high and joined into a single structure.
  - The mechanical systems complex includes facilities up to nearly 100 feet tall.
  - Chemical handling is required for the solids that are produced with the geothermal fluids, including ammonium, sodium, magnesium, potassium, calcium, manganese, iron, chloride, and others. Similarly, spent geothermal fluids (to be reinjected into the ground) include high concentrations of sodium, potassium, calcium, and chloride. Hazardous solid wastes are generated and are disposed of at appropriate landfills.
  - Water is required for power generation and facility services (drinking water, sanitary systems, etc.).
  - Air emissions result from particulates released from cooling towers and low concentrations of hydrogen sulfide (H2S) can be present.
  - Because the facility operates 24 hours per day, facility lighting is required for indoor and outdoor areas.

- An onsite substation and gen-tie lines would be constructed.
- Operations create substantial noise affecting wildlife and nearby populations due to steam venting (“steam blows”) and upset conditions.

Wind Generation. About 125 3.2 MW wind turbines (the average size in 2022) or 80 5 MW turbines would be required to generate the 400 MW of electricity the proposed Project would generate. Wind projects require an average of 85 acres of land per MW generated (though only about 1 acre per MW is permanently disturbed) so wind turbines installed on the Easley Project area (3,735 acres) could generate less than 50 MW (assuming wind speeds within typical wind project areas). The average height of turbines in 2022 was 98.1 meters (or 322 feet; 2024 DOE). Modern wind turbines have blades of over 170 feet long, and the largest turbines have blades over 350 feet long.

The impact drivers for wind generation include the following:

- ***Construction***:
  - Construction of access roads, tower foundation pads, construction laydown areas would be constructed, potentially affecting wildlife, plants, and cultural resources, and producing dust.
  - Assembly of towers, nacelles, and blades requires large cranes with associated noise and air emissions.
  - Installation of collector lines for turbine generation, construction of onsite substation, and construction of gen-tie line to offsite substation would require ground disturbance with similar effects for construction of other project components.
- ***Operation***:
  - Operation of wind turbines can result in bird collision with blades, though there is newer technology to allow operation to be halted in areas of high raptor use.
  - Turbine sound (noise made by moving blades) and visual impact of tall towers can affect nearby residences.
  - Under certain lighting conditions, turbines can create an effect known as “shadow flicker” that can be annoying to occupants in some nearby structures.
  - The Federal Aviation Administration requires installation of night lighting (red or white) for turbines over 200 feet tall.

Consistency with Project Objectives. The renewable power generation that could occur with this alternative is consistent with the project objectives relating to climate change and renewable energy, but the wind component could generate only about 12% of the electricity of the proposed Project due to the larger land areas required for this technology. In addition, the geothermal and wind technologies that could be permitted on DFA-designated lands would have numerous significant impacts, conflicting with the objective of minimizing environmental impacts.

2.8.3. Alternative B~~2~~: ~~Lake Tamarisk~~Reduced Footprint Alternative

The ~~Lake Tamarisk~~Reduced Footprint Alternative would be located within the proposed Project application area and has been developed in response to concerns expressed by the Lake Tamarisk Desert Resort community during the CEQA scoping process. The Alternative would be similar to the proposed Project but would remove approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk, such that the Project solar panels would be approximately 0.45 miles (2,350 feet) from the northeast corner of the Lake Tamarisk Desert Resort community compared to 750 feet under the proposed Project. With this reduction in acreage, the electrical output would ~~not be appreciably~~ be reduced by up to 10 MW (up to 390 MW) compared to the proposed Project (up to 400 MW).

In addition, in response to visual concerns, the onsite substation and BESS would be moved at least 0.7 mile to the northeast (farther from the community of Lake Tamarisk), on either BLM-administered land (Substation Alternative A) or private land adjacent to SR-177/Rice Road (Substation Alternative B) (see Figure 2-14). The alternative substation would be over 1.2 miles from the residences within Lake Tamarisk as opposed to approximately 0.6 mile under the proposed Project. The Applicant is in discussions with MWD and EDF Renewables to ensure that there are no conflicts with existing or proposed easements across the Easley Project site.

The 500 kV gen-tie line from both of the Alternative substation location options would exit the substation to the south and would cross SR-177/Rice Road before turning to the southwest to parallel the roadway on BLM land within the Easley site to rejoin the proposed route where it would cross SR-177/Rice Road onto the Oberon Project. The gen-tie line ROW under the proposed Project and ~~Lake Tamarisk~~Reduced Footprint Alternative would be 175 feet wide. At 7.5 miles, the length of the 500 kV gen-tie line under the ~~Lake Tamarisk~~Reduced Footprint Alternative would be approximately 0.8 miles longer than the proposed 500 kV gen-tie line (6.7 miles).

Consistency with Project Objectives. The Reduced Footprint Alternative would meet nearly all of the proposed Project's objectives. This alternative would remove approximately 50 acres of solar panels closest to the community of Lake Tamarisk. This alternative would also move the onsite substation and BESS farther from the community of Lake Tamarisk, and the 500 kV gen-tie line would be approximately 0.8 miles longer than the proposed 500 kV gen-tie line. The electrical output would be reduced by up to 10 MW compared to the proposed Project, and the impacts would be similar, therefore, it would meet most of the Project objectives.

2.8.4. Alternative C: Further Reduced Footprint Alternative with Berms

As requested in comments submitted by residents of the Lake Tamarisk Desert Resort, the Further Reduced Footprint Alternative with Berms (Alternative C) includes the following components, which are shown in Figure 2-15 (see EIR Appendix A) and described in greater detail below:

- Minimum buffer zone setback of one mile from the Lake Tamarisk Desert Resort borders, including the "Phase II" expansion area.
- Earthen berms at 2 locations.
- Onsite Substation/BESS/O&M Building and Associated Gen-Tie Line Relocation.

Community Setback. Under the Further Reduced Footprint Alternative with Berms, all panels would be removed within 1.5 miles to the east, 2 miles to the northeast, and 1 mile north of the nearest existing Lake Tamarisk Desert Resort. With the requested setback, approximately 530 acres would not be developed with solar panels compared to the proposed Project (up to 400 MW) and 480 acres would not be developed with solar panels compared to the Reduced Footprint Alternative (up to 390 MW). Underground medium voltage 34.5 kV lines may need to cross within the setback area to connect the solar facility development areas to the onsite substation. Additional acreage would also be lost to account for construction of two earthen berms and rerouting the gen-tie line across the solar facility site from the relocated substation site, as described below. Alternative C would therefore result in a reduction of at least 80 to 100 MW compared to the proposed Project and would generate 300 to 320 MW.

Unless BLM amends the California Desert Conservation Area (CDCA) and DRECP Land Use Plan Amendment (LUPA) to designate a portion of the Project area as a solar development exclusion zone, the vacant area within the buffer would remain designated as a Development Focus Area and may be developed for renewable energy in the future.

Earthen Berms. Two 10-foot high earthen/sand berms, with a 1:1 slope, 20-feet across would be constructed at the locations shown in Figure 2-15. One berm would be positioned in an east-west direction north of the Lake Tamarisk community. The second berm would be positioned in a north-south direction at the eastern end of the one-mile buffer extending south to Rice Road.

Onsite Substation/BESS/O&M Building Relocation. Under Alternative C, the substation, BESS, and O&M building would be relocated on private land (abandoned jojoba field) slightly farther from the Lake Tamarisk community. This substation/BESS/O&M building location would be within the Project footprint approximately 1.25 miles northeast of the proposed substation site and less than 0.5 miles northeast of the Reduced Footprint Alternative (Alternative B) substation yard options.

From the Alternative C substation location, the 500 kV gen-tie line route would need to be routed around a triangular-shaped private parcel that is not a part of the Project to connect with the Reduced Footprint Alternative gen-tie route to Oberon Switchyard. The Alternative C gen-tie line could follow two routes.

The first gen-tie option would be to travel along Rice Road to the southwest for approximately 0.5 mile to rejoin the Reduced Footprint Alternative gen-tie route. Routing the gen-tie line along Rice Road from the Alternative C substation site would not be feasible, because the Applicant does not have contiguous site control rights from the Alternative C site to rejoin the current gen-tie line alignment.

The second Alternative C gen-tie option, which has been incorporated into the Further Reduced Footprint Alternative with Berms Alternative, would be to route the gen-tie line west-northwest and then south on the Easley Project site to Rice Road to connect with the Reduced Footprint Alternative gen-tie line route (0.65 miles). Routing the gen-tie line across the Project site would increase the gen-tie length by 0.65 miles and would preclude installation of solar panels along its 175-foot-wide right-of-way. This would result in the loss of nearly 14 acres of the solar field. In order to make up that loss, the Applicant would need to consider three options: (1) condense its ground cover ratio, which if feasible, would decrease the megawatt-hour (MWh) energy output of individual solar panels due to shading; (2) result in a need for the Project to expand its footprint and ground disturbance elsewhere; and/or (3) reduce the solar generation output of the Project.

Overall, the Alternative C substation location would result in the 500 kV gen-tie line being 8.0 to 8.15 miles long, compared with 6.7 miles under the proposed Project and 7.5 miles under the Reduced Footprint Alternative.

Consistency with Project Objectives. This alternative would modify the proposed Project by establishing a minimum buffer zone setback of one mile from the resort border, installing earthen berms in two locations, and relocating the onsite substation and gen-tie line. Its electrical generation capacity would be reduced in comparison with the proposed Project, but most Project objectives would be met.

2.8.5. Alternative D: Offsite Alternative

Residents of the Lake Tamarisk Desert Resort submitted comments that requested consideration of alternatives east of State Route (SR-) 177/Rice Road on BLM-managed lands farther from the community of Lake Tamarisk Desert Resort, including installation of solar panels on lands that were originally included in the Applicant's application to BLM.

BLM-administered lands within the East Riverside DFA and located to the east of SR-177/Rice Road, were included in the original Easley Project application to BLM, which totaled 10,160 acres (8,338 acres of BLM-administered land and 1,822 acres of private lands). Multiple Standard Form (SF) 299 applications and amendments were submitted to BLM between November 2017 to 2022 as the Project area was refined.

Similar to the proposed Project, the Offsite Alternative would be located on approximately 4,620 acres and would involve the construction, operation, maintenance, and decommissioning of an up to 400 MW solar facility, up to 650 MW BESS, and a 500 kV gen-tie line within the Project area shown in Figure 2-16. This alternative would be located within the East Riverside DRECP DFA.

Under the Offsite Alternative, an onsite substation would be constructed in the southern area of the site and an approximately 1 mile 500 kV gen-tie line would connect the onsite substation into the existing Oberon Switchyard (similar to the proposed Project and Alternatives B and C), or would connect directly into existing SCE Red Bluff Substation on the south side of Interstate 10 (approximately 1.8 miles). The gen-tie line would be at least 5 miles shorter than the gen-tie line under the proposed Project, Reduced Footprint Alternative (Alternative B), and Further Reduced Footprint Alternative with Berms Alternative (Alternative C).

Consistency with Project Objectives. Development of an Offsite Alternative in the East Riverside DFA with similar solar generation and energy storage capacity would meet the Project objectives.

2.8.6. Alternative E: Distributed Commercial and Industrial Rooftop Solar Alternative

Alternative E, the Distributed Commercial and Industrial Rooftop Solar Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kilowatt hours to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout Riverside County. Under this alternative, no new land would be developed or altered. However, depending on the type of solar modules installed and the type of tracking equipment used (if any), a similar or greater amount of acreage (i.e., greater than 3,735 acres of total rooftop area) may be required to attain the project’s capacity of 400 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop solar PV systems would be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project. As a result, they would not attain the same level of efficiency with respect to solar PV generation. Alternative E would generate 400 MW of electricity, but likely for onsite use only, and it would not include 650 MW battery storage capacity.

This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Installation would likely be allowed without CEQA documentation, requiring compliance with city of county permit requirements but not project-specific mitigation measures.

Residential rooftops are not considered because they offer small areas, there is great variation in construction types, and permitting processes would vary among local jurisdictions.

Similar to the proposed Project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed onsite by the commercial or industrial facility, and would not require the construction of a new electrical substation or transmission facilities. Under this alternative no CUPs or zone changes would be required.

Some challenges or concerns about this alternative are the following:

- The 650 MW of Project energy storage would not be included, and the alternative would not provide a new source of energy storage that assists the state in achieving or exceeding its energy storage mandate. This challenge is clearly explained in a Washington Post article entitled "*Rooftop solar panels are flooding California's grid. That's a problem.*"[7]

- The additional solar generation would likely be installed over a much longer timeframe than that expected for the proposed Project.
- Given the distributed nature of such a network of facilities, construction, management, and maintenance would not be as efficient, and total capital costs would likely be higher.
- The Project proponent does not have immediate control or access to potential urban sites that could accommodate facilities to generate the solar power.
- A distributed system on the scale of the 400 MW project would be cost-prohibitive for one developer to implement due to reduced cost efficiency of distributed solar.
- This alternative theoretically has the potential to generate of up to 400 MW of electricity, but the electricity would be used on the sites generating the power and would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program.
- Given the size of the proposed Project, the project objectives, and the need to arrange a suitable assemblage of participating commercial and industrial properties, it is impractical and infeasible for the Project proponent to construct a distributed generation project of this scale and still proceed within a reasonably similar timeframe.

Consistency with Project Objectives. This alternative would partially satisfy the project objective of assisting California in meeting its GHG emissions reduction goals. However, other important objectives would not be met. The Project's 650 MW of energy storage would not be constructed under this alternative, so the alternative would not meet project objectives related to extending renewable energy availability into the evening hours. It is also unlikely the alternative would have an average insolation value similar to or greater than that of the project site given the lack of efficiency of rooftop solar compared to solar tracking technology.

2.9. Alternatives Considered and Eliminated from Further Analysis

2.9.1. Federal Land Alternative

During scoping, community members at the Lake Tamarisk Desert Resort requested a 5-mile "Natural Desert Zone" buffer from the community to the nearest solar installation. The commenters also suggested an alternative east of State Route 177 stating that there only remains approximately 6,000 acres west of State Route 177 for solar development, while there is 130,000 acres available east of State Route 177 in the BLM DFA. In response, the Offsite Alternative (Alternative D) located on lands initially considered by the Applicant has been fully evaluated in this EIR (see Section 2.8.5). This Federal Land Alternative considers the remaining acreage in the DFA located east of State Route 177.

Similar to the proposed Project, an alternative site on BLM-managed lands farther from the community of Lake Tamarisk Desert Resort would involve the construction, operation, maintenance, and decommissioning of an up to 400 MW solar facility, up to 650 MW BESS, and 500 kV gen-tie line. This alternative would be located within the East Riverside DRECP DFA. Additionally, the Federal Land Alternative would be located less than 15 miles from the Red Bluff Substation. It is also assumed that this alternative would require a BLM Right-of-Way Grant to allow for the construction and operation of solar facilities within BLM-managed lands.

7 https://www.washingtonpost.com/climate-environment/2024/04/22/california-solar-duck-curve-rooftop/

~~BLM-administered lands within the East Riverside DFA and located to the east of SR-177/Rice Road, were included in the original Easley Project application to BLM, which totaled 10,160 acres (8,338 acres of BLM-administered land and 1,822 acres of private lands). Based on the results of biological resources surveys, the parcels were identified as located within an active sand (aeolian) transport corridor and within habitat for Mojave fringe-toed lizard and rare plants (chapparal sand verbena and Harwood's wooly aster). In addition, the areas had a higher sensitivity for cultural resources. The Applicant removed these parcels (3,847 acres) from the Project due to engineering challenges within the active sand transport corridor and significant biological resources development constraints from compliance with the DRECP Conservation and Management Actions (CMAs) and resource buffers. The remaining acreage was removed due to constraints with siting of the medium voltage collector lines from the parcels to the project substation and compliance with the DRECP CMAs.~~

The Federal Land Alternative on BLM-managed lands would not likely reduce any potentially significant impacts from the proposed Project, as the proposed Project is sited primarily on previously disturbed private lands and BLM-administered lands within a DFA. This alternative would likely have impacts similar to those of the proposed site for many resource elements, such as air quality and traffic. However, it is likely to have more severe biological, cultural, and visual resource impacts, as it would likely be located on undisturbed lands and may be a greater distance to existing transmission infrastructure required for interconnection. Also, it may not be feasible to find an alternative site on BLM-managed lands, because most of the land within the DFA is in use, proposed for other solar energy projects, or within mountainous areas and areas with hydrological concerns. Difficulties with compliance with the DRECP CMAs would also trigger the need for a BLM Land Use Plan Amendment as part of project approval, which would create regulatory feasibility challenges.

Finally, site control is also an issue, given that the DRECP and BLM Rents and Bonds Policy require a competitive auction to secure land within DFAs and BLM has yet to conduct one for sites in Riverside County. The Federal Land Alternative would not present significant environmental advantages over the proposed Project and has thus been eliminated from consideration.

East of Lycan Solar Project. Commenters suggested consideration of alternative sites east of the Lycan Project or on other undeveloped lands surrounding the Lycan Project. This would not be feasible, because as shown on Figure 2-4 in EIR Appendix A, the lands surrounding the proposed Lycan Project are not designated as DFA in the DRECP LUPA. These lands are within the Palen Ford Area of Critical Environmental Concern (ACEC) and the Chuckwalla ACEC, both of which preclude development of solar facilities. In addition, a site east of the Lycan Project would require an additional or relocated 500 kV gen-tie line that would be over 20 miles long, which would create significant visual impacts along the Interstate 10 corridor and would be cost prohibitive.

2.9.2. Private Land Alternative

Commenters suggested an alternative site option west of State Route 177/Rice Road and north of the proposed Project that would be located on private land that is a currently operating fish farm called Lakeview Ranch. The Applicant was unable to obtain site control from the landowner. The remaining private parcels located east of the suggested area were considered by the Applicant, but these parcels are part of the Sapphire Solar Project currently under environmental review by Riverside County and BLM.

An alternative that would develop the solar facility on other private lands elsewhere was not considered further, because it is considered speculative and infeasible based on the number of landowners whose agreement would be required. In addition, another site, such as one farther from the community of Lake Tamarisk, would likely have environmental impacts equal to or greater than the proposed site, which is located on disturbed private land and BLM-administered land that is within a DRECP DFA, and thus, targeted for renewable energy development.

2.9.3. Alternative Solar Technologies

The following alternative solar technologies have been screened and are recommended for elimination from detailed analysis since they are considered infeasible or would have greater impacts.

2.9.3.1. Solar Power Tower Technology

Solar power tower technology is a concentrating solar power (CSP) technology that uses a flat mirror "heliostat" system that tracks the sun and focuses solar energy on a central receiver at the top of a high tower. The focused energy is used to heat a transfer fluid (to 800 to 1,000 degrees Fahrenheit [°F]) to produce steam and run a center power generator. The transfer fluid is super-heated before being pumped to heat exchangers that transfer the heat to boil water and run a conventional steam turbine to produce electricity. Although concentrated, solar power systems can store heated fluids to deliver electricity even when the sun is not shining. In areas of high solar insolation potential (i.e., desert environments), the land required to develop a CSP power tower facility is comparable to that required for a PV project.

This alternative was eliminated from consideration because no substantial reduction in impacts would occur under this alternative technology and visual impacts would likely be greater due to the height of the towers. In addition, due to the extent of the facility and the height of the power towers as well as a greater potential for glare, impacts to the Desert Center Airport would be potentially greater under this alternative. It has also been suggested that due to a phenomenon known as "solar flux," power tower projects pose a greater risk to avian species by creating an invisible zone where the concentrated solar power can singe feathers and interfere with flight. The fact that the nearby Palen Solar Energy Project was previously evaluated as a solar power tower project and struggled to secure approvals due to these same impacts before switching to PV solar technology further supports the conclusion that this technology is not feasible in this area.

2.9.3.2. Solar Parabolic Trough Technology

Parabolic trough technology is another CSP technology that uses large, U-shaped (parabolic) reflectors (focusing mirrors) that have fluid-filled pipes running along their center, or focal point. The mirrored reflectors are tilted toward the sun and focus sunlight on the pipes to heat the heat transfer fluid inside, similar to the solar power tower technology. The hot fluid is then used to boil water, which makes steam to run conventional steam turbines and generators.

Solar trough fields have stringent grading requirements, as parabolic troughs must be almost level along their troughs, and grades perpendicular to the troughs are generally benched to 2 percent or less. Therefore, most of the solar facility site would need to be graded and scraped free of vegetation. Use of solar trough technology would also likely require engineered drainage channels along the facility boundary to intercept any modeled offsite surface flows and convey them around and through the site for discharge.

Therefore, similar to solar power tower and other CSP technologies, parabolic trough technology has been eliminated from consideration because it would have the potential for more severe impacts than the proposed solar PV technology. These impacts would include more dramatic degradation of visual resources (due to use of mirrors), more extensive ground disturbance, increased industrial construction for the turbines and power blocks, and use of potentially hazardous heat transfer fluids.

~~2.9.3.3. Distributed Solar Technology~~

~~There is no single accepted definition of distributed solar technology. The 2011 Integrated Energy Policy Report defines distributed generation resources as "(1) fuels and technologies accepted as renewable for purposes of the Renewables Portfolio Standard; (2) sized up to 20 MW; and (3) located within the low-voltage distribution grid or supplying power directly to a consumer." Distributed solar facilities vary in size from kilowatts to tens of megawatts but do not require transmission to get to the areas in which the generation is used.~~

~~A distributed solar alternative would consist of PV panels that would absorb solar radiation and convert it directly to electricity. The PV panels could be installed on residential, commercial, or industrial building rooftops, parking lots or areas adjacent to existing structures such as substations. To create a viable alternative to the proposed Project, there would have to be sufficient newly installed panels to generate up to 400 MW of capacity, which would be similar in size to the proposed Project. Alternatives to the Project that involve rooftop installation of solar generating facilities would avoid the loss of carbon sequestration that would otherwise occur due to the land use change related to construction and operation of the Project in desert habitat.~~

~~Although there is potential to achieve up to 400 MW of distributed solar energy in the greater California area, the limited number of existing facilities makes it unlikely to be feasible or present environmental benefits. Although the type of panel used for the proposed Project is not yet known, rooftop systems typically consist of less efficient fixed-tilt systems that may not be oriented optimally towards the sun, meaning that developers would need to obtain more surface area for the project if constructed on a rooftop instead of on the ground. The transaction costs of obtaining multiple rooftops, the complexity of mobilizing construction crews across multiple projects including the transporting and deployment of construction materials in a less efficient manner, the additional work needed to prepare rooftops to support a solar installation, and the need to develop the deals to secure the same amount of PV-produced electricity make this type of alternative infeasible.~~

~~The fact that distributed generation projects might have fewer impacts on certain resources because they do not utilize substations and transmission facilities illustrates that distributed generation projects cannot meet one of the fundamental objectives of a utility-scale solar project: to provide renewable energy to utility off-takers and their customers. Rooftop systems that are not connected to the utility side of the electric grid only generate power for on-site consumption. At the same time, the difficulties in supplying a comparable amount of MWs of clean energy to the public through the utility sector has its own set of impacts due to failure to offset the impacts of counterpart fossil fuel energy sources.~~

~~Challenges associated with the implementation of a distributed solar technology include widely varying codes, standards, and fees; environmental requirements and permitting concerns; interconnection of distributed generation; inefficiencies; and integration of distributed generation. The significant barriers to consolidating power generated through a distributed network of sites would furthermore make it unlikely that the project could achieve its storage goals and provide energy when the sun is not shining. As a result, this technology was eliminated from detailed analysis as an alternative to the proposed Project.~~

2.9.4. Alternative Renewable Energy Technologies

Alternative renewable energy technologies, such as geothermal, biomass, tidal and wave power technologies, have been eliminated from consideration because they are not within the Applicant's area of expertise and would not be technically or economically feasible for the Applicant to implement. The BLM DFA lands within the Desert Center area have been targeted for solar energy development and are not within a wind energy zone. Given their height, installation of wind turbines would create greater operational visual impacts than the proposed Project, as well as noise concerns to the community of Lake Tamarisk and aviation safety concerns around the Desert Center Airport.

While not an alternative to the proposed Project, a scenario of development by other developer(s) of other types of renewable energy technologies in the Project area has been included under the No Project Alternative (Alternative A3) in Section 2.8.2.3 (Other Renewable Energy Development within Existing Land Designations).

2.9.5. Conservation and Demand-Side Management

This alternative is not technically feasible as a replacement for the proposed Project because California utilities are already required to achieve aggressive energy efficiency goals. Affecting consumer choice to the extent that would be necessary for a conservation and demand-side management solution would be beyond the BLM, Regional Water Quality Control Board, and/or the Applicant's control. Even if additional energy efficiency beyond that occurring in the baseline condition may be technically possible, it is speculative to assume that energy efficiency alone would achieve the necessary greenhouse gas reduction goals. With population growth and increasing demand for energy, conservation and demand management alone is not sufficient to address all of California's energy needs. Furthermore, conservation and demand-side management would not by themselves provide the renewable energy required to meet the California renewable energy goals, a stated Project objective. Therefore, conservation and demand-side management has been eliminated from detailed analysis because it is considered remote or speculative and would not meet the stated Project objectives.

~~2.9.6. Earthen Berms~~

~~During scoping, members of Lake Tamarisk Desert Resort requested installation of earthen berms to be used for visual screening of the solar and energy storage facility from the community. As described in Section 2.4.4.1 (Construction-Related Grading and Vegetation Management), mass grading is not proposed, and the onsite hydrology would be maintained to the maximum extent feasible. Installation of earthen berms would change stormwater flow on and offsite, which could affect surface water flow and flooding of adjacent parcels and could also alter vegetation patterns (Nichols et al., 2023). Furthermore, given the desert environment and sandy soil, an earthen berm would be difficult to stabilize with vegetation, and therefore, could become a source of erosion and sediment. The changed water flow paths due to adding berms would also have the potential to increase erosion due to water in new areas. Due to creation of greater hydrological and erosion concerns, use of earthen berms as a project design feature has been eliminated from consideration.~~

2.9.6. Underground 500 kV Gen-Tie Line

An underground 500 kV gen-tie line would meet most of the basic project objectives and would reduce visual impacts. However, undergrounding 500 kV conductors would need a very wide ROW due to the required separation of buried conductors. Transition stations would be required for overhead to underground transitions at each end of the line; they would be very large and highly visible.[8] In addition, an underground 500 kV line would increase the construction costs of these segments by more than 10 times that of overhead construction.

Ground Disturbance and Construction Disturbance. Construction of an underground gen-tie line would require substantially more construction activity and ground disturbance due to the continuous trenching required. In areas where spacing is limited, construction activities would have to occur outside of the

[8] https://www.tdworld.com/intelligent-undergrounding/article/20969593/engineering-a-500-kv-underground-system

existing roadway. Overhead transmission line construction would result in construction disturbance primarily at individual structure sites, located approximately every 400 to 2,200 feet along the alignment. Underground construction and trenching would involve much greater ground disturbance and construction-related impacts (traffic, air quality and dust, and noise) from a trench of up to 8 feet wide.

There is also a greater potential to encounter contaminated soils and cultural resources, and to impact biological resources and cultural resources due to the greater ground disturbance. Finally, the dust and equipment emissions associated from installation of a 500 kV underground line would greatly exceed the emissions of overhead tower construction.

Transition Stations. Construction of the transition stations at both ends of the underground gen-tie line would each require a footprint of up to 3 acres, resulting in temporary and permanent biological, cultural, and visual resources impacts as well.

Construction and Repair Time. The installation of an underground transmission line would require more time than construction of an equivalent length of overhead line because of the time required for excavating trenches, constructing the duct banks, fluid reservoirs, and/or stop joints. In addition, maintenance and restoration time in the event of an outage would also be more difficult and could result in longer outages and repair times. Accessing manholes will require traffic control if installed in an existing roadway. In addition, duct bank repair would require excavation, traffic control, and possible roadway closure. In addition, the close proximity of the underground circuits will likely cause mutual inductance. To maintain these circuits safely, it may be required to de-energize all underground circuits when doing maintenance on any one circuit, which would interrupt renewable energy generation. Although electric fields are reduced with increasing burial depth, magnetic fields above underground conductors are many times higher than from overhead lines due to closer proximity to the conductors to receptors just a few feet above the ground.

Conclusion. In summary, all underground construction of transmission lines requires a continuous trench in which to install duct banks that would carry the electrical cables. This amount of trenching would create much more significant impacts related to dust and vehicle emissions, soils/erosion, cultural resources, biological resources, as well as a longer construction time and the need for overhead-to-underground transition stations. Operational impacts would also be greater associated with maintenance and access to the lines. Repair times would be much longer as well. While visual resource impacts related to the tower structures would be eliminated, new impacts would be created for the large transition stations. Underground construction would cause much greater impacts to most issue areas than the proposed Project, even within an existing roadway, such as Oasis Road. Therefore, given the potential for increased significant environmental impacts associated with the construction, operation and maintenance of an underground 500 kV transmission line and the extremely high cost of the technology, undergrounding the gen-tie transmission line has been eliminated from further analysis.

3.2. Aesthetics

Aesthetics, as addressed in the California Environmental Quality Act (CEQA), refers to visual considerations in the physical environment. Specifically, such considerations include the elements of the landscape that contribute to the aesthetic and/or scenic character and quality of the environment. These elements can be either natural or man-made. Landforms, water, and vegetation patterns are among the natural landscape features that define an area's visual character and quality, whereas buildings, roads, and other structures reflect human modifications to the landscape. These natural and built landscape features are considered visual or aesthetic resources that contribute to the public's experience and appreciation of the environment.

This section describes the regulatory framework, environmental setting, and aesthetic impacts associated with the proposed Project ~~and alternatives~~. This section also identifies the mitigation measures necessary to avoid or reduce any significant adverse aesthetic impacts that would result from Project implementation. An impact analysis and comparison of project alternatives is included in Section 5. All figures referenced in this section are presented in sequence in Appendix I.

The following paragraphs review some of the key terms used in this section.

> The term Aesthetics (as defined above) is generally considered interchangeable with the term Visual Resources. Throughout this section, the use of the term Aesthetics will generally be adhered to though, in a few cases, the term Visual Resources is also used for greater specificity. The reader can view these terms as interchangeable and equal.
>
> The title of the project being analyzed is Easley Renewable Energy Project. In this section, the title is shortened to Project (typically used), and proposed Project (occasionally used), and are distinct from references to the alternatives. Again, the reader can view the terms Project and proposed Project as interchangeable and equal.
>
> There are several locational or area terms that are used throughout this Aesthetics section. Regional Landscape generally refers to the arid desert of southeastern California within which the Chuckwalla Valley and surrounding mountains are located. This is the largest geographic area referenced in the section. The term Viewshed is discussed in greater detail in Section 3.2.1.3 but generally refers to all areas from which some component of the Project may be seen. For the Project, this generally means the western and central portions of the Chuckwalla Valley and the surrounding, Project-facing mountain slopes and ridges.
>
> The terms Project area or Area are imprecise references to the land area from which the Project would typically be viewed. In the present case, the Project area or Area would generally consist of the broader central portion of the Chuckwalla Valley where the Project would be located. Immediate Project Area simply refers to the area(s) in close proximity or adjacent to the Project facilities.
>
> The terms Project Site or Site refer to the collective location of the various land parcels and routes where Project facilities would be situated. These terms are interchangeable and equal.
>
> The terms Solar Facilities, Solar Arrays, or Array Field(s) are used to refer to the collective locations of solar panels and associated facilities (but not the generation tie [gen-tie] line). These terms are interchangeable and equal.

3.2.1. Environmental Setting

3.2.1.1. Regional Landscape

The Project landscape is part of the Great Basin section of the Basin and Range physiographic province, a vast desert area of the western U.S. extending from eastern Oregon to western Texas, characterized by periodic north-south trending, highly eroded mountain ranges that rise sharply from, and are separated by, broad, flat desert valleys. The topography of the basin is relatively flat with occasional desert washes. The Project region marks the transition zone between the high elevation Mojave Desert to the north and the arid, lower elevation Sonoran Desert to the south and east. The Project is located in Chuckwalla Valley in eastern Riverside County. The Chuckwalla Valley is a broad, flat desert plain that includes scattered dry lakes and rolling sand dunes and is bordered by a number of rugged mountain ranges including the Eagle Mountains to the west and north, the Coxcomb and Granite mountains to the north, the Palen Mountains to the northeast, and the Chuckwalla Mountains to the south. The rugged ridges, angular forms, and bluish hue of the surrounding mountains provide a contrast of visual interest to the flat, light-colored, horizontal landform of the Chuckwalla Valley floor and Project site. Views within Chuckwalla Valley tend to be expansive in scope and capture a landscape that appears in transition from a predominantly natural-appearing desert landscape to that of a developed energy zone characterized by numerous solar energy projects and electric transmission lines.

3.2.1.2. Project Site

The Project site is located on approximately 3,735 acres of private land and public lands administered by the U.S. Department of Interior, Bureau of Land Management (BLM), collectively situated on both sides of State Route 177 (SR-177), approximately two miles north of Desert Center in Riverside County. The Project area is rural, non-urban in nature. The private parcels consist of primarily man-made features that include deciduous orchard/fallow agriculture or developed areas. The BLM-administered lands (the majority of the acreage) are primarily intact, consisting mainly of desert scrub (largely scattered creosote bushes). While the area surrounding the Project site is very lightly populated, and most of the lands making up the Project site are presently undeveloped, the Lake Tamarisk Desert Resort is located immediately to the west and south of the site and within 0.15 mile of the nearest proposed solar arrays. There are several desert washes that pass through or adjacent to the Project site, indicated primarily by associated vegetation (e.g., desert dry wash woodlands). While all lands have scenic value, areas with the most variety and most harmonious composition have the greatest scenic value. The relatively flat desert landscape of the Project site has a low level of variety and distinctiveness, exhibiting limited variation in form, line, color palette, and texture that is common to the region.

The vegetation on the Project site and in the Project area appears relatively non-descript and subdued in color. Although the distant mountain ranges that surround the Chuckwalla Valley provide backdrops of visual interest, the Project site's landscape is generally lacking in visual variety and scenic quality and is substantially influenced by the abundance of anthropogenic modifications in the Project area including several adjacent or nearby solar projects (either operational or under construction); numerous transmission lines; Red Bluff Substation; Interstate 10 (I-10); scattered residences and built structures; 4-wheel drive tracks and access roads throughout the area; and SR-177 that passes through the eastern portion of the Project site. Overall, the existing scenic quality of the Project site appears common to the region and would correspond to the BLM Visual Resource Management (VRM) Scenic Quality Classification C (i.e., low scenic value).

The BLM-administered public lands that would host solar arrays and associated facilities and the gen-tie line are located within a Development Focus Area (DFA) per the 2016 Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA), which allows activities associated with solar, wind, and geothermal development, as well as operation and decommissioning (BLM, 2016). Therefore, the public lands hosting Project facilities have been assigned VRM Class IV under the BLM's VRM System since the LUPA assigns VRM Class IV to DFAs.

As defined in BLM Manual H-8410-1 Visual Resource Inventory (BLM, 1986a), the **VRM Class IV** management objective is:

> "…to provide for management activities, which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements in the predominant natural features of the characteristic landscape."

3.2.1.3. Viewshed and Potentially Affected Viewers

The viewshed or area of potential visual effect (the area within which the Project could potentially be seen) is extensive and encompasses much of Chuckwalla Valley and the Project site-facing slopes and ridgelines of the surrounding mountains including areas within Joshua Tree National Park (JTNP). Figure 3.2-1A illustrates the visibility of the Project. However, this viewshed map is based solely on "line-of-site" terrain models that do not account for possible vegetation or structural screening. A notable feature of this flat desert landscape is the potential for large projects to be seen over great distances. This is due to the expansive areas of level topography and absence of intervening landscape features. However, due to the relatively low profile of the solar panels and the flat topographic character of Chuckwalla Valley, the majority of viewers would be located at elevations similar to that of the Project, and the views would typically be limited to the edges of the solar fields. The exception would be for the more elevated views available from Alligator Rock or portions of JTNP (see next paragraph) and other surrounding mountain ranges. Elevated (or superior) views from these locations would have the potential to see "into" the array fields. However, the typical viewing distance zone that most viewers would experience within the Project area is foreground/middleground (under five miles) due to the relatively close proximity of I-10, SR-177, and other Project area viewpoints to the Project facilities.

There are a number of sensitive land uses and protected areas within the expansive Project viewshed including Desert Lily Sanctuary Area of Critical Environmental Concern (ACEC), Palen Dry Lake and Sand Dunes Area, and Palen-McCoy Wilderness to the northeast; Palen Dry Lake ACEC and Ford Dry Lake Off-highway Vehicle Area to the east; Chuckwalla Mountains Wilderness to the south; Alligator Rock ACEC and Desert Center to the southwest; Lake Tamarisk Desert Resort to the south and west; and JTNP to the north and west.

Potentially affected viewers within the Project area include: (1) residential viewers in Lake Tamarisk Desert Resort and dispersed rural residences; (2) recreational visitors to ACECs, wilderness areas, and open public lands; and (3) travelers along the main transportation corridors (I-10 and SR-177). All three viewing groups are considered to have generally high visual sensitivity with high expectations for maintaining the existing landscape conditions. The introduction of new features exhibiting industrial character would typically be perceived as an adverse visual change.

3.2.1.4. Representative Key Observation Points (KOPs) and Landscape Setting Assessments

Representative KOPs

KOPs are representative, stationary viewing locations selected for the purpose of analyzing and describing existing visual resources in the Project area and for preparing visual simulations and contrast rating analyses. KOPs were generally selected to be representative of the most critical or typical public viewing locations from which the Project would be seen (see Section 3.2.1.3 above). KOP locations were selected at various vantage points based on their usefulness in evaluating existing landscapes and potential impacts on the affected viewing populations. Typical KOP locations for the Project include: (1) major or significant travel corridors or points of visual access; (2) residential areas; (3) significant recreation areas; (4) locations that capture both the solar arrays and the gen-tie line; and (5) locations that capture different viewing distances and view orientation. At each KOP, the existing landscape was characterized and photographed. With the exception of KOP 4, photographs are presented as 8.5” x 15.25” color images at “life-size scale” when viewed at a standard reading/viewing distance of 18 inches (i.e., when the image is held at a distance of 18 inches from the eye, all landscape features in the images would appear to be the same scale and size as they would appear in the field at the viewpoint location). A panoramic view is presented for KOP 4, resulting in an image size of 8.5” x 37”.

Seven~~ix~~ KOPs were selected to characterize the local setting and the visual contrast caused by the Project. KOP locations and view directions are shown on the KOP map presented as Figure 3.2-1B and are listed below.

- **KOP 1: Eastbound I-10**, approximately 1.6 miles west of the Desert Center/SR-177 overpass. This view to the north captures the western portion of the greater Chuckwalla Valley in the vicinity of SR-177 (see Figures 3.2-2A/2B).
- **KOP 2: Westbound I-10**, approximately 1.9 miles east of the Desert Center/SR-177 overpass. This view to the northwest captures the western portion of the greater Chuckwalla Valley in the vicinity of SR-177 (see Figures 3.2-3A/3B) but from a westbound perspective.
- **KOP 3: Alligator Rock**, just south of I-10 and approximately 0.5 mile southwest of Desert Center. This elevated view to the north captures the western portion of the greater Chuckwalla Valley in the vicinity of SR-177 (see Figures 3.2-4A/4B).
- **KOP 4: Lake Tamarisk Desert Resort – East**, at the park and play~~ground~~ area near the eastern boundary of the resort. This view to the east captures much of the greater Chuckwalla Valley, though the view is partially screened from view by immediate foreground vegetation (see Figures 3.2-5A/5B).
- **KOP 5: Northbound SR-177**, approximately 1.5 miles northeast of Desert Center. This view up SR-177 captures the western portion of the greater Chuckwalla Valley in the vicinity of SR-177 (see Figures 3.2-6A/6B).
- **KOP 6: Southbound SR-177**, approximately five miles northeast of Desert Center. Though partially screened by roadside vegetation, this view to the southwest presents an expansive view of the western Chuckwalla Valley in the immediate vicinity of SR-177 (see Figures 3.2-7A/7B).
- **KOP 7: Lake Tamarisk Desert Resort – North**, at the northern end of Shasta Drive along the northern boundary of the resort. This view to the north encompasses the northwestern portion of the greater Chuckwalla Valley east of Kaiser Road and west of SR-177 (see Figures 3.2-8A/8B in EIR Appendix I).

Landscape Setting Assessment

The following paragraphs describe the landscape setting viewed from each of the ~~six~~ seven KOPs.

KOP 1 – Eastbound I-10. This viewpoint is representative of the Project’s views from eastbound I-10, which is a County Eligible Scenic Corridor. Figure 3.2-2A presents the existing view to the north from KOP 1, which is approximately 1.6 miles west of the Desert Center/SR-177 (Rice Road) overpass. The view presented in Figure 3.2-2A captures the western portion of the greater Chuckwalla Valley and most of the Project area between Kaiser Road to just east of SR-177 (Rice Road). This expansive view also captures several existing solar fields and a backdrop consisting of the horizontal angular forms of the Coxcomb and more distant Granite and Palen mountains, features that contribute visual interest to the views from I-10.

Landform colors range from light-tan to lavender and bluish hues at distance. Landform textures appear smooth to granular and coarse. Vegetation appears as patchy clumps to irregular and continuous forms at distance. Vegetation colors include tans and pale to golden yellow for grasses with muted greens, tans, and some reddish hues for shrubs. The most prominent structures in this view beyond the linear, diagonal form of I-10 are the noticeable foreground, vertical, wood utility poles and several existing solar fields that appear as dark horizontal streaks along the valley floor. From this viewing distance, the landscape of the Project site appears rather non-descript and generally lacking in visual variety, though the adjacent scenery (surrounding mountains) enhances the broader landscape scenic quality. The overall visual quality is low to moderate and common to the greater Chuckwalla Valley. The applicable VRM Class Rating is Class IV. The KOP 1 Contrast Rating Form is provided in Appendix I.

While motorists on I-10 heading east would enjoy scenic desert views across the western Chuckwalla Valley, motorists' views and sensitivity would be somewhat tempered by the Project's viewing context, which would include the discordant features of several solar projects that are either existing or under construction, as well as the associated gen-tie transmission lines. The resulting viewer concern would be moderate to high. Viewer exposure would be high given the high visibility of the Project site in the foreground-middleground, the high volumes of travelers on I-10, and the moderate to extended duration of view of the Project site. For viewers in the vicinity of KOP 1, combining the equally weighted low to moderate visual quality, moderate to high viewer concern, and high viewer exposure results in an overall rating of moderate to high for overall visual sensitivity of the visual setting and viewing characteristics.

KOP 2 – Westbound I-10. This viewpoint is representative of the Project's views from westbound I-10, which is a County Eligible Scenic Corridor. Figure 3.2-3A presents the existing view to the northwest from KOP 2, which is approximately 1.9 miles east of the Desert Center/SR-177 (Rice Road) overpass. The view presented in Figure 3A encompasses the western portion of the greater Chuckwalla Valley in the vicinity of SR-177. This expansive view also captures several existing solar fields (in the background) and gen-tie lines (in the foreground) backdropped by the horizontal to angular forms of the Eagle and Coxcomb mountains, features that contribute visual interest. Landform colors range from light tan to lavender and bluish hues at distance. Landform textures appear smooth to granular and coarse. Vegetation appears as patchy clumps to irregular and more continuous forms at distance. Vegetation colors include tans and pale to golden yellow for grasses with muted greens and tans with reddish hues for shrubs. The most prominent structures in this view beyond the roadside fencing adjacent to I-10 are the noticeable vertical, dark, rust-colored, tubular Corten-steel, gen-tie poles associated with the existing solar projects that are also visible as dark horizontal streaks along the valley floor in the background. As noted previously, the landscape of the Project site is rather non-descript and generally lacking in visual variety, though the adjacent scenery (surrounding mountains) contributes visual interest to the views from westbound I-10 and enhances the broader landscape scenic quality. The overall visual quality is low to moderate and common to the greater Chuckwalla Valley. The applicable VRM Class Rating is Class IV. The KOP 2 Contrast Rating Form is provided in Appendix I.

While motorists on I-10 heading west would enjoy scenic desert views across the western Chuckwalla Valley, motorists' views and sensitivity would be somewhat tempered by the Project's viewing context, which would include the discordant features of several solar projects that are either existing or under construction, as well as the associated gen-tie transmission lines. The resulting viewer concern would be moderate to high. Viewer exposure would be high given the high visibility of the Project site in the foreground-middleground, the high volumes of travelers on I-10, and the moderate to extended duration of view of the Project site. For viewers in the vicinity of KOP 2, combining the equally weighted low to moderate visual quality, moderate to high viewer concern, and high viewer exposure results in an overall rating of moderate to high for overall visual sensitivity of the visual setting and viewing characteristics.

KOP 3 – Alligator Rock ACEC. This viewpoint is representative of the Project's views from the slightly elevated crest of Alligator Rock in the Alligator Rock ACEC. Figure 3.2-4A presents the existing view to the north-northeast from KOP 3, on the crest of Alligator Rock. The view presented in Figure 3.2-4A overlooks the central portion of Desert Center and the western portion of the greater Chuckwalla Valley in the vicinity of SR-177, north of I-10. This expansive view also captures several existing solar fields (operational or under construction) and the associated gen-tie transmission lines, the Lake Tamarisk Desert Resort, and a backdrop consisting of the horizontal to angular forms of the Coxcomb and Granite mountains, features that contribute visual interest to the landscape. Landform colors range from light tan to lavender and bluish hues at distance. Landform textures appear smooth to granular and coarse. Vegetation appears as patchy clumps to irregular and continuous forms at distance. Vegetation colors include tan and pale to golden yellow for grasses and muted greens with reddish hues for shrubs. The most prominent built features in this view are the linear, diagonal forms of eastbound and westbound I-10 (lower portion of the image), the curvilinear form of SR-177 (heading northeast in the right-center of the image), and the numerous dark streaks along the valley floor that indicate the locations of existing solar projects. The landscape of the Project site visible from this location is rather non-descript and generally lacking in visual variety, though this expansive and somewhat elevated view incorporates adjacent scenery (surrounding mountains) that imparts a higher scenic quality of the broader landscape. The overall visual quality is moderate and common to the greater Chuckwalla Valley. The applicable VRM Class Rating is Class IV. The KOP 3 Contrast Rating Form is provided in Appendix I.

Visitors to the Alligator Rock ACEC in general, and to the crest of Alligator Rock, specifically, enjoy panoramic desert views across the central Chuckwalla Valley that, from this location, exhibits a relatively natural appearance nearby to a developing renewable energy zone characterized by numerous solar energy projects and associated gen-tie transmission lines. Viewer concern would be high in that visitors to the ACEC and Alligator Rock would consider any increase in industrial character, structure prominence, or view blockage of higher value landscape features (valley floor, background sky, or mountains) an adverse visual change. Viewer exposure would be moderate to high given the high visibility of the Project site in the foreground-middleground viewing distance zone, the low number of viewers, and the extended duration of view of the Project site. For viewers in the vicinity of KOP 3, combining the equally weighted moderate visual quality, high viewer concern, and moderate to high viewer exposure results in an overall rating of moderate to high for overall visual sensitivity of the visual setting and viewing characteristics.

***KOP 4 – Lake Tamarisk Desert Resort – East*.** This viewpoint is representative of the Project's views from the eastern portion of Lake Tamarisk Desert Resort. Figure 3.2-5A presents the existing panoramic view to the northeast through the southeast from KOP 4 at the playground area near the eastern perimeter of the resort. This view captures a central portion of the Project site within the western Chuckwalla Valley backdropped by the rugged Coxcomb and Granite mountains to the northeast and Palen Mountains to the east. From this viewpoint, the landscape presents a predominantly natural appearance. Landform textures appear smooth to granular and coarse. Landform colors range from light tan to lavender and bluish hues at distance. Natural vegetation appears as patchy clumps to irregular and continuous forms at distance. Vegetation colors include tans and pale yellow for grasses with muted greens, tans, grays, and some reddish hues for shrubs. Very small portions of existing or under construction solar facilities are visible in the distance as dark patches on the valley floor. Other built features visible from this view include the numerous gen-tie lines, Red Bluff Substation south of I-10, and two telecommunications towers. Much of the Project site landscape that would be otherwise visible from the resort is effectively screened from view by intervening vegetation. The overall visual quality is low to moderate and common to the greater Chuckwalla Valley. The applicable VRM Class Rating is Class IV. The KOP 4 Contrast Rating Form is provided in Appendix I.

Visitors to, and residents of, the Lake Tamarisk Desert Resort enjoy panoramic views across the central Chuckwalla Valley that, from this location, exhibit a relatively natural appearance. Viewer concern is high in that residents and visitors would consider any increase in industrial character, structure prominence, or view blockage of higher value landscape features (valley floor, background sky, or mountains) an adverse visual change. Viewer exposure would be moderate to high given the moderate to high visibility of the Project site (which would be partially screened by intervening vegetation), the foreground-middle-ground viewing distance, the low number of viewers, and the extended duration of view. For viewers in the vicinity of KOP 4, combining the equally weighted low to moderate visual quality, high viewer concern, and moderate to high viewer exposure results in an overall rating of moderate to high for overall visual sensitivity of the visual setting and viewing characteristics.

KOP 5 – Northbound SR-177. This viewpoint is representative of the Project's views from northbound SR-177 (Rice Road) when approaching the Project from the south. Figure 3.2-6A presents the existing view to the north-northeast from KOP 5, approximately 1.5 miles northeast of Desert Center. This expansive view of the western portion of the Greater Chuckwalla Valley is backdropped by the horizontal to angular forms of the Coxcomb and more distant Granite mountains that rise abruptly from the valley floor, providing features of visual interest. Landform colors range from light tan to lavender and bluish hues at distance. Landform textures appear smooth to granular and coarse. Vegetation appears as patchy to sequential clumps to irregular and continuous forms at distance. Vegetation colors include tans and pale to golden yellow for grasses with muted greens, tans, and some reddish hues for shrubs. The most prominent structure in this view, beyond the linear form of SR-177, is a wood-pole utility line paralleling the west side of SR-177. A distant communications tower on the east side of SR-177 is also faintly visible. In the distance to the north, two existing solar projects are visible as horizontal, medium-gray streaks along the valley floor. Although, travelers on SR-177 experience a predominantly natural desert landscape at this location, it should be noted that a considerable portion of the valley floor immediately adjacent to SR-177 is undergoing a transition from a predominantly natural-appearing desert landscape to that of a developed energy zone characterized by numerous solar energy projects that are either existing or under construction. Overall, the landscape of the Project site visible from this location is indistinct and appears similar to other portions of the valley floor. The overall visual quality is low to moderate and common to the greater Chuckwalla Valley. The applicable VRM Class Rating is Class IV. The KOP 5 Contrast Rating Form is provided in Appendix I.

Although travelers on SR-177 experience a predominantly natural desert landscape in this location, there are a number of existing or under construction solar energy facilities that are screened from this view by vegetation the highway. Also apparent are a few scattered rural residences and roadside commercial buildings, wood-pole utility lines, and an adjacent communications tower. As a result, the somewhat tempered viewer concern over an additional solar project would be moderate to high. Viewer exposure would be high given the high visibility of the Project in the immediate foreground of views from SR-177 and the relatively high volumes of travelers on SR-177 with moderate to extended duration of views. For viewers in the vicinity of KOP 5, combining the equally weighted low to moderate visual quality, moderate to high viewer concern, and high viewer exposure results in an overall rating of moderate to high for overall visual sensitivity of the visual setting and viewing characteristics.

KOP 6 – Southbound SR-177. This viewpoint is representative of the Project's views from southbound SR-177. Figure 3.2-7A presents the existing view to the southwest from KOP 6, approximately five miles northeast of Desert Center. This expansive view of the western portion of the Greater Chuckwalla Valley is backdropped by the horizontal to angular form of the Chuckwalla Mountains that rise abruptly from the valley floor, providing a feature of visual interest. Landform colors range from tan to lavender and bluish hues at distance. Landform textures appear smooth to granular and coarse. Vegetation appears as patchy to sequential clumps to irregular and continuous forms at distance. Vegetation colors include tans and pale to golden yellow for grasses with muted greens, tans, and some reddish hues for shrubs. The most prominent structures in this view, beyond the linear form of SR-177, is a wood-pole utility line paralleling the west side of SR-177 and a communications tower on the east side of SR-177. A new solar project is also visible in the distance to the east (left) side of SR-177 as a dark streak on the valley floor. Overall, the landscape of the Project site visible from this location is indistinct and appears similar to other portions of the valley floor. The overall visual quality is low to moderate and common to the greater Chuckwalla Valley. The applicable VRM Class Rating is Class IV. The KOP 6 Contrast Rating Form is provided in Appendix I.

Travelers on SR-177 experience a predominantly natural desert landscape that is in transition to a more industrial appearance with the development of new solar projects. Also apparent are a few scattered rural residences and roadside buildings, wood-pole utility lines, agricultural fields, and an adjacent communications tower. As a result, the somewhat tempered viewer concern over an additional solar project would be moderate to high. Viewer exposure would be high given the high visibility of the Project in the immediate foreground of views from SR-177 and the relatively high volumes of travelers on SR-177 with moderate to extended duration of views. For viewers in the vicinity of KOP 6, combining the equally weighted low to moderate visual quality, moderate to high viewer concern, and high viewer exposure results in an overall rating of moderate to high for overall visual sensitivity of the visual setting and viewing characteristics.

KOP 7 – Lake Tamarisk Desert Resort – North. This viewpoint is representative of the Project's views from the northern portion of Lake Tamarisk Desert Resort. Figure 3.2-8A in EIR Appendix I presents the existing view to the north from KOP 7 at the northern end of Shasta Drive, along the northern perimeter of the resort. This image was obtained with an 8-foot camera elevation (above the ground) because it was thought to be more representative of the "porch-height" views that some of the private residences along the resort perimeter experience. The view presented in Figure 3.2-8A in EIR Appendix I encompasses the northwestern portion of the greater Chuckwalla Valley north of the resort and between Kaiser Road and SR-177 (Rice Road). This view also captures distant (approximately 3.4 to 6.9 miles to the north) existing solar fields and their associated gen-tie lines, backdropped by the horizontal to angular forms of the Eagle and Coxcomb mountains, features that contribute visual interest. Landform colors range from light tan to lavender and bluish hues at distance. Landform textures appear smooth to granular and coarse. Vegetation appears as patchy clumps to irregular and more continuous forms at distance. Vegetation colors include tans and pale to golden yellow for grasses with muted greens and tans with reddish hues for shrubs. The most prominent structures in this view are the noticeable vertical, dark, rust-colored, tubular Corten-steel gen-tie poles associated with the existing solar projects that are also visible as distant, dark, horizontal streaks along the valley floor in the background. Much of the Project site landscape that would be otherwise visible from the resort is effectively screened from view by intervening vegetation. The landscape of the Project site (visible from KOP 7) is rather non-descript and generally lacking in visual variety, though the adjacent scenery (surrounding mountains) contributes visual interest to the north views from the resort and enhances the broader landscape scenic quality. The overall visual quality is low to moderate and common to the greater Chuckwalla Valley. The applicable VRM Class Rating is Class IV.

Visitors to, and residents of, the Lake Tamarisk Desert Resort enjoy panoramic views across the northwestern Chuckwalla Valley that, from this location, exhibit a relatively natural appearance. Viewer concern is high in that residents and visitors would consider any increase in industrial character, structure prominence, or view blockage of higher value landscape features (valley floor, mountains, or background sky) an adverse visual change. Viewer exposure would be moderate given the moderate visibility of the Project site (which would be partially screened by intervening vegetation), the middleground viewing distance, the relatively low number of viewers, and the extended duration of view. For viewers in the vicinity of KOP 7, combining the equally weighted low to moderate visual quality, high viewer concern, and moderate viewer exposure results in an overall rating of moderate for overall visual sensitivity of the visual setting and viewing characteristics. Although the KOP 7 viewpoint is considered reasonably representative of publicly available project views from the northern portion of the resort, it is acknowledged that some public views and private residential views within the resort may be more or less visually affected by the Project due to the presence of lesser or greater vegetative screening.

3.2.2. Regulatory Framework

3.2.2.1. Federal Laws, Regulations, and Policies

Federal Land Policy and Management Act

Section 102(a) of the Federal Land Policy and Management Act of 1976 (BLM, 1976) states that "...the public lands are to be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." Section 103(c) identifies "scenic values" as one of the resources for which public land should be managed. Section 201(a) states, "the Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resources and other values (including scenic values)." Section 505(a) requires that "each ROW shall contain terms and conditions which will …minimize damage to the scenic and esthetic values."

The Federal Land Policy and Management Act applies to the Project because a majority of the Project would be located on public lands administered by the BLM Palm Springs-South Coast Field Office.

BLM Visual Resource Management (VRM) System

BLM uses the VRM System to inventory and manage scenic values on lands under its jurisdiction. Guidelines for applying the system are described in the BLM Manual Section 8400 et seq (BLM, 1984). VRM classes are assigned through Resource Management Plans (RMPs). The assignment of VRM classes is based on the management decisions made in the RMPs. The 2016 DRECP LUPA assigned a VRM Class IV to the DFA that contains the Project site. The VRM Class IV management objective is the least restrictive classification and provides for management activities (projects) that require major modifications of the existing character of the landscape. The level of change allowed may be high and may dominate the view and be the major focus of viewer attention.

California Desert Conservation Area (CDCA) Plan and Northern and Eastern Colorado Desert Coordination Management Plan

The Recreation Element of the CDCA Plan specifies that VRM objectives and the contrast rating procedure be used to manage visual resources (BLM, 1980). VRM objectives provide the visual management standards for future projects and for rehabilitation of existing projects. Activities within the landscape are designed or evaluated using contrast ratings (BLM, 1986b)

3.2.2.2. Local Laws, Regulations, and Policies

The Project is located partially on BLM-administered public land and partially on private lands subject to the County land use plans and ordinances. Therefore, local plans were reviewed to comply with CEQA Guidelines.

County of Riverside General Plan Land Use Element (LU)

The following policies of the General Plan Land Use Element are applicable to aesthetics/visual resources and the Project:

- **Policy LU 4.1**: Require that new developments be located and designed to visually enhance, not degrade the character of the surrounding area through consideration of the following concepts:
  a) Compliance with the design standards of the appropriate area plan land use category.
  b) Require that structures be constructed in accordance with the requirements of Riverside County's zoning, building, and other pertinent codes and regulations.

o) Preserve natural features such as unique natural terrain, arroyos, canyons, and other drainage ways, and native vegetation, wherever possible, particularly where they provide continuity with more extensive regional systems.

- **Policy LU 7.1**: Require land uses to develop in accordance with the General Plan and area plans to ensure compatibility and minimize impacts.
- **Policy LU 9.1**: Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values.
- **Policy LU 9.2:** Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and federal and state regulations such as CEQA, NEPA, and Clean Air Act, and the Clean Water Act.
- **Policy LU 14.1:** Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.
- **Policy LU 14.3**: Ensure that the design and appearance of new landscaping, structures, equipment, signs, or grading within Designated and Eligible State and County scenic highway corridors are compatible with the surrounding scenic setting or environment.
- **Policy LU 14.4**: Maintain an appropriate setback from the edge of the right-of-way for new development adjacent to Designated and Eligible State and County Scenic Highways based on local surrounding development, topography, and other conditions.
- **Policy LU 14.5**: Require new or relocated electric or communication distribution lines, which would be visible from Designated and Eligible State and County Scenic Highways, to be placed underground.
- **Policy LU 21.1:** Require that grading be designed to blend with undeveloped natural contours of the site and avoid an unvaried, unnatural, or manufactured appearance.
- **Policy LU 21.3**: Ensure that development does not adversely impact the open space and rural character of the surrounding area.
- **Policy LU 26.1**: Require that development be designed to blend with undeveloped natural contours of the site and avoid an unvaried, unnatural, or manufactured appearance.
- **Policy LU 26.3**: Ensure that development does not adversely impact the open space and rural character of the surrounding areas.

County of Riverside General Plan Circulation Element I

The following policies of the General Plan Circulation Element are applicable to aesthetics/visual resources and the Project:

- **Policy C 19.1**: Preserve scenic routes that have exceptional or unique visual features in accordance with Caltrans' Scenic Highway Plan.
- **Policy C 25.2:** Locate new and relocated utilities underground when possible and feasible. All remaining utilities shall be located or screened in a manner that minimizes their visibility by the public.

County of Riverside General Plan Multipurpose Open Space Element (OS)

The following policies of the General Plan Multipurpose Open Space Element are applicable to aesthetics/ visual resources and the Project:

- **Policy OS 21.1**: Identify and conserve the skylines, view corridors, and outstanding scenic vistas within Riverside County.

- **Policy OS 22.1**: Design developments within designated scenic highway corridors to balance the objectives of maintaining scenic resources with accommodating compatible land uses.
- **Policy OS 22.4:** Impose conditions on development within scenic highway corridors requiring dedication of scenic easements consistent with the Scenic Highways Plan, when it is necessary to preserve unique or special visual features.

County of Riverside General Plan Desert Center Area Plan (DCAP)

The following policies of the Desert Center Area Plan are applicable to aesthetics/visual resources and the Project:

- **Policy DCAP 2.3:** Assure that the design of new land uses subject to discretionary review visually enhances, and does not degrade, the character of the Desert Center Region.
- **Policy DCAP 4.1:** When outdoor lighting is used, require the use of fixtures that would minimize effects on the nighttime sky and wildlife habitat areas, except as necessary for security reasons.
- **Policy DCAP 8.1**: Protect the scenic highways within the Desert Center Area Plan from change that would diminish the aesthetic value of adjacent properties through adherence to the policies found in the Scenic Corridors sections of the General Plan Land Use, Multipurpose Open Space, and Circulation Elements.

Table 3.2-2 (Consistency with Regulatory Plans, Policies, and Standards) in Section 3.2.5 under Impact AES-5 addresses Project consistency with County policies, plans, and standards.

3.2.3. Methodology for Analysis

This section provides a discussion of the methodology used to assess impacts to aesthetic resources that could occur as a result of construction, operation, and decommissioning of the Project. The potential aesthetic, light, and glare impacts are evaluated on a qualitative basis. The methodology used to assess the potential Project effects is derived from the BLM's VRM System. Under the VRM System's visual contrast rating (VCR) method (BLM 1986b, 1984), a project (and alternatives) is analyzed for its effects on aesthetic or visual resources by comparing the landscape characteristics that would be created by the project to the existing landscape characteristics and arriving at an assessment of visual contrast that would result from changes in landforms and water, vegetation, and structures. The degree of contrast can range from none to strong and essentially evaluates a project's consistency with the visual elements of form, line, color, and texture already established in the landscape. In a sense, visual contrast indirectly indicates a particular landscape's ability to absorb a project's components and location without resulting in an uncharacteristic appearance. In other words, the amount of visual contrast between a project and the existing landscape character directly determines the degree to which a project would adversely affect the visual quality of an existing landscape.

Other elements that are considered in evaluating visual contrast include the degree of natural screening by vegetation and landforms; placement of structures relative to existing vegetation, landforms, and other structures; observer's angle of view relative to the project; distance from the point of observation; viewing duration/spatial relationships; atmospheric conditions; season of use; lighting conditions; and relative size or scale of a project. These contrast determinations are made from the representative KOPs identified in Section 3.2.1.4.

Once the degree of anticipated contrast is determined, a conclusion on the overall level of change is made (ranging from very low to high) and either:

(a) compared to the applicable VRM Classification to determine conformance with the established VRM Class Management Objectives for lands administered by the BLM (approximately 2,747 acres), or

(b) considered within the context of the existing landscape's overall visual sensitivity (which is a summation of the three contributing and equally weighted factors of visual quality, viewer concern, and overall viewer exposure – see Section 3.2.1.4) to arrive at an impact significance conclusion for the facilities on private lands (approximately 980 acres). These impact significance conclusions for private lands are based on the CEQA impact significance criteria presented in Section 3.2.4.

3.2.3.1. Visual Simulations

Digital techniques were used to produce simulations of the Project as it would appear from each of the seven~~ix~~ KOPs. The simulations were compared to "pre-Project" photographs in order to predict future visual effects of the Project for each KOP and were utilized to complete contrast rating forms. The paired images (existing view and visual simulation) for each of the ~~six~~ seven KOPs are presented in Appendix I.

3.2.3.2. Assessment of Visual Contrast

As previously discussed, the degree of visual contrast that could result from changes in landforms and water, vegetation, and structures can be none, weak, moderate, or strong and evaluates a project's consistency with the visual elements of form, line, color, and texture already established in the landscape. Since there are no notable water features affected by the Project, this factor is not considered further. The VCRs are generally defined as follows:

- **None** – The element of contrast is not visible or perceived;
- **Weak** – The element of contrast can be seen but does not attract attention;
- **Moderate** – The element of contrast begins to attract attention and begins to dominate the characteristic landscape; and
- **Strong** – The element of contrast demands the viewer's attention and cannot be overlooked.

The assessment of visual contrast was done in the field from the seven~~ix~~ representative KOPs (see Figure 3.2-1B – KOP Map). To aid the analysis, a visual simulation was prepared for each KOP. The ~~six~~ seven VCR Data Sheets are presented in Appendix I, and the major components of the VCR Data Sheets are summarized in the following paragraphs.

Landform Contrast

Landform contrast is the contrast that ground-disturbing activities would create with the existing landscape. Soil exposure and grading, blading roads, and other activities that alter the ground or landforms create changes in color, shape, and slope that can contrast with the existing landscape. For example, depending on baseline conditions, even minimal grading on a flat site can expose soil and create a noticeable level of color contrast.

Vegetation Contrast

Vegetation contrast is the contrast that vegetation clearing would create with the vegetation in the existing landscape. Vegetation contrast considers just the change in vegetation and does not consider structures that are part of the Project. Depending on baseline conditions, removal of, or damage to, sparse vegetation or vegetation that is low-growing and/or is quickly restored, such as agricultural land, disturbed bare ground, and grasslands, would typically result in a weak level of contrast with the existing landscape. Removal of low, woody vegetation (brush or bushes) would typically result in a moderate level of contrast with the existing landscape, and removal of overstory vegetation (trees) would typically result in a strong level of contrast with the existing landscape. In an arid/desert landscape, unnatural lines of demarcation in vegetation resulting from grading or removal can cause visual contrast that persists over years due to the typical slow pace of its recovery.

Structure Contrast

Structure contrast is the contrast of the built or structural components of a project with the existing landscape. A strong level of contrast typically results from the introduction of a new structure(s) into a landscape absent structures of a similar design and scale. A moderate level of contrast typically exists when new structures are built near similar but smaller existing structures. A weak level of contrast typically exists when structures are built near similar structures of a similar or larger scale.

Project Dominance and View Blockage or Impairment

Two additional factors that contribute to the contrast determinations are project dominance and view blockage or impairment. Project dominance is a measure of a project feature's apparent size relative to other visible landscape features in the viewshed. A feature's dominance is affected by its relative location and the distance between the viewer and the feature. The level of dominance can range from subordinate to dominant. View blockage or impairment is a measure of the degree to which a project would obstruct views of higher value and previously visible landscape features due to the project's position and/or scale. Blockage of aesthetic landscape features or views can cause adverse aesthetic/visual impacts.

3.2.3.3. Determining Overall Visual Change and Visual Impact Significance

Once the degree of anticipated contrast for landform, vegetation, and structures is determined (by comparing the post-Project landscape characteristics with the existing landscape characteristics) and is documented in the contrast matrix of the VCR Data Sheet for each KOP (see Appendix I), the overall visual change can be qualitatively determined (ranging from very low to high). Under the VRM System for Project facilities on BLM-administered lands, the overall visual change conclusion enables a consistency determination with the applicable VRM Class management objective (in this case, Class IV, as defined in Section 3.2.1).

For the Project facilities on private lands, the overall visual change conclusion is combined with determinations of overall visual sensitivity at each KOP to arrive at visual impact significance conclusions as presented in Table 3.2-1 and defined as follows:

- **No Impact** represents impacts that are generally imperceptible to the casual viewer or are beneficial because they reduce visually discordant characteristics in the landscape, thereby improving visual quality.
- **Less than Significant** impacts are perceived as negative but are minor and do not exceed environmental thresholds.
- **Potentially Significant** impacts are perceived as negative and may exceed environmental thresholds depending on project- and site-specific circumstances. However, with feasible mitigation, significant impacts may be reduced to less-than-significant levels or avoided altogether.
- **Likely Significant** impacts are perceived as negative and likely exceed environmental thresholds even with mitigation. While mitigation may potentially reduce impacts to less-than-significant levels or avoid them altogether, the severity and/or scale of the impacts is such that the availability of successful mitigation is considered unlikely. Without mitigation or avoidance measures, significant impacts would exceed environmental thresholds.

While the interrelationships presented in Table 3.2-1 below are intended as guidance only, it is reasonable to conclude that lower visual sensitivity ratings paired with lower visual change ratings will generally correlate with lower degrees of impact significance. Conversely, higher visual sensitivity ratings paired with higher visual change ratings will tend to result in higher degrees of visual impact.

Implicit in this rating methodology is the acknowledgment that for a visual impact to be considered significant, two conditions generally exist: (1) the existing landscape is of reasonably high quality and is relatively valued by viewers, and (2) the perceived incompatibility of one or more project elements or characteristics tends toward the higher extreme, leading to a substantial reduction in visual quality.

Table 3.2-1. General Guidance for Consistency Review of Adverse Impact Significance

Visual Sensitivity	Visual Change				
	Low	Low to Moderate	Moderate	Moderate to High	High
Low	No impact[1]	No impact[1]	Less Than Significant[2]	Less Than Significant[2]	Less Than Significant[2]
Low to Moderate	No impact[1]	Less Than Significant[2]	Less Than Significant[2]	Less Than Significant[2]	Potentially Significant[3]
Moderate	Less Than Significant[2]	Less Than Significant[2]	Less Than Significant[2]	Potentially Significant[3]	Potentially Significant[3]
Moderate to High	Less Than Significant[2]	Less Than Significant[2]	Potentially Significant[3]	Potentially Significant[3]	Likely Significant[4]
High	Less Than Significant[2]	Potentially Significant[3]	Potentially Significant[3]	Likely Significant[4]	Likely Significant[4]

1 - No Impact – Impacts are generally imperceptible to the casual observer or beneficial because they reduce visually discordant characteristics in the landscape, thereby improving visual quality
2 - Less Than Significant – Impacts are perceived as negative but do not exceed environmental thresholds.
3 - Potentially Significant – Impacts are perceived as negative and may exceed environmental thresholds depending on the implementation of effective mitigation measures.
4 - Likely Significant – Impacts are perceived as negative and will likely exceed environmental thresholds even with mitigation.

3.2.3.4. Daytime Glare

The following paragraphs summarize the method of analysis and types of glare assessed for the Project. The full Glare Assessment report is presented in Appendix I. As solar projects became more prevalent in the nation, potential glare from projects that could affect pilots approaching airports was a concern of the FAA. The FAA initially believed that solar energy systems could introduce a novel glint and glare effect to pilots on final approach to airports. FAA has subsequently concluded that in most cases, the glint and glare from solar projects to pilots on final approach is similar to glint and glare pilots routinely experience from water bodies, glass facade buildings, parking lots, and similar features. Current FAA guidance applies to on-airport solar facilities at airports that have received federal support and have an Air Traffic Control Tower.

For the Easley Renewable Energy Project (Project), glare was modeled using ForgeSolar (2023) glare analysis tools. While the exact model of the PV panels has not been finalized, the parameters of the First Solar Series 7 technology were used as a best-guess technology to run the model to predict any potential impacts to pilots on approach to Desert Center or operators of motor vehicles in the Project area in eastern Riverside County. To determine whether military pilots in the area could experience adverse effects, the glare analysis (2024) also includes segments of two low-level military training routes (MTR), identified as ID-217 and ID-296, that intersect the airspace above the Project. The model assumed the use of single-axis rotation tracking solar PV panels with a portrait module orientation made of smooth glass without anti-reflective coating, and it used default direct normal irradiance (DNI), which varies and peaks at 1,000 Watts per square-meter (W/m2). In addition, the model considered variations in panel reflectivity with respect to the position of the sun. The following assumptions regarding the solar panel configuration for all PV panel arrays analyzed were also used:

- Tracking axis orientation: 180.0 degrees (tracker rows oriented north/south with tracking direction from east to west)
- Tracking axis tilt: 0 degrees (system on flat, level ground would have axis tilt of 0 degrees)
- Tracking axis panel offset: 0.0 degrees
- Maximum tracking angle: 60.0 degrees
- Resting angle: 60.0 degrees
- Height above ground: 5 feet

Default observer eye characteristics were used for glare analysis, as follows:

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meter
- Eye focal length: 0.017 meter
- Sun subtended angle: 9.3 milliradians

Vertex Parameters:

- Latitude: 33°N
- Longitude: 115°W
- Elevation: approximately 550 to 720 feet
- Total Elevation (sum of height above ground and elevation): approximately 555 to 725 feet

Green glare is defined as glare with a low potential to cause an after-image, or flash blindness, when observed prior to a typical blink response time. Yellow glare is defined as glare with a potential to cause an after-image when observed prior to a typical blink response time. Overall, there is a possibility of green glare that could result from the Project PV arrays. However, there is no yellow glare that would result from the solar panels.

3.2.4. CEQA Significance Criteria

The criteria used to determine the significance of potential aesthetics/visual resources impacts are based on Appendix G of the State CEQA Guidelines. Individual Project impacts (e.g., AES-1) are addressed in Section 3.2.5. The proposed Project is in a non-urbanized area and would result in a significant impact under CEQA if it would:

- *In non-urbanized areas, substantially degrade the existing visual character or quality of views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage points). In an urbanized area, conflict with applicable zoning and other regulations governing scenic quality (see Impact AES-1).*
- *Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area (Impact AES-2).*

The County of Riverside's Environmental Assessment Form includes additional significance criteria, which were also used in the analysis. The additional criteria indicate that a project could have potentially significant impacts if it would:

- *Result in the creation of an aesthetically offensive site open to public view (Impact AES-3).*
- *Expose residential property to unacceptable light levels (Impact AES-4)*

Two additional impact significance criteria used in the analysis include:

- *Would Project construction, operation, or decommissioning result in an inconsistency with regulatory plans, policies, and standards applicable to the protection of aesthetics (Impact AES-5).*
- *Would Project decommissioning result in long-term aesthetic effects resulting from increased visual contrast (since Project decommissioning would result in impacts similar to Project construction, see Impact AES-1, Section 3.2.5.1, Project Construction, as it pertains to long-term effects of ground surface disturbance and vegetation removal).*

The following CEQA significance criteria from Appendix G were not included in the analysis and are not discussed further beyond this summary:

- *Have a substantial adverse effect on a scenic vista.*

  The Riverside County General Plan does not designate the Project area as an important visual resource, and no scenic vistas were identified in the aesthetics/visual resources Project area. Therefore, no impacts would occur under this criterion. Impacts to views from I-10, which has been identified by the County of Riverside as eligible for designation as a scenic corridor, are addressed under Impact AES-1.

- *Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.*

  There are no scenic resources at the Project sites and there are no designated state scenic highways in the Project area. Therefore, no impacts would occur under this criterion. Impacts to views from I-10, which has been identified by the County of Riverside as eligible for designation as a scenic corridor, are addressed under Impact AES-1.

- *Interfere with nighttime use of the Mt. Palomar Observatory, as protected through Riverside County Ordinance No. 655.*

  The proposed Project area is located approximately 89 miles east of the Mt. Palomar Observatory, which far exceeds the distance to the Observatory's areas of sensitivity (Zone A at a 15-mile radius and Zone B at a 45-mile radius from the Observatory). The Project is expected to use minimal nighttime lighting during construction and operation, and such uses would be limited. The Project may also deploy hazard lighting of the tallest gen-tie structures at road crossing locations due to safety concerns with low-level military flights in the area. However, by utilizing an infrared lighting system, the hazard lighting impact would be substantially mitigated. Therefore, b~~B~~ased on the Project area's distance to the observatory,~~-~~ Project lighting would result in no impacts to astronomical observation and research at the Mt. Palomar Observatory.

3.2.5. Proposed Project Impact Analysis

The scoping effort conducted by the Riverside County Planning Department revealed several public concerns related to aesthetics/visual resources. Those concerns involved the proximity of the solar panels to the community being an eyesore; the reduction in quality of life for the residents; the light and glare reflecting off of the solar panels; the light pollution from the Project affecting the dark skies environment; and general visual impacts on Desert Center and JTNP. Concerns were also expressed about the visual impacts of fencing and the debris that gets caught in it as well as the glare affecting pilots in the area. The remainder of this section will address these, and other potential aesthetics/visual resources impacts per the four CEQA Appendix G impact criteria, the three Riverside County significance criteria, and the two additional significance criteria identified above.

Applicant Proposed Measure

APM VIS-1 **Weathering Coating of Security Fencing.** To reduce operational visual impacts of the Project to the community of Lake Tamarisk, the Project owner will apply a weathering coating (Natina or substantially similar) to the Project security fencing located closest to the Community. The coating would reduce the occurrence of reflectance, which would be visually distracting and the typically earth-tone color of the coating would reduce the industrial character of the fencing and help it to blend more effectively with the surrounding landscape. The total length of fencing that will be coated is approximately one mile and may be contiguous or separate sections, depending on the final Project design and the location(s) of most visible security fencing.

Impact AES-1. In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

The Project is in a non-urbanized area of Riverside County and the majority of the Project's impacts fall into the Impact AES-1 category. Degradation of visual character or quality results from the introduction of noticeable visual contrast, which relates to spatial characteristics, visual scale, form, line, color, and texture. Degradation also results from Project dominance and the blockage of views to higher value landscape features (e.g., mountains and ridgelines). The aesthetic impacts associated with Project construction and Project operations and maintenance (O&M) are described in the following paragraphs. Project decommissioning impacts would be the same as those described under Project construction and are, therefore, not addressed further.

LESS THAN SIGNIFICANT WITH MITIGATION, CONSTRUCTION AND DECOMMISSIONING. Construction and decommissioning activities could cause short-term direct and indirect aesthetic impacts from the visible presence of equipment, materials, vehicles, and workforce at the sites of the proposed solar facilities and along the gen-tie right-of-way; from visible contrast associated with vegetation removal; from visible fugitive dust; from construction night lighting (on an occasional basis); and from increased vehicle traffic on roadways beyond the immediate Project area (indirect effect).

The aesthetic effects caused by the temporary presence of equipment, materials, and workforce would occur throughout the Project site (solar facilities and gen-tie line). Construction and decommissioning would involve the use of cranes and heavy equipment, temporary storage and office facilities, and temporary laydown/staging areas. Construction activities would include site clearing and grading, assembly of solar arrays, erection of transmission structures, conductor stringing and pulling, and site cleanup and restoration. These activities would be visible from I-10, SR-177, Desert Center, the Lake Tamarisk Desert Resort residential area, the few rural residences in the area, and the surrounding wilderness areas. Throughout the construction period, the industrial character of the activities would cause visual contrast and visual change, which would constitute adverse aesthetic effects when viewed by the general public. However, since the construction and decommissioning activities would be temporary in nature, they would not result in a substantial long-term visual effect, and no mitigation is recommended.

Areas of ground surface disturbance and vegetation removal (characterized by high color, line, and texture contrasts) could remain visible from various vantage points for an extended period after the conclusion of construction because revegetation in the desert region is difficult and generally of limited success. However, the vast majority of the areas of ground disturbance would be occupied by permanent facilities, and since most foreground/middleground views of the disturbed areas would be at similar elevations (at grade), much of the contrast associated with unnatural vegetative patterns and/or lines would be screened from view by intervening vegetation and the new facilities. However, this longer-term visual contrast could appear prominent from some viewing locations and cause moderate to high levels of visual change. Although this would still be consistent with the BLM's VRM Class IV Management Objective, it would result in a significant aesthetic/visual resources impact under CEQA if not successfully mitigated. MM BIO-5 and DRECP CMA LUPA-BIO-7 would result in the revegetation of temporarily disturbed areas, which would reduce the visual contrast associated with the lighter color of exposed soils and unnatural lines of demarcation in areas that have been cleared of vegetation).

Grading activities for the construction of the solar facilities and access roads and vehicle travel on unpaved surfaces have the potential to generate short-term dust clouds, which can cause moderate levels of visual contrast and moderate overall visual change, as well as be visually distracting. Although this occurrence would be consistent with the VRM Class IV management objective, it would result in a significant aesthetic/visual resources impact if not controlled properly. The Fugitive Dust Control Plan required in MM AQ-1 and DRECP CMA LUPA-AIR-5 would reduce fugitive dust emissions from construction activities through the application of soil stabilizers, weighting agents, or water, and the implementation of other construction management approaches discussed in MM AQ-1 in Section 3.4 (Air Quality).~~.~~

It is anticipated that some construction activity could occasionally take place at night, which could result in substantial adverse night lighting visual effects (contrast) given the general lack of any significant night lighting at the Project site. The resulting moderate visual contrast would be consistent with the VRM Class IV management objective but would result in a significant aesthetic/visual resources impact if not effectively controlled. MM AES-3 and DRECP CMA LUPA-BIO-13 would require the implementation of a Night Lighting Management Plan such that (a) lamps and reflectors are not visible from beyond the Project site, including any off-site security buffer areas; (b) lighting does not cause excessive reflected glare; (c) direct lighting does not illuminate the nighttime sky, except for required FAA aircraft safety lighting; (d) illumination of the Project and its immediate area is minimized; and (e) it complies with local policies and ordinances.

In addition to the direct aesthetics/visual resources effects, construction of the Project would also result in the indirect visual effect of increased vehicle traffic. Although there would be an increase in vehicle trips on regional roads (I-10 and SR-177) associated with construction-related vehicles, it is not expected that in the context of existing non-Project-related traffic, the increased traffic would be noticed by the casual observer, particularly in the major travel corridors (I-10 and SR-177) outside of the immediate construction area. To the extent that a casual observer or local resident perceives any increase in traffic, the duration of the effects would be short-term. Further, in that there are other solar projects under construction, any perceived increase in traffic would be incremental to an impact that is already occurring. Therefore, the resulting visual effect would be less than significant, and no mitigation is proposed.

Mitigation Measures for Construction and Decommissioning under Impact AES-1

The Project's visible contrast associated with temporary ground disturbance and vegetation removal can be reduced to levels that would be less than significant through the implementation of Biological Resources Mitigation Measure (MM) BIO-5, which would include revegetation of disturbed areas and retention of existing vegetation such that visual contrast and visual access is reduced:

MM BIO-5 **Vegetation Resources Management Plan.** See full text in Section 3.5 (Biological Resources).

The Project's visible contrast associated with temporary fugitive dust during construction can be reduced to levels that would be less than significant through the implementation of Air Quality MM AQ-1, which would include the reduction of fugitive dust emission through stabilization of soils with non-toxic soil stabilizers, soil weighting agents, or water:

MM AQ-1 **Fugitive Dust Control Plan.** See full text in Section 3.4 (Air Quality).

The Project's visible contrast associated with temporary uncontrolled night lighting during construction can be reduced to levels that would be less than significant through the implementation of MM AES-3, which would include lighting management and control systems that would result in reduced night lighting impacts on dark sky viewing, nearby and adjacent roads (motorists), and nearby residences:

MM AES-3 Night Lighting Management Plan. See full text in Section ~~3.2.9~~3.2.7 (Mitigation Measures).

As summarized above and described in EIR Appendix CC, DRECP CMAs LUPA-BIO-7, LUPA-AIR-5, and LUPA BIO-13 would similarly reduce impacts associated with Project facilities located on BLM-administered land.

Significance After Mitigation

Construction impacts would be less than significant with effective implementation of the identified mitigation measures.

SIGNIFICANT AND UNAVOIDABLE, OPERATIONS AND MAINTENANCE. As described in Section 3.2.1.4 and depicted in Figure 3.2-1B, seven~~ix~~ representative KOPs were selected from the identified sensitive viewpoints and corridors to assess the Project's O&M impacts on the existing visual character and scenic quality of the landscape. The O&M effects would typically be direct effects. Therefore, they are addressed as such for each KOP listed below unless otherwise noted.

KOP 1 – Eastbound I-10. Figure 3.2-2A presents the existing view from KOP 1 on eastbound I-10. The view illustrated in Figure 3.2-2B presents a visual simulation that illustrates the introduction of solar arrays and a gen-tie line into the valley landscape. Specifically, the simulation depicts a majority of the Project between Kaiser Road and just east of SR-177. Viewing distances to the various Project components range from approximately 2.5 miles to approximately 5.6 miles. In this view, the Battery Energy Storage System (BESS) and substation would be substantially obscured from view by vegetation. The gen-tie line (visible in the right-center of the image) would be perceptible as it parallels SR-177 to the south. As shown in the simulation, the Project would present as a visually significant built feature introduced into a desert valley landscape that is already characterized by the increasing presence of energy infrastructure. The open landscape along this portion of I-10 would enable extended view durations of the Project for travelers on I-10 crossing Chuckwalla Valley. Portions of the Project's solar arrays would be visible as continuous, linear, horizontal, medium- to dark-gray to bluish-black patches on the valley floor partially screened from I-10 views by intervening vegetation. The gen-tie line paralleling SR-177 would become increasingly prominent as the I-10 traveler approaches Desert Center. However, the Oberon Project, which began commercial operation in fall 2023, would be located south and southeast of the proposed Project and would appear in the foreground of views from I-10.

In the context of an existing landscape that includes not only the natural landforms, vegetative patterns, and earth-tone colors and textures of a desert valley but also the industrial characteristics of several solar projects in the immediate vicinity of the Project site, the Project would result in various degrees of visual contrast. Specifically, the Project's prominent linear form and horizontal to vertical lines associated with the solar arrays and gen-tie poles would cause moderate contrast with the horizontal to angular and irregular forms and lines of the existing landforms and the patchy and irregular forms and lines of the valley vegetation. However, the Project's form and line contrast would be consistent with the adjacent solar facilities and gen-tie lines already established in the landscape. The Project's dark array panels would result in strong contrast with the lighter earth tones of the valley's soils and rock but minimal contrast with the existing solar facilities. The gen-tie poles would cause moderate contrast with the lighter earth tones of the valley's soils and rock but no contrast with the existing and adjacent gen-tie lines. The Project's smooth, manufactured surfaces would cause weak contrast with adjacent solar facilities but moderate contrast with the matte to coarse textures attributable to valley soils, rock, and vegetation. Therefore, the Project's overall visual contrast would be moderate to high.

The Project would constitute a foreground to middleground, visually co-dominant feature in the landscape and would attract the attention of the casual observer. View blockage of higher value landscape features (e.g., valley floor and vegetation) would be moderate to high. Combining the equally weighted moderate to high visual contrast, co-dominant project dominance, and moderate to high view blockage results in a moderate to high rating for overall visual change, which would degrade the existing visual character and quality of the landscape as viewed from KOP 1 and similar locations along eastbound I-10. Although the resulting visual effect would be adverse, the moderate to high level of visual change would be allowed under the VRM Class IV management objective that applies to the portion of the Project that would be located on BLM-administered lands (see KOP 1 Contrast Rating Data Sheet in Appendix I).

In the context of the existing landscape's moderate to high visual sensitivity, the moderate to high visual change would result in a significant aesthetics impact under significance criterion AES-1. Implementation of MMs AES-1 (Surface Treatment of Project Structures and Buildings) and AES-2 (Project Design) <u>and compliance with DRECP CMAs DRECP CMA LUPA BIO-7, DFA-VPL-VRM-2 and DFA-VPL-VRM-3</u> ~~are recommended as they~~ would reduce the visual contrast associated with visually discordant structural features and industrial character, though not sufficiently to reduce the aesthetic impact to a level that would be less than significant. Therefore, the resulting visual impact would remain significant and unavoidable.

<u>KOP 2 – Westbound I-10</u>. Figure 3.2-3A presents the existing view from KOP 2 on westbound I-10, approximately 1.9 miles east of the Desert Center/SR-177 exit. Figure 3.2-3B presents a visual simulation that illustrates the introduction of the Project's solar arrays and a gen-tie line into the valley landscape. Specifically, the simulation depicts a majority of the Project between Kaiser Road and just east of SR-177. Viewing distances to the various Project components would range from approximately 0.4 mile (foreground gen-tie line) to approximately five miles (most distant solar arrays). As shown in the simulation, the Project would present as a visually significant built feature introduced into a desert valley landscape with an increasing presence of energy infrastructure. The open landscape along this portion of I-10 would enable extended view durations of the Project for travelers on I-10 crossing Chuckwalla Valley. Portions of the Project's solar arrays would be prominently visible as continuous, linear, horizontal, medium- to dark-gray to bluish-black patches on the valley floor partially screened from I-10 views by intervening vegetation. The BESS and substation would be substantially obscured from view by intervening vegetation. The gen-tie line paralleling SR-177, and then I-10, would be a visually prominent feature in the foreground views from this and similar locations along I-10 where the line parallels the freeway. <u>However, the Oberon Project, which began commercial operation in fall 2023, would be located south and southeast of the proposed Project and would appear in the foreground of views from I-10.</u>

In the context of an existing landscape that includes not only the natural landforms, vegetative patterns, and earth-tone colors and textures of a desert valley but also the industrial characteristics of several solar projects in the immediate vicinity of the Project site, the Project would result in varying degrees of visual contrast. Specifically, the Project's prominent linear form and horizontal to vertical lines associated with the solar arrays, BESS, and gen-tie poles would cause moderate contrast with the horizontal to angular and irregular forms and lines of the existing landforms (valley floor and background mountains) and the patchy and irregular forms and lines of the valley vegetation. However, the Project's form and line contrast would be consistent with the adjacent solar facilities and gen-tie lines already established in the landscape. The Project's dark array panels would cause moderate contrast with the lighter earth tones of the valley's soils and rock but minimal contrast with the existing solar facilities. The dark-brown gen-tie poles would cause moderate contrast with the lighter earth tones of the valley's soils and rock, background landforms, and sky but no contrast with the existing and adjacent gen-tie lines. The resulting overall level of color contrast would be moderate. The Project's smooth, manufactured surfaces would cause weak contrast with adjacent solar facilities but moderate contrast with the matte to coarse textures attributable to valley soils, rock, and vegetation. Therefore, the Project's overall visual contrast would be moderate.

The Project would constitute a foreground to middleground, visually co-dominant feature in the landscape and would attract the attention of the casual observer. View blockage of higher value landscape features (e.g., valley floor and vegetation) would be moderate. Combining the equally weighted moderate visual contrast, co-dominant project dominance, and moderate view blockage results in a moderate rating for overall visual change, which would degrade the existing visual character and quality of the landscape as viewed from KOP 2 and similar locations along westbound I-10. Although the resulting visual effect would be adverse, the moderate level of visual change would be allowed under the VRM Class IV management objective that applies to the portion of the Project that would be located on BLM-administered lands (see KOP 2 Contrast Rating Data Sheet in Appendix I).

In the context of the existing landscape's moderate to high visual sensitivity, the moderate visual change would result in a significant aesthetics impact under significance criterion AES-1. Implementation of MMs AES-1 (Surface Treatment of Project Structures and Buildings) and AES-2 (Project Design) and compliance with DRECP CMAs LUPA BIO-7, DFA-VPL-VRM-2 and DFA-VPL-VRM-3~~are recommended as they~~ would reduce the visual contrast associated with visually discordant structural features and industrial character, though not sufficiently to reduce the aesthetic impact to a level that would be less than significant. Therefore, the resulting visual impact would remain significant and unavoidable.

KOP 3 – Alligator Rock ACEC. Figure 3.2-4A presents the existing view from KOP 3 on the crest of Alligator Rock, approximately 0.5 mile southwest of Desert Center. As shown in the KOP 3 visual simulation presented in Figure 3.2-4B, the approximately 3- to 5.6-mile distant solar arrays would present as visually co-dominant, dark- to light-colored patches (depending on panel orientation and time of day) extending across the floor of Chuckwalla Valley, east and west of SR-177 and north of I-10. Inset within this dark mass would be the prominently white, linear area of the BESS adjacent to the cluster of gray, vertical, structural elements comprising the substation (only faintly visible in this view). The dark, rust-colored vertical poles of the gen-tie line would also be noticeable as the line parallels the east side of SR-177 before turning east to parallel other existing gen-tie lines. The panoramic view from this elevated vantage point on Alligator Rock would enable extended view durations of the solar fields, BESS, substation, and gen-tie. However, it should be noted that the Oberon Project, which began commercial operation in fall 2023, would be located south and southeast of the proposed Project and would appear in the foreground of views from Alligator Rock ACEC.

In the context of an existing landscape that includes not only the natural landforms, vegetative patterns, and earth-tone colors and textures of a desert valley but also the industrial characteristics of several solar projects in the immediate vicinity of the Project site, the Project would result in varying degrees of visual contrast. Specifically, the Project's prominent linear form and horizontal to vertical lines of the solar arrays, BESS, and gen-tie line would cause moderate contrast with the horizontal to angular and irregular forms and lines of the existing landforms (valley floor and background mountains) and the patchy and irregular forms and lines of the valley vegetation. The faintly visible substation and O&M building would contribute no meaningful contrast, and the Project's overall form and line contrast would be consistent with the adjacent solar facilities and gen-tie lines already established in the landscape, resulting in overall weak to moderate form and line contrast. The Project's dark array panels and white BESS would cause moderate to strong contrast with the lighter earth tones of the valley's soils and rock but no contrast with the existing solar facilities. At this viewing distance and angle of view, the dark brown color of the gen-tie poles would cause weak contrast with the lighter background sky and earth-tone colors of soils but would be consistent in color with the adjacent and nearby existing utility poles. The resulting overall level of color contrast would be moderate. At this viewing distance, the Project's smooth, manufactured surfaces would cause no contrast with adjacent solar facilities but weak contrast with the matte to coarse textures attributable to valley soils, rock, and vegetation resulting in an overall weak level of texture contrast. Therefore, the Project's overall visual contrast would be low to moderate.

The Project would constitute a foreground to middleground, visually co-dominant feature in the landscape and would attract the attention of visitors to Alligator Rock. View blockage of higher value landscape features (e.g., valley floor and vegetation) would be moderate. Combining the equally weighted low to moderate visual contrast, co-dominant project dominance, and moderate view blockage results in a moderate rating for overall visual change, which would degrade the existing visual character and quality of the landscape as viewed from KOP 3 and similar elevated locations in the Alligator Rock ACEC. Although the resulting visual effect would be adverse, the moderate level of visual change would be allowed under the VRM Class IV management objective that applies to the portion of the Project that would be located on BLM-administered lands (see KOP 3 Contrast Rating Data Sheet in Appendix I).

In the context of the existing landscape's moderate to high visual sensitivity, the moderate visual change would result in a significant aesthetics impact under significance criterion AES-1. Implementation of MMs AES-1 (Surface Treatment of Project Structures and Buildings) and AES-2 (Project Design) and compliance with DRECP CMAs LUPA BIO-7, DFA-VPL-VRM-2 and DFA-VPL-VRM-3 ~~are recommended as they~~ would reduce the visual contrast associated with visually discordant structural features and industrial character, though not sufficiently to reduce the aesthetic impact to a level that would be less than significant. Therefore, the resulting visual impact would remain significant and unavoidable.

KOP 4 – Lake Tamarisk Desert Resort – East. Figure 3.2-5A presents the existing view from KOP 4 at the playground area near the eastern boundary of the Lake Tamarisk Desert Resort. The visual simulation presented as Figure 3.2-5B encompasses an approximate 105^{0} viewing arc that extends from 26^{0} northeast to approximately 135^{0} southeast. Both of these figures are based on a setting image captured in December 2022 with a 5.5-foot camera elevation (above the ground). While much of the Project shown in Figure 3.2-5B would be screened from view by intervening vegetation, portions of the solar arrays along the valley floor would be visible to the northeast and east, with viewing distances ranging from approximately 0.3 to 1.5 miles. The arrays would present as a visually prominent dark- to light-colored horizontal band extending across the valley floor (depending on panel orientation and time of day). Portions of the white-colored BESS would be partially visible approximately 0.7 mile to the east. The visible portions of the BESS would present as a visually prominent but intermittent bright white horizontal band along the valley floor. While most of the Project's substation (approximately 0.7 mile to the east) and all of the O&M building would be screened from view by intervening vegetation, the proposed gen-tie line that would connect to the substation would present noticeable, dark, rust-colored, vertical structures (at viewing distances ranging from approximately 0.8 to 0.9 mile for the four structures shown) as the line extends to the south and then east to connect with the existing Red Bluff Substation. The open landscape would enable extended view durations of the Project from the resort.

In the context of an existing landscape that is predominantly natural appearing from this location, the Project would result in varying degrees of visual contrast. Specifically, the prominent linear form and horizontal to vertical lines associated with the Project's solar arrays, BESS, and gen-tie line would result in moderate contrast with the horizontal to angular and irregular forms and lines of the existing landforms (valley floor and background mountains) and the patchy and irregular forms and lines of the valley vegetation. The substantially obscured substation and O&M building would contribute no meaningful contrast. The Project's dark array panels and white BESS, which are substantially screened by intervening vegetation when viewed from the eastern portion of the resort, would also result in moderate contrast with the lighter earth tones of the valley's soils and rock. At this viewing distance, the Project's smooth, manufactured surfaces would cause weak texture contrast with the matte to coarse textures attributable to valley soils, rock, and vegetation. Therefore, the Project's overall visual contrast would be moderate.

The Project would constitute a foreground to middleground, visually co-dominant feature in the landscape and would attract the attention of residents of, and visitors to, the resort. View blockage of higher value landscape features (e.g., valley floor, background mountains, and sky) would be low to moderate given the low profile of the solar arrays and substantial screening by intervening vegetation. Combining the equally weighted moderate visual contrast, co-dominant project dominance, and low to moderate view blockage results in a moderate rating for overall visual change, which would degrade the existing visual character and quality of the landscape as viewed from KOP 4 and similar locations in the eastern portion of the resort. Although the resulting visual effect would be adverse, the moderate level of visual change would be allowed under the VRM Class IV management objective that applies to the portion of the Project that would be located on BLM-administered lands (see KOP 4 Contrast Rating Data Sheet in Appendix I).

In the context of the existing landscape's moderate to high visual sensitivity, the Project's moderate visual change would result in a significant aesthetics impact under significance criterion AES-1. Implementation of MMs AES-1 (Surface Treatment of Project Structures and Buildings) and AES-2 (Project Design) and compliance with DRECP CMAs LUPA BIO-7, DFA-VPL-VRM-2 and DFA-VPL-VRM-3~~are recommended as they~~ would reduce the visual contrast associated with visually discordant structural features and industrial character, though not sufficiently to reduce the aesthetic impact to a level that would be less than significant when viewed by the residents and visitors to Lake Tamarisk Desert Resort. Therefore, the resulting visual impact would remain significant and unavoidable.

In addition to the above two KOP 4 figures from December 2022 (Figures 3.2-5A and 5B), a second series of images (Figures 3.2-5D and 5E) was captured in October 2023 but with an 8-foot camera elevation (above the ground). This slightly elevated view was obtained and evaluated because it was thought to be more representative of the "porch-height" views that some of the private residences along the eastern resort perimeter experience. The Existing View image presented in Figure 3.2-5D captures essentially the same landscape features that are shown in the same frame of view presented in the original existing view presented in Figure 3.2-5A at a 5.5-foot camera elevation. However, the new Figure 3.2-5D was captured almost a year later following substantial rain events. As a result, some vegetation is noticeably greener, and some vegetation growth has occurred providing a very slight increase in screening in some portions of the image. Also, additional solar facilities have been installed in the landscape since the December 2022 set of images.

Figure 3.2-5E presents a panoramic visual simulation of the proposed Project as viewed with a camera height of 8 feet (i.e., approximate porch-height view). As shown in the simulation, there is a very slight increase in visibility of some project features due to the ability to "see over" some of the intervening screening vegetation. However, in other cases, the increased camera (viewing) height has been offset somewhat by additional vegetation growth that has occurred over the past year. Regardless, the overall visual change captured by the two different camera (viewing) heights is similar and would not change the overall impact conclusion. Although the KOP 4 viewpoint is considered reasonably representative of publicly available project views from the eastern portion of the resort, it is acknowledged that some public views and private residential views within the resort may be more or less visually affected by the proposed Project due to the presence of lesser or greater vegetative screening.

KOP 5 – Northbound SR-177. Figure 3.2-6A presents the existing view of the central portion of Chuckwalla Valley from KOP 5 on northbound SR-177, approximately 1.5 miles northeast of Desert Center. Figure 3.2-6B presents a visual simulation that encompasses a portion of the Project in the vicinity of SR-177. While much of the Project would be screened from view by intervening vegetation (at this and similar viewing locations), portions of the solar arrays along the valley floor would be visible with viewing distances ranging from approximately 0.9 mile to approximately 3 miles. The arrays would present as a visually noticeable, dark- to light-colored horizontal band extending across the valley floor (depending on panel orientation and time of day). The Project substation (a termination point for the gen-tie line) and O&M building would be partially visible to the west of SR-177 (left in this image) at a viewing distance of approximately 0.7 mile. A portion of the BESS, which would be white in color, would be partially visible behind and beyond the substation and O&M building at a viewing distance ranging from approximately 0.7 to 0.9 mile. The proposed gen-tie line would present as dark, rust-colored, vertical structures at viewing distances (from this location) ranging from approximately 140 feet to approximately 0.7 mile (where it connects to the substation). The gen-tie line would be the most visually prominent Project feature from KOP 5 as it extends south from the substation before turning southwest to parallel the east side of SR-177, and it would exhibit visual characteristics similar to the existing pole line on the opposite side of the road.

In the context of an existing landscape that includes not only the natural landform, vegetative patterns, and earth-tone colors and textures of a desert valley, but also the industrial characteristics of several solar projects in the immediate vicinity of the Project site, the Project would result in varying degrees of visual contrast. Specifically, the Project's prominent linear form and horizontal to vertical lines associated with the solar arrays, BESS, substation, and gen-tie line would result in moderate contrast with the horizontal to angular and irregular forms and lines of the existing landforms (valley floor and background mountains) and the patchy and irregular forms and lines of the valley vegetation. However, the Project's form and line contrast would be consistent with the nearby solar facilities and utility lines already established in the landscape, including the wood-pole utility line that parallels the west side of SR-177. The Project's dark array panels would result in moderate contrast with the lighter earth tones of the valley's soils and rock and even vegetation but minimal contrast with the existing solar facilities and repaved roadway. The white color of the BESS would result in moderate contrast with the darker vegetation. The dark brown color of the gen-tie poles would result in moderate to strong contrast with the lighter background sky and earth-tone colors of soils and background landforms but would be consistent in color with the adjacent and nearby existing utility poles. The resulting overall color contrast would be moderate to strong. At this viewing distance, the Project's smooth, manufactured surfaces would cause weak contrast with the matte to coarse textures attributable to valley soils, rock, and vegetation and weak contrast with adjacent solar facilities. Therefore, the Project's overall visual contrast as experienced at KOP 5 and similar locations along SR-177 would be moderate.

The Project would constitute a foreground to middleground, visually co-dominant feature in the landscape and would attract the attention of travelers on SR-177. View blockage of higher value landscape features (e.g., valley floor, background mountains, and sky) would be moderate given the impairment of views to distant mountains caused by the gen-tie line. Combining the equally weighted moderate visual contrast, co-dominant project dominance, and moderate view blockage results in a moderate rating for overall visual change, which would degrade the existing visual character and quality of the landscape as viewed from KOP 5 and similar locations along SR-177. Although the resulting visual effect would be adverse, the moderate level of visual change would be allowed under the VRM Class IV management objective that applies to the portion of the Project that would be located on BLM-administered lands (see KOP 5 Contrast Rating Data Sheet in Appendix I).

In the context of the existing landscape's moderate to high visual sensitivity, the Project's moderate visual change would result in a significant aesthetics impact under significance criterion AES-1. Implementation of MMs AES-1 (Surface Treatment of Project Structures and Buildings) and AES-2 (Project Design) and compliance with DRECP CMAs LUPA BIO-7, DFA-VPL-VRM-2 and DFA-VPL-VRM-3~~are recommended as they~~ would reduce the visual contrast associated with visually discordant structural features and industrial character, though not sufficiently to reduce the aesthetic impact to a level that would be less than significant. Therefore, the resulting visual impact would remain significant and unavoidable.

KOP 6 – Southbound SR-177. Figure 3.2-7A presents the existing view to the southwest from KOP 6 on southbound SR-177, approximately five miles northeast of Desert Center. This view encompasses the western portion of the greater Chuckwalla Valley in the vicinity of SR-177. This viewpoint is representative of the immediate foreground views of the Project area located immediately adjacent to both sides of SR-177. As illustrated in the KOP 6 visual simulation presented in Figure 3.2-7B, the Project would present as a visually significant built feature introduced into a desert valley landscape with an increasing presence of energy infrastructure.

In the context of an existing landscape that includes not only the natural landform, vegetative patterns, and earth-tone colors and textures of a desert valley, the Project would result in varying degrees of visual contrast. Specifically, the prominent linear form, horizontal lines, and dark color of the solar arrays would all exhibit strong visual contrast compared to the angular and irregular forms and lines of the existing landforms (valley floor and background mountains), the patchy and irregular forms and lines of the valley vegetation, and lighter earth tones of the valley's soils, rock, and vegetation, though the dark array panels would cause minimal contrast with the existing repaved roadway. At this viewing distance, the arrays' smooth, manufactured surfaces would cause moderate contrast with the matte to coarse textures attributable to valley soils, rock, and vegetation. The gen-tie line would be barely discernible in the distance, and the BESS, substation, and other components would be substantially screened from view by the arrays and existing vegetation and would contribute no meaningful contrast. Therefore, the Project's overall visual contrast as experienced at KOP 5 and similar locations along SR-177 would be strong (high) and is primarily associated with the solar arrays.

The Project would appear as a visually dominant feature in the landscape and would attract the attention of the casual observer. View blockage of the valley floor and vegetation would be high, while view blockage of the Chuckwalla Mountains and sky would be moderate. Therefore, the overall view blockage would be moderate to high. Combining the equally weighted high visual contrast, dominant project dominance, and moderate to high view blockage results in a high rating for overall visual change, which would degrade the existing visual character and quality of the landscape as viewed from KOP 6 and similar locations along SR-177. Although the resulting visual effect would be adverse, the high level of visual change would be allowed under the VRM Class IV management objective that applies to the portion of the Project that would be located on BLM-administered lands (see KOP 6 Contrast Rating Data Sheet in Appendix I).

In the context of the existing landscape's moderate to high visual sensitivity, the Project's high visual change would result in a significant aesthetics impact under significance criterion AES-1. Implementation of MMs AES-1 (Surface Treatment of Project Structures and Buildings) and AES-2 (Project Design) and compliance with DRECP CMAs LUPA BIO-7, DFA-VPL-VRM-2 and DFA-VPL-VRM-3~~are recommended as they~~ would reduce the visual contrast associated with visually discordant structural features and industrial character, though not sufficiently to reduce the aesthetic impact to a level that would be less than significant. Therefore, the resulting visual impact would remain significant and unavoidable.

KOP 7 – Lake Tamarisk Desert Resort – North. Figure 3.2-8A in EIR Appendix I presents the existing view from KOP 7 at the northern end of Shasta Drive along the northern boundary of the Lake Tamarisk Desert Resort. The visual simulation presented as Figure 3.2-8B in EIR Appendix I encompasses the western portion of the Project site located north of the resort, which would contain only solar arrays. As previously noted, both of these images are based on an 8-foot camera elevation (above the ground). This slightly elevated view was obtained and evaluated because it was thought to be more representative of the "porch-height" views that some of the private residences along the resort perimeter would experience. While much of the Project shown in Figure 3.2-8B in EIR Appendix I would be screened from view by intervening vegetation, portions of the solar arrays along the valley floor would be partially visible. Where visible, the arrays would present as a visually noticeable medium-gray to dark-colored horizontal band (depending on panel orientation and time of day) extending across the valley floor. The open landscape would enable extended view durations of the Project from the resort. In contrast to the closest arrays visible from KOP 4 (approximately 0.24 mile distant), the north array groups closest to KOP 7 range from 0.5 to 0.85 mile distant. Thus, the arrays present as much less visually prominent and more screened by vegetation compared to the closest arrays visible from KOP 4.

In the context of an existing landscape that is predominantly natural appearing from this location, the Project would result in varying degrees of visual contrast. Specifically, the noticeable linear form and horizontal line associated with the Project's solar arrays would result in weak to moderate (form) to moderate (line) contrast with the horizontal to angular and irregular forms and lines of the existing landforms (valley floor and background mountains) and the patchy and irregular forms and lines of the valley vegetation. The Project's dark array panels, which would be substantially screened by intervening vegetation when viewed from the northern portion of the resort, would also result in moderate contrast with the lighter earth tones of the valley's soils and rock. At this viewing distance, the Project's smooth, manufactured surfaces would cause weak texture contrast with the matte to coarse textures attributable to valley soils, rock, and vegetation. Therefore, the Project's overall visual contrast would be moderate.

The Project would constitute a middleground, visually subordinate to co-dominant feature in the landscape and would attract the attention of residents of, and visitors to, the resort. View blockage of higher value landscape features (e.g., valley floor, background mountains, and sky) would be low to moderate given the low profile of the solar arrays and substantial screening by intervening vegetation. Combining the equally weighted moderate visual contrast, subordinate to co-dominant project dominance, and low to moderate view blockage results in a low to moderate rating for overall visual change, which would degrade the existing visual character and quality of the landscape as viewed from KOP 7 and similar locations in the northern portion of the resort. Although the resulting visual effect would be adverse, the low to moderate level of visual change would be allowed under the VRM Class IV management objective that applies to the portion of the Project that would be located on BLM-administered lands.

In the context of the existing landscape's moderate visual sensitivity, the Project's low to moderate visual change would result in a visual impact that would be perceived as negative but would still be a less-than-significant aesthetics impact under significance criterion AES-1 in that the solar arrays visible from KOP 7, while visually adverse, would not substantially degrade the existing visual character or quality of the site and its surroundings. The general relationship between Visual Sensitivity and Visual Change in assessing impact significance is illustrated in Table 3.2-1. Although the resulting impact would be less than significant, implementation of MMs AES-1 (Surface Treatment of Project Structures and Buildings) and AES-2 (Project Design) as well as compliance with DRECP CMAs LUPA BIO-7, DFA-VPL-VRM-2 and DFA-VPL-VRM-3 would reduce the visual contrast associated with visually discordant structural features and industrial character that would be visible to the residents and visitors to Lake Tamarisk Desert Resort.

Mitigation Measures for Operation and Maintenance under Impact AES-1

The Project's visible contrast associated with visually discordant structural features and industrial character can be reduced through the implementation of MMs AES-1 and AES-2:

MM AES-1 **Surface Treatment of Project Structures and Buildings.** This measure would result in the surface treatment of select Project components such that their colors and finishes would: (a) blend better with the existing landscape colors, (b) minimize reflectance and glare, and (c) be consistent with local policies and ordinances. This measure would help to reduce overall visual contrast. See full text in Section ~~3.2.9~~3.2.7 (Mitigation Measures).

MM AES-2 **Project Design.** This measure would include several techniques to reduce the visual contrast that the Project would cause to the existing landscape. Specifically, vegetation would be retained to the extent possible in order to screen the development from public viewing. The number of structures would be minimized to the extent possible and natural, self-weathering treatments would be employed to reduce color contrast. The amount of disturbed area would be reduced, and the disturbed areas would be blended into the characteristic landscape. See full text in Section ~~3.2.9~~3.2.7 (Mitigation Measures).

Compliance with DRECP CMAs LUPA BIO-7, DFA-VPL-VRM-2, and DFA-VPL-VRM-3 would place substantially similar requirements on Project development on BLM-administered land as those included in MMs AES-1 and AES-2, and would therefore, similarly reduce impacts. DRECP CMAs are described in EIR Appendix CC.

Significance After Mitigation

The O&M impacts would remain significant and unavoidable even with implementation of mitigation when viewed from all KOPs.

Impact AES-2. Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Visible Night Lighting

LESS THAN SIGNIFICANT WITH MITIGATION. The Project would be located in an area with few existing structures, and the use of uncontrolled or excessive lighting would be noticeable to nearby motorists on I-10 and SR-177 and residents of Desert Center and the Lake Tamarisk Desert Resort. Nighttime lighting would also affect the nighttime experience for dispersed recreational users in the surrounding wilderness. Project operation would require on-site nighttime lighting for safety and security.

As described in MM AES-3 and is consistent with DRECP CMA LUPA BIO-13, in order to reduce off-site lighting impacts, lighting at the facility would be restricted to areas required for safety, security, and operation. Security lights would be motion sensitive, and all lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. Low-pressure sodium lamps and fixtures of a non-glare type would be specified. Switched lighting would be provided for areas where continuous lighting would not be required for normal operation, safety, or security. The implementation of these measures would minimize the amount of lighting potentially visible to viewers of the site at night.

However, adverse effects of solar facilities lighting are not necessarily limited to views of the site itself. Excessive lighting can also cause an adverse effect to viewers of the night sky via sky glow, which diminishes the visibility of the nighttime sky and stars. Prevention of off-site light spillage for ground observers does not necessarily prevent back-reflected light (i.e., light reflected off the ground and/or structures from down-directed lamps) from diminishing the visibility of the night sky. Normally, the contribution of project-related lighting is negligible when in an environment with abundant light sources; however, the Project area is highly valued in terms of the quality of its nighttime skies. This is attributable to the scarce and scattered nature of existing light sources in the surrounding area and the prevalence of federally administered land in the region, which limits opportunities for development. While the level of use in the surrounding wilderness is considered to be low, the high visibility of the nighttime sky and stars is an important component of the wilderness experience for many backcountry users and is highly valued by residents of the area.

JTNP, which is located to the west and north of the Project, is known throughout the National Park System (NPS) for its significant Dark Sky resource. To serve a substantial public interest in Dark Sky observation, JTNP offers a variety of Night Sky Programs. In the immediate Project area, Dark Sky visitors access the east end of the Pinto Basin through a gate at the north end of Chuckwalla Valley. Although some dark sky viewing locations in the Pinto Basin do not have direct line-of-site to the Project due to intervening terrain, there are portions of the Pinto Basin, particularly in the northeast of the Basin, with slightly higher elevations that do have direct line-of-sight to the proposed Project site. Because any light source in the desert contributes to ambient light pollution, and all light sources are adversely cumulative in terms of the impact on human dark adaptation and the dwindling availability of Dark Sky observation areas, it is essential that substantial steps be taken to ensure that additional night sky light pollution does not occur from implementation of the Project.

It is estimated that the contribution of the Project's lighting to sky glow would be minor. Light sources in the Chuckwalla Valley currently include motorists on I-10; street lamps, residences, and other commercial/service land uses in the communities of Desert Center and Lake Tamarisk; lighting associated with the former Desert Center Airport (now a private, special-use airport); motorists on local roads; and widely scattered homesteads on private land in the region. Additionally, there are several solar projects that are either existing or under construction. Despite the presence of these existing and eminent light sources, the area remains highly valued for the quality of its night sky. Because permanent lighting would not be required for the arrays of photovoltaic panels, operational lighting would be confined to a small portion of the Project site that contains O&M facilities and the switchyard and is unlikely to be totally out of character with other existing lighting sources found scattered throughout the Chuckwalla Valley. Further, MM AES-3 includes standards that light intensity must be the minimum necessary to ensure worker safety and facility security, that direct lighting not illuminate the nighttime sky, and that Project night lighting does not adversely affect the dark sky viewing program at JTNP because it requires review and approval of the Project Lighting Mitigation Plan prepared under MM AES-3 by the NPS Night Sky Program Manager. This review would ensure that the Project meets the stricter night lighting specifications of the NPS Night Sky Viewing Program, and that lighting exposure levels (based on a Lumen Analysis) do not exceed the action threshold for NPS lands nor adversely affect JTNP's Night Sky Viewing Program.

Additionally, hazard lighting may be required for the tallest gen-tie structures at crossing locations due to safety concerns with low-level military flights in the area. If installed, these lights would be infrared so would not be visible to the human naked eye, and thus, would not create night lighting or dark sky impacts.

Because the impacts associated with nighttime lighting would be ~~limited in nature and~~ reduced by MM AES-3 and compliance with DRECP CMA LUPA BIO-13, the night lighting impact is considered significant but mitigable under the AES-2 impact criterion.

Daytime Glare

LESS THAN SIGNIFICANT WITH MITIGATION. Daytime glare from the Project solar PV panels could adversely affect travelers, including pilots in the area, and may affect daytime views from Desert Center and the Lake Tamarisk Desert Resort. Quantification of the glare effect to pilots and travelers on the major roads of the area provides details on the duration and type of glare for these receptors. ~~The~~ The following paragraphs summarize the results of the Glare Assessment, which is presented in full (with all attachments) in Appendix I.

Modeled observation points included two route receptors, representing ground-level travelers along State Route (SR) 177/Rice Road and R2/Kaiser Road, and one flight path receptor at the Desert Center Runway Approach. Modeled receptors also include two low-level military training routes that intersect the airspace above the Project. Receptors are modeled for flight along MTR ID-217 at a low altitude limit of 200 feet above ground level, and along MTR ID-296 at 300 feet above ground level. Additionally, model runs were conducted for U.S. FAA 2013 and the 2021 Policy Adherence. There are no Air Traffic Control Towers (ATCTs) within two miles of the Project; therefore, there were no ATCT receptors assessed. According to the model results, ~~no~~ the flight path receptors on the Desert Center Runway Approach would not be impacted by glare from the solar panels; however, some portions of the ground-level routes and MTR receptors have a low potential of being impacted by ~~any~~ glare.

Green glare is predicted for the route receptor representing ground-level travelers along SR-177/Rice Road from the Project PV arrays adjacent to the road for 313,668 minutes (5,227 hours) of the year. Any potential glare impacts for this route receptor would occur year-round approximately between 5:30 a.m. and 12:30 p.m. Additionally, mid-March through the end of September, there is a potential for glare between the hours of 2:00 p.m. and 7:00 p.m.

Similarly, green glare is predicted for the route receptor representing ground-level travelers along R2/ Kaiser Road from the Project PV arrays east of Kaiser Road for 45,249 minutes (754 hours) of the year. Any potential glare impacts for this route receptor would occur from January to mid-May and from mid-

July to December, with an approximate maximum duration of 12:00 p.m. to 5:00 p.m. From May to August, potential glare impacts would occur from 6:00 p.m. to 7:00 p.m.

Modeled glare along Kaiser Road is rather limited and is focused along the parts of the road where panels are immediately adjacent to the roadway. Based on the modeling results along Kaiser Road, it is expected that any glare to the Lake Tamarisk community would be along the immediate western edge of the solar facility array field that is located northeast of the community. Since the community is set back farther from panels compared to modeled portions of Kaiser Road, glare impacts would be less than along Kaiser Road and similarly less than significant.

The Aviation Reports to analyze U.S. FAA policy adherence relative to the 2013 and 2021 policies concluded that there would be no glare of any kind for ATCTs, and that there would be no ~~yellow~~ glare for ~~any~~ the Desert Center Runway Approach flight path receptors within two miles. Military pilots at the low altitude limits of MTR in the area could receive green glare at a total annual rate of up to 322,336 minutes (5,372 hours), depending on location. The total annual green glare reported by the model for each receptor may include duplicate times of glare from multiple reflective surfaces.

In conclusion, green glare, having a low potential for temporary after-image, is predicted at various levels along area roadways, MTR ID-217 at 200 feet above ground level, and MTR ID-296 at 300 feet above ground level, as a result of the Project. There is no yellow glare predicted.

Implementation of MMs AES-1 (Surface Treatment of Project Structures and Buildings) and AES-2 (Project Design) and compliance with DRECP CMAs LUPA BIO-7, DFA-VPL-VRM-2, and DFA-VPL-VRM-3 would reduce glare through use of glare-reducing surface treatments and retention of vegetation to screen the Project and reduce visible reflectance. With implementation of these MMs and compliance with these CMAs, any potentially significant glare impacts would be reduced to less than significant. The Project would not be a substantial source of glare for travelers, including pilots in the area. The impact of daytime glare to views from Desert Center and the Lake Tamarisk Desert Resort would not be significant. It is expected that such glare impacts would be substantially less than that associated with other solar technologies because photovoltaic panels are less reflective, and it is anticipated that the resulting visual impact would be less than significant under significance criterion Impact AES-2**.** Actual impacts to pilots and travelers on the major roads of the area may vary from these representative model results depending on the final types of PV arrays selected and their configurations within the Project parcels.

Mitigation Measures under Impact AES-2

The Project's visible contrast associated with uncontrolled night lighting during construction, O&M, and decommissioning can be reduced through the effective implementation of MM AES-3:

MM AES-3 **Night Lighting Management.** See full text in Section ~~3.2.9~~3.2.7 (Mitigation Measures).

The Project's visible contrast associated with daytime structural glare can be reduced through the implementation of MMs AES-1 and AES-2:

MM AES-1 **Surface Treatment of Project Structures and Buildings.** MM AES-1 would result in the treatment of structural surfaces such that they do not create excessive glare from surface brightness. As a result, MM AES-1 would reduce structural surface glare and help the Project structures blend better with the surrounding landscape. See full text in Section ~~3.2.9~~3.2.7 (Mitigation Measures).

MM AES-2 **Project Design - Retention of Roadside Vegetation.** Vegetation management under Project Design would retain existing vegetation, particularly along roadsides in order to intersect sightlines from public vantage points such that overall Project visibility, visible reflectance, and glare would be reduced. See full text in Section ~~3.2.9~~3.2.7 (Mitigation Measures).

Compliance with DRECP CMAs LUPA BIO-7, DFA-VPL-VRM-2, and DFA-VPL-VRM-3 would place substantially similar requirements on Project development on BLM-administered land as those included in MMs AES-1 and AES-2 ,and would therefore, similarly reduce impacts. DRECP CMAs are described in EIR Appendix CC.

Significance After Mitigation

The night lighting and glare impacts would be reduced to levels that would be less than significant with implementation of mitigation when viewed from all KOPs.

Impact AES-3. Would the Project result in the creation of an aesthetically offensive site open to public view?

LESS THAN SIGNIFICANT WITH MITIGATION, CONSTRUCTION AND DECOMMISSIONING; SIGNIFICANT AND UNAVOIDABLE, OPERATIONS AND MAINTENANCE. As with impacts discussed under Criterion AES-1, the Project's high visual change would result in a significant aesthetics impact under significance criterion AES-3. Additionally, the O&M impacts would remain significant and unavoidable even with implementation of mitigation and DRECP CMA compliance. ~~The aesthetic effects visible to the public are assessed from representative viewpoints and are discussed under Impact Criterion AES-1 above.~~ The reader is referred to ~~that~~ the discussion and associated mitigation under Impact AES-1.

Impact AES-4. Would the Project expose residential property to unacceptable light levels?

LESS THAN SIGNIFICANT WITH MITIGATION. The Project's night lighting effects are discussed under Impact Criterion AES-2 above. The reader is referred to that discussion.

Impact AES-5. Would Project construction, operation, or decommissioning result in an inconsistency with regulatory plans, policies, and standards applicable to the protection of aesthetics?

LESS THAN SIGNIFICANT WITH MITIGATION. As presented in Section 3.2.1.2 (Local Laws, Regulations, and Policies), the Project would be subject to federal and local regulatory plans, policies, and standards applicable to the protection of aesthetics. Table 3.2-2 (Consistency with Regulatory Plans, Policies, and Standards) describes the Project's consistency with applicable regulatory requirements.

Table 3.2-2. Consistency with Regulatory Plans, Policies, and Standards

Plans/Policies/Standards Description		Consistency Analysis
Federal Land Policy and Management Act / CDCA Plan / BLM VRM System – Gen-Tie Line		
	Scenic values are to be considered in management actions and VRM objectives and Contrast Rating procedures are to be used to manage visual resources.	**Consistent**. Contrast Rating data sheets were prepared for the BLM for each KOP and used to evaluate the Project on BLM-administered public lands. In all cases, the levels of change were found to be consistent with the levels of change allowed by the applicable VRM Class IV management objective.
Riverside County General Plan Land Use Element (LU)		
LU 4.1	Require that new developments be located and designed to visually enhance, not degrade the character of the surrounding area through consideration of the following concepts: a. Compliance with the design standards of the appropriate area plan land use category. b. Require that structures be constructed in	**Consistent**. The Project would result in the conversion of a large land area in the Chuckwalla Valley to an industrial appearing energy facility resulting in an adverse aesthetic impact. However, this impact does not result in an inconsistency given the development context that is already in place in the immediate vicinity of the Project site. Specifically, there are no unique natural features or terrain at the Project site, and the overall visual quality is common to the broader Chuckwalla Valley. Furthermore,

Plans/Policies/Standards Description		Consistency Analysis
	accordance with the requirements of Riverside County's zoning, building, and other pertinent codes and regulations. o. Preserve natural features, such as unique natural terrain, arroyos, canyons, and other drainage ways, and native vegetation, wherever possible, particularly where they provide continuity with more extensive regional systems.	the Project features would be visually consistent with other existing (and under construction) solar generation and electric transmission facilities in the immediate Project vicinity. As a result, the Project would comply with County design standards and codes, which would be required for incorporation as part of the Project's Construction Permit (Building Permit) following CUP/PUP approval.
LU 7.1	Require land uses to develop in accordance with the General Plan and area plans to ensure compatibility and minimize impacts.	**Consistent**. The Project would be consistent with the Desert Center Area Plan with regard to control of night lighting and scenic highways.
LU 9.1	Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values.	**Consistent**. The Project site is not located on open space lands that contain important natural resources, cultural resources, scenic values, or other resources. The private parcels consist of primarily man-made features that include deciduous orchard/fallow agriculture or developed areas, and the BLM-administered public lands are located within a Development Focus Area (DFA) that encourages renewable energy development. The Project site's landscape is generally lacking in visual variety and scenic quality and is substantially influenced by the abundance of anthropogenic modifications in the Project area including several adjacent or nearby solar projects (either operational or under construction); numerous transmission lines; Red Bluff Substation; Interstate 10 (I-10); SR-177; scattered residences; and other built structures and roads. Although the Project would be a new element in the landscape, the visual changes would be in kind with the current nature and scape of existing visible developments. The Project also would not impact protected open spaces areas in the region, such as desert tortoise conservation areas, Areas of Critical Environmental Concern, and Recreation Management Areas.~~The Project is not within an area with important scenic values.~~
LU 9.2	Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and federal and state regulations such as CEQA, NEPA, and Clean Air Act, and Clean Water Act.	**Consistent**. The Project would be consistent with the Multipurpose Open Space Element of the General Plan with respect to the design of development within designated scenic highway corridors. The Project would also be consistent with federal regulations as discussed above, and this EIR documents the Project's adherence to the requirements of CEQA.
LU 14.1	Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public	**Consistent**. There are no outstanding scenic vistas in the general Project area, and there are no outstanding visual features on the Project site. The relatively flat desert landscape of the Project site has a low level of visual variety and distinctiveness, and exhibits limited variation in form, line, color palette, and texture that is common to the broader Chuckwalla Valley. The adjacent landscape includes solar projects, solar projects under construction, and electric transmission facilities, both existing and under construction.
LU 14.3	Ensure that the design and appearance of new landscaping, structures, equipment, signs or grading within Designated and Eligible State and County Scenic Highways	**Consistent**. The Project would be visible from I-10, which is a County Eligible Scenic Highway. However, the visual characteristics of the proposed solar facilities and gen-tie line would be consistent with other solar projects, both

Plans/Policies/Standards Description		Consistency Analysis
	corridors are compatible with the surrounding scenic setting or environment.	existing and under construction, that are located adjacent to, or in the immediate vicinity of, the Project.
LU 14.4	Maintain an appropriate setback from the edge of the right-of-way for new development adjacent to Designated and Eligible State and County Scenic Highways.	**Consistent**. At its closest point, the Project's gen-tie line would parallel I-10 at a distance of approximately 0.3 miles. It would then turn south and enter the Oberon Project Substation, just north of I-10. However, throughout this portion of the gen-tie route it would follow an established transmission line corridor with other transmission lines connecting to Oberon Project Substation on the north side of I-10 while the other (non-Project) transmission lines would continue across I-10 to connect into Red Bluff Substation.
LU 14.5	Require new or relocated electric or communication distribution lines, which would be visible from Designated and Eligible State and County Scenic Highways, to be placed underground	**Consistent**. There are no designated Scenic Highways in the Project vicinity, but I-10 has been identified by the County of Riverside as eligible for designation as a scenic corridor. The Project's gen-tie line, connecting the Project to the Oberon Project Substation on the northern side of I-10 would be an overhead 500 kV line almost entirely on federal land. The Project is considered consistent with this policy, because the gen-tie line would be on federal land and because the visual characteristics of the gen-tie line would be consistent with the numerous overhead gen-tie, distribution, and bulk transmission lines in the Desert Center area, some of which follow the same transmission line corridor paralleling I-10 to the Oberon Project Substation that the Project would.
LU 21.1	Require that grading be designed to blend with undeveloped natural contours of the site and avoid an unvaried, unnatural, or manufactured appearance.	**Consistent**. Given the level nature of the Project site, any necessary grading would be consistent with the existing natural contours. Drainage areas of the site would be unaltered. The solar facilities would exhibit a manufactured appearance when viewed from certain locations. However, because the Project features would be visually consistent with other existing (and under construction) solar generation and electric transmission facilities in the immediate Project vicinity, the Project is considered consistent with Policy LU 21.1.
LU 21.3	Ensure that development does not adversely impact the open space and rural character of the surrounding area.	**Consistent**. While the Project would exhibit an industrial, manufactured appearance and cause potentially adverse visual impacts to the existing open space and rural character of the surrounding area when viewed from certain locations, the Project would be located in an area that contains existing solar facilities of similar design and is receiving more solar facilities that are currently under construction. The visual impacts of the project would not result in a policy inconsistency given the renewable energy development and energy infrastructure trends already established in the Chuckwalla Valley. Also, the Project features would be visually consistent with other existing (and under construction) solar generation and electric transmission facilities in the immediate Project vicinity.
LU 26.1	Require that development be designed to blend with undeveloped natural contours of the site and avoid an unvaried, unnatural, or manufactured appearance.	**Consistent**. Given the level nature of the Project site, any necessary grading would be consistent with the existing natural contours. With Project buildout, the solar facilities would exhibit a manufactured appearance when viewed from certain locations; however, because the Project features would be visually consistent with other existing solar generation and electric transmission facili-

Plans/Policies/Standards Description		Consistency Analysis
		ties and facilities under construction in the immediate Project vicinity, the Project would be consistent with Policy LU 26.1.
LU 26.3	Ensure that development does not adversely impact the open space and rural character of the surrounding area.	**Consistent**. While the Project would exhibit an industrial, manufactured appearance and cause potentially adverse visual impacts to the existing open space and rural character of the surrounding area when viewed from certain locations, the Project would be located in an area that contains existing solar facilities of similar design and is receiving more solar facilities that are currently under construction. The visual impacts of the project would not result in a policy inconsistency given the renewable energy development and energy infrastructure trends already established in the Chuckwalla Valley. Also, the Project features would be visually consistent with other existing (and under construction) solar generation and electric transmission facilities in the immediate Project vicinity.
Circulation Element		
C 19.1	Preserve scenic routes that have exceptional or unique visual features in accordance with Caltrans' Scenic Highway Plan.	**Consistent**. The Project would not be located within a designated scenic highway corridor. I-10 in the vicinity of the Project is an Eligible (but not Designated) County Scenic Highway, but the Project site does not contain exceptional or unique visual features. Also, the Project would be visually consistent with other existing (and under construction) solar generation and electric transmission facilities in the immediate Project vicinity.
C 25.2	Locate new and relocated utilities underground when possible and feasible. All remaining utilities shall be located or screened in a manner that minimizes their visibility by the public.	**Consistent**. The Project's gen-tie line, connecting the Project to Oberon Project Substation on the north side of I-10 would be an overhead line, and remaining utilities would not be screened from public view. However, underground construction of a 500 kV transmission line from the Easley Project Substation to the Oberon Project Substation would have marginal technical feasibility and would not be economically feasible. In addition, the visual characteristics of the Project would be consistent with the numerous overhead gen-tie, distribution, and bulk transmission lines in the immediate Project vicinity, some of which follow the same transmission line corridor to the Oberon Switchyard that the Project line would. The solar field and associated equipment and structures cannot be placed underground.
Multi-Purpose Open Space Element		
OS 21.1	Identify and conserve the skylines, view corridors, and outstanding scenic vistas within Riverside County	**Consistent**. The relatively low height of the Project's solar arrays along the valley floor would not obstruct skylines, view corridors, or outstanding scenic vistas. The taller gen-tie facilities also would not obstruct views of outstanding scenic vistas and would be visually consistent with other existing electric transmission facilities in the immediate Project vicinity, some of which follow the same transmission line corridor to Oberon Project Substation that the Project would.
OS 22.1	Design developments within designated scenic highway corridors to balance the objectives of maintaining scenic resources with accommodating compatible land uses.	**Consistent**. The Project would not be located within a designated scenic highway corridor. I-10 in the vicinity of the Project is an Eligible (but not Designated) County Scenic Highway. Also, the Project features would be visually consistent with other existing (and under construction) solar generation and electric transmission

Plans/Policies/Standards Description		Consistency Analysis
		facilities in the immediate Project vicinity.
OS 22.4	Impose conditions on development within scenic highway corridors requiring dedication of scenic easements consistent with the Scenic Highways Plan, when it is necessary to preserve unique or special visual features.	**Consistent**. The Project would not be located within a designated scenic highway corridor. I-10 in the vicinity of the Project is an Eligible (but not Designated) County Scenic Highway but the Project site does not contain unique or special visual features. Also, the Project features would be visually consistent with other existing (and under construction) solar generation and electric transmission facilities in the immediate Project vicinity.
Desert Center Area Plan		
DCAP 2.3	Assure that the design of new land uses subject to discretionary review visually enhances, and does not degrade, the character of the Desert Center Region.	**Consistent**. While the Project would exhibit an industrial, manufactured appearance and cause adverse visual impacts to the existing open space and rural desert character of the Desert Center Region when viewed from certain locations, the Project would be located in an area that contains existing solar facilities of similar design and is receiving more solar facilities that are currently under construction. The visual impacts of the Project would not result in a policy inconsistency given the renewable energy development and energy infrastructure trends already established in the Chuckwalla Valley and Desert Center region. Also, the Project features would be visually consistent with other existing (and under construction) solar generation and electric transmission facilities in the immediate Project vicinity.
DCAP 4.1	When outdoor lighting is used, require the use of fixtures that would minimize effects on the nighttime sky and wildlife habitat areas, except as necessary for security reasons.	**Consistent**. Security lights around the substation, inverters, gates, and along the perimeter fencing would be motion sensitive and directional. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. Further, with implementation of Mitigation Measures AES-1 and AES-3, night lighting and glare impacts would be kept to levels that would be less than significant.
DCAP 8.1	Protect the scenic highways within the Desert Center Area Plan from change that would diminish the aesthetic value of adjacent properties through adherence to the policies found in the Scenic Corridors sections of the General Plan Land Use, Multipurpose Open Space, and Circulation Elements.	**Consistent**. Although the Project would not be located within the viewshed of a designated scenic highway corridor, it would be visible from I-10, which is a County Eligible Scenic Highway Corridor. However, the Project features would be visually consistent with other existing solar generation and electric transmission facilities in the immediate Project vicinity.

Mitigation Measures for Impact AES-5

Effective implementation of MMs AES-1 and AES-3 would mitigate the Project's visible contrast associated with night lighting and glare during construction and operation and would help to ensure the Project's consistency with Riverside County General Plan Land Use Element Policy LU 4.1 and Desert Center Area Plan Policy DCAP 4.1.

MM AES-1 **Surface Treatment of Project Structures and Buildings.** MM AES-1 would result in the treatment of structural surfaces such that they do not create excessive glare from surface brightness. See full text in Section ~~3.2.9~~3.2.7 (Mitigation Measures).

MM AES-2 **Project Design.** Vegetation management under Project Design would retain existing vegetation, particularly along roadsides in order to intersect sightlines from public vantage points such that visible reflectance and glare would be reduced. See full text in Section 3.2.7 (Mitigation Measures).

MM AES-3 **Night Lighting Management.** See full text in Section ~~3.2.9~~3.2.7 (Mitigation Measures).

Compliance with DRECP CMAs LUPA BIO-7, LUPA-AIR-5, LUPA BIO-13, DFA-VPL-VRM-2, and DFA-VPL-VRM-3 would place substantially similar requirements on Project development on BLM-administered land as those included in MMs AES-1, AES-2, and AES-3, and would therefore, similarly reduce impacts. DRECP CMAs are described in EIR Appendix CC.

Significance After Mitigation

The night lighting and glare impacts associated with Riverside County General Plan Land Use Element Policy LU 4.1 and Desert Center Area Plan Policy DCAP 4.1 would be less than significant with effective implementation of MMs AES-1, AES-2, and AES-3, as well as compliance with DRECP CMAs LUPA BIO-7, LUPA-AIR-5, LUPA BIO-13, DFA-VPL-VRM-2, and DFA-VPL-VRM-3.

As described in Table 3.2-2, t~~T~~he Project~~'s inconsistences or partial inconsistencies~~ would be consistent with Riverside County General Plan Land Use Element (LU) Policies 4.1, 14.5, 21.1, 21.3, 26.1, and 26.3; Circulation Element (C) Policy 25.2; and DCAP Policy 2.3 ~~are *not considered significant*~~ given the absence of scenic resources on the Project site, the Project's consistency with the applicable BLM VRM Class IV management objective, the renewable energy development and energy infrastructure trends already established in the Chuckwalla Valley, and the visual consistency of the Project features with other existing (and under construction) solar generation and electric transmission facilities in the immediate Project vicinity.

**** The impact analyses for all Project alternatives have been moved to EIR Section 5. ****

3.2.6. Cumulative Impacts

3.2.6.1. Geographic Scope

Impacts resulting from construction, operation, and decommissioning of the Project would result in a cumulative effect on aesthetics with other past, present, or probable future projects. The geographic scope of the cumulative effects analysis for aesthetics consists of the I-10 corridor, the greater Chuckwalla Valley, and the Project-facing slopes and ridges of the surrounding mountains, including portions of JTNP, and is based primarily on the natural boundaries of the affected resource where direct effects would occur (i.e., shared viewsheds). Secondarily, the geographic scope also considers the indirect effect of the perceived industrialization of the I-10 corridor, which is associated with the proliferation of energy facilities across the landscape. Therefore, for the purposes of this analysis, the area of direct effect generally extends from the eastern portion of JTNP southeast to the easternmost boundary of the Palen Solar Project, east of the Project site. The area of indirect effect extends along I-10 from the intersection with Eagle Mountain Road, approximately three miles west of Desert Center, to Ford Dry Lake Road overpass, which is just under 12 miles east of the Palen Solar Project and approximately three miles south of the existing Genesis Solar Energy Project. Also visible from this location are the existing Devers-Palo Verde 1 and Devers-Colorado River transmission lines, the existing Blythe Energy Project Transmission Line, and the probable future Desert Southwest Transmission Line, all paralleling the south side of I-10.

Past, present, and probable future projects making up the cumulative scenario for aesthetics are listed below and in Tables 3.1-1 and 3.1.2, and shown on Figure 3.1-1, Cumulative Projects:

Past and Present Projects in the Project Area (Numbers correspond to Table 3.1-1):

1. West-wide Section 368 Energy Corridors
4. Genesis Solar Energy Project
6. Desert Sunlight Solar Project
7. SCE Red Bluff Substation

8. Devers-Palo Verde No. 1 Transmission Line
9. Devers-Colorado River Transmission Line
10. Blythe Energy Project Transmission Line
13. Desert Harvest Solar Project
14. Palen Solar Project
18. Athos Renewable Energy Project
19. Oberon Renewable Energy Project
21. Victory Pass Solar Project
22. Arica Solar Project

Probable Future Projects in the Project Area (Letters correspond to Table 3.1-2):

A. Desert Southwest Transmission Line
C. Eagle Mountain Pumped Storage Project
D. Sapphire Solar Project
E. Lycan Solar Project
H. Redonda Solar Project
I. Skybridge Eagle Mountain Hydrogen Project
L. SCE Colorado River-Red Bluff 500 kV #1 Line Upgrade
M SCE Devers-Red Bluff 500 kV #1 and #2 Lines Upgrade

These projects include 13 local, existing (past and present) energy projects and ~~six~~ 8 local, probable future energy projects. These projects would all be within the field of view of at least portions of the proposed Project and are expected to result in cumulative visual impacts for travelers along I-10 and/or SR-177 as well as residents and dispersed recreational users in the surrounding areas.

If adopted, the proposed expansion of Joshua Tree National Park and creation of Chuckwalla National Monument would re-designate existing federal lands in the Project vicinity but would not create physical changes in the environment that would contribute to cumulative visual impacts. Such designations would afford additional protection to maintain the natural setting of the desert landscape.

3.2.6.2. Cumulative Impact Analysis

Although numerous existing cultural modifications are visible along the I-10 corridor and in the Desert Center area of the Chuckwalla Valley (transmission lines; substations; pipelines; solar projects; communication towers; 4-wheel drive tracks; widely scattered commercial buildings, dilapidated structures, and roadside signs; and a few agricultural operations), the grand scale of the open desert panoramas impart an overall general impression of a historically natural-appearing desert landscape that is now in transition to that of a developed energy zone characterized by numerous solar energy facilities, either existing or under construction. The cumulative scenario includes many large solar projects and transmission lines whose scale and pervasiveness are having adverse cumulative effects. If all the projects are implemented, they would substantially degrade the visual character and general scenic appeal of the existing landscape, resulting in the conversion of a relatively undeveloped desert landscape into a more industrialized appearance.

In some viewing cases, the visibility and apparent scale of the projects is (for existing and under construction), or would be (for probable future), diminished somewhat by favorable topographic relationships and vegetative screening. For other viewing opportunities, some projects appear (existing and under construction), or would appear (probable future), reduced in visual prominence due to their viewing distances and low angle of view. In still other cases, projects blend (existing and under construction), or would blend (probable future) in with the vegetation or horizon line of the valley floor, and the rugged mountains would remain the dominant visual features in the landscape.

KOP 3 on Alligator Rock provides a slightly elevated view overlooking the broader Chuckwalla Valley and numerous solar projects. From KOP 3, the Oberon project, which began commercial operation in fall 2023, would be located south and southeast of the Proposed Project and would appear in the foreground of views toward the Project. The impact assessment from this location would also be applicable to the lower elevations of the Chuckwalla Mountains that would be encompassed by the Chuckwalla NM. Also, f~~F~~rom various elevated locations within JTNP, the proposed Project would be visible along with one or more of the cumulative projects. For example, from the Buzzard Springs area and adjacent wilderness, the Project would be visible along with the existing (and under construction) Desert Sunlight, Desert Harvest, Oberon, Athos, Victory Pass, Arica, and Palen solar projects, and the probable future Sapphire, Lycan, and Redonda solar projects and SCE Colorado River-Red Bluff 500 kV #1 Line Upgrade and Devers-Red Bluff 500 kV #1 and #2 Line Upgrade (depending on work required for the line upgrades). Similarly, the proposed Project, along with multiple cumulative projects, would be visible from portions of the Eagle and Coxcomb mountains in JTNP, the Palen-McCoy Wilderness to the east, the Sheephole Valley Wilderness to the north, and the Chuckwalla Mountains Wilderness to the south. However, it should be noted that these cumulative impacts would be experienced at greater viewing distances ranging from seven to 25 miles.

As a result, the proposed Project, in combination with the 13 local energy projects, would contribute to significant cumulative visual impacts when viewed by sensitive viewing populations along I-10 and SR-177, from nearby residences, from portions of JTNP, and in the surrounding mountains and wilderness. The Project's contribution to the impacts would be from the introduction of substantial visual contrast associated with discordant geometric patterns in the landscape; the introduction of large-scale, built facilities with prominent industrial character; the creation of unnatural lines of demarcation in the valley floor landscape and inconsistent color contrasts; and from the addition of visible night lighting within the broader Chuckwalla Valley. For many travelers along I-10, the scenic experience would be substantially degraded due to the perceived "industrialization" of the landscape. The impacts from the adjacent solar projects would be similar to those of the Proposed Project and the applicable mitigation measures would be similar or the same. However, in all cases, the implementation of these mitigation measures, individually or collectively, would be insufficient to reduce the resulting impacts to levels that would be less than significant.

Mitigation Measures for Cumulative Impacts

Effective implementation of MM AES-1 (Surface Treatment of Project Structures and Buildings), MM AES-2 (Project Design), MM AES-3 (Night Lighting Management), and MM BIO-5 (Vegetation Resources Management Plan) would reduce the severity of the Project's contribution to the cumulative visual effects, though the Project's contribution would still be cumulatively considerable. MM AES-1 would reduce structural surface glare and help the Project structures blend better with the surrounding landscape. MM AES-2 would help to retain vegetative screening, which would reduce overall Project visibility and would reduce structural contrast and glare. MM AES-3 would result in better management and control of night lighting and would reduce night lighting impacts on dark sky viewing, nearby and adjacent roads (motorists), and nearby residences. Compliance with DRECP CMAs LUPA BIO-7, LUPA-AIR-5, LUPA BIO-13, DFA-VPL-VRM-2, and DFA-VPL-VRM-3 would place substantially similar requirements on Project development on BLM-administered land as those included in MMs AES-1, AES-2, AES-3, and BIO-5, and would therefore, similarly reduce impacts. DRECP CMAs are described in EIR Appendix CC.

Significance After Mitigation

Even with implementation of mitigation measures, there would be significant cumulative visual impacts when viewed by sensitive viewing populations along I-10 and SR-177, from nearby residences, from portions of JTNP, and in the surrounding mountains and wilderness. The Project would make a considerable contribution to these visual impacts.~~,~~

3.2.7. Mitigation Measures and Applicant Proposed Measures

APM VIS-1 **Weathering Coating of Security Fencing.** To reduce operational visual impacts of the Project to the community of Lake Tamarisk, the Project owner will apply a weathering coating (Natina or substantially similar) to the Project security fencing located closest to the Community. The coating would reduce the occurrence of reflectance, which would be visually distracting and the typically earth-tone color of the coating would reduce the industrial character of the fencing and help it to blend more effectively with the surrounding landscape. The total length of fencing that will be coated is approximately one mile and may be contiguous or separate sections, depending on the final Project design and the location(s) of most visible security fencing.

MM AQ-1 **Fugitive Dust Control Plan**. See full text in Section 3.4, Air Quality.

MM BIO-5 **Vegetation Resources Management Plan**. See full text in Section 3.5, Biological Resources.

MM AES-1 **Surface Treatment of Project Structures and Buildings.** The Project owner shall treat the surfaces of all non-temporary, large Project structures and buildings (e.g., O&M building, substation components, inverters, electrical enclosures, gen-tie poles and conductors) visible to the public such that: (a) their colors minimize visual intrusion and contrast by blending with (matching) the existing characteristic landscape colors; (b) their colors and finishes do not create excessive glare from surface brightness; and (c) their colors and finishes are consistent with local policies and ordinances. The transmission line conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive.

Following a consultation with the Riverside County and BLM visual resources specialists, and other representatives as deemed necessary, the Project owner shall submit for the County's and BLM's review, a specific Surface Treatment Plan that will satisfy these requirements. The consultation shall be in-field at the agencies' election, or as a desktop review if preferred by the agencies. The treatment plan shall include:

(a) A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes based on the characteristic landscape. Colors shall be field tested using the actual distances from the KOPs to the proposed structures, using the proposed colors painted on representative surfaces;

(b) A list of each major Project structure and building, the transmission line towers and/or poles, and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and pantone number, or according to a universal designation system;

(c) One set of color brochures or color chips showing each proposed color and finish;

(d) A specific schedule for completion of the treatment; and

(e) A procedure to ensure proper treatment maintenance for the life of the Project. The Project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture or perform the final treatment on any buildings or structures treated in the field until the Project owner receives notification of approval of the treatment plan by Riverside County and the BLM. Subsequent modifications to the treatment plan are prohibited without the County's and BLM's approval for components under their respective authorities; however, the Project owner may consider the agencies' failure to respond to a request for review within 60 days an acceptance of the proposal.

MM AES-2 **Project Design.** The Project owner shall use proper design fundamentals to reduce the visual contrast to the characteristic landscape. These include proper siting and location; reduction of visibility; repetition of form, line, color, and texture of the landscape; and reduction of unnecessary disturbance. Design strategies to address these fundamentals shall be based on the following factors:

(a) *Vegetation Manipulation*: Retain as much of the existing vegetation as possible including along roadsides to intercept sightlines from public vantage points. Use existing vegetation to screen the development from public viewing and lessen the visibility of structural contrast and glare. Use scalloped, irregular, cleared edges to reduce line contrast. Use irregular clearing shapes to reduce form contrast. Feather and thin the edges of cleared areas and retain a representative mix of plant species and sizes.

(b) *Structures*: Minimize the number of structures and combine different activities in one structure. Use natural, self-weathering materials and chemical treatments on surfaces to reduce color contrast and the potential for reflectance (glare). Bury all or part of structures to the extent practical. Use natural-appearing forms to complement the characteristic landscape. Screen the structure from view by using natural landforms and vegetation. Reduce the line contrast created by straight edges.

(c) *Linear Alignments*: Use existing topography to hide induced changes associated with roads, lines, and other linear features. Select alignments that follow landscape contours. Avoid fall-line cuts. Hug vegetation lines.

(d) *Reclamation and Restoration*: Reduce the amount of disturbed area and blend the disturbed areas into the characteristic landscape. Where feasible, replace soil, brush, rocks, and natural debris over disturbed area. Newly introduced plant species should be of a form, color, and texture that blends with the landscape.

MM AES-3 **Night Lighting Management.** To the extent feasible, consistent with safety and security considerations, the Project owner shall design and install all permanent exterior lighting and all temporary construction lighting such that: (a) lamps and reflectors are not visible from beyond the Project site, including any off-site security buffer areas; (b) lighting does not cause excessive reflected glare; (c) direct lighting does not illuminate the nighttime sky, except for required FAA aircraft safety lighting; (d) illumination of the Project and its immediate area is minimized; and (e) it complies with local policies and ordinances.

The Project owner shall also consult with the NPS Night Sky Program Manager in the development of the night lighting and comply with stricter standards for light intensity. All permanent light sources shall be below 3,500 Kelvin color temperature (warm white) and shall have cutoff angles not to exceed 45 degrees of nadir. The use of LED lighting with a Correlated Color Temperature (CCT) above 2,700 would introduce blue light into the environment that would have negative impacts on the night skies, wildlife, and visitors, and increase light pollution in that area. If LED light bulbs are used, they shall have a CCT of 2,700 or less. All lights, temporary and permanent, are to be fully shielded such that the emission of light above the horizontal is prevented. Prior to construction, the Project owner shall submit to BLM, Riverside County, and NPS JTNP for review a Night Lighting Management Plan that shall include the following:

(a) Location and direction of light fixtures that take the lighting mitigation requirements into account;

(b) Lighting that incorporates fixture hoods/shielding, with light directed downward or toward the area to be illuminated;

(c) Light fixtures, which are visible from beyond the Project boundary, that have cutoff angles that are sufficient to prevent lamps and reflectors from being visible beyond the Project boundary, except where necessary for security;

(d) All lighting that is of minimum necessary brightness consistent with operational safety and security;

(e) Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) that have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied;

(f) Specification that LPS or amber LED lighting shall be emphasized, and that white lighting (metal halide) would: (a) only be used when necessitated by specific work tasks; (b) not be used for dusk-to-dawn lighting; and (c) would be less than 3500 Kelvin color temperature;

(g) Specifications and mapping for of all lamp locations, orientations, and intensities, including security, roadway, and task lighting;

(h) Specifications for each light fixture and each light shield;

(i) Total estimated outdoor lighting footprint expressed as lumens or lumens per acre;

(j) Specifications on the use of portable truck-mounted lighting;

(k) Specifications for motion sensors and other controls to be used, especially for security lighting;

(l) Surface treatment specifications that shall be employed to minimize glare and skyglow;

(m) Documentation that the necessary coordination with the NPS Night Sky Program Manager has occurred; and

(n) Exterior lighting that complies with current Title 24 regulations from the State of California and that shall be coordinated with the California Department of Transportation (Caltrans) to comply with exterior lighting regulations along I-10 and SR-177.

3.3. Agriculture and Forestry Resources

This section evaluates the impacts on agriculture and forestry resources resulting from implementation of the proposed Project. The discussion provides an overview of existing conditions that influence agriculture and forestry, describes the applicable regulations, identifies the criteria used for determining the significance of environmental impacts, and describes the potential agriculture and forestry impacts of the proposed Project. An impact analysis and comparison of project alternatives is included in Section 5.

3.3.1. Environmental Setting

The proposed Project is located on private and BLM-administered land in Riverside County north of Interstate 10 (I-10) and approximately 2 miles north of the town of Desert Center, California. Nearby land uses include previously developed or developing solar facilities, transmission lines, fallow and active agriculture, and rural residences. Agriculture use within the Project site primarily includes fallow/retired agriculture and developed areas. As far as can be determined, a tilapia farming facility is currently the only active agricultural use. There are no forestry resources on site or in the surrounding area.

Agriculture, including jojoba farming, has been part of life in the Desert Center area. The proposed Project area would be located within the Desert Center Area Plan located on land zoned as Agriculture; Commercial Retail, Rural Desert; Open Space, Rural; and Rural Desert. There are approximately 190 acres of agriculturally zoned land in the Project site. The nearest community is Lake Tamarisk, located less than 1 mile southwest of the Project site.

The Project would include an approximate 6.7-mile 500 kV gen-tie line starting at the onsite substation and switchyard located on private property that is under a Williamson Act contract and zoned as Light Agriculture (A-1) (APN 808-023-018). On this same parcel, north of the substation, would be a battery energy storage system (BESS). Just south of the substation, the 500 kV gen-tie line would enter the Oberon Renewable Energy Project site and would be located on BLM-administered land for the remainder of the route.

U.S. Bureau of Land Management

Approximately two-thirds of the Easley Project would be located on BLM-administered land within the California Desert Conservation Area (CDCA) plan area. The Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) amended the CDCA and is a collaborative, interagency landscape-scale planning effort and program covering 22.5 million acres in seven California counties—Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego. The DRECP LUPA applies to nearly 10.8 million acres of BLM-managed federal lands within the aforementioned seven California counties. The portion of the Project that would be located on BLM land is designated as a Development Focus Area targeted for renewable energy development. Part of the vision for the DRECP is to facilitate the timely and streamlined permitting of renewable energy projects (BLM, 2016). Because the proposed Project is partially located on federal land under management of BLM, BLM is the lead agency under the National Environmental Policy Act (NEPA), 42 U.S.C. section 4321 et seq. Much of the land surrounding the Project area is part of the DRECP.

California Department of Conservation

The California Department of Conservation established the Farmland Mapping and Monitoring Program (FMMP) in 1982 to identify important agricultural lands and track the conversion of agricultural land to other uses (see Table 3.3-1 for the most recent Riverside County conversion data). FMMP data are used in elements of some county and city general plans, in regional studies on agricultural land conversion, and in environmental documents as a way of assessing proposed Project-specific impacts on Prime Farmland. The extent of the important farmland coverage within California corresponds to the availability of Natural Resources Conservation Service (NRCS) "modern soil surveys."

In areas where no NRCS soil survey data exists, the DOC FMMP is not able to classify or map the land for important farmlands. The Project area is identified on the important farmland maps with the label "Not mapped for important farmland; no NRCS soil survey data available." The Project area in Riverside County does not have modern NRCS soil survey data available; therefore, the FMMP categories are not applicable to this Project.

Riverside County

Agriculture is an important part of Riverside County's economy. According to the Annual Riverside County Agricultural Production Report (2021), agriculture accounted for an estimated total gross value of $1,405,910,000. The primary agricultural products from Riverside County in 2021 were, in order, as follows: nursery stock, milk, table grapes, dates, avocados, alfalfa, eggs, lemons, bell peppers, and turf grass (Riverside County, 2021a).

The most recent agricultural land conversion data available for Riverside County is for the period between 201~~4~~6 and 2018~~6~~. Land converted in this period is shown below in Table 3.3-1.

Table 3.3-1. Riverside County Agricultural Land Conversion 20164 to 2018~~6~~

	Total Acreage Inventoried		~~2014~~ 2016 to ~~2016~~ 2018 Acreage Changes			
Land use category	**~~2014~~2016**	**~~2016~~2018**	**Acres Lost (-)**	**Acres Gained (+)**	**Total Acreage Changed**	**Net Acreage Changed**
Prime Farmland	~~118,077~~ 117,486	~~117,484~~ 116,926	~~2,414~~ 2,204	~~1,821~~ 1,644	~~4,235~~ 3,848	−560~~93~~
Farmland of Statewide Importance	~~44,002~~ 43,757	~~43,757~~ 43,610	~~991~~ 629	~~746~~ 482	~~1,737~~ 1,111	−147~~245~~
Unique Farmland	32,566~~82~~	32,121~~565~~	1,206~~570~~	~~1,553~~761	~~3,123~~1,967	−445~~17~~
Farmland of Local Importance	~~228,809~~ 226,029	~~226,029~~ 221,201	~~6,598~~ 7,881	~~3,818~~ 3,053	10,934~~416~~	−4,828 ~~2,780~~
Grazing Land	110,2~~1~~02	109,857~~10,203~~	~~386~~456	~~487~~111	~~873~~567	−345~~101~~
AGRICULTURAL LAND SUBTOTAL	**5~~5~~30,040~~572~~**	**~~530,038~~ 523,715**	**~~11,959~~ 12,376**	**~~8,425~~ 6,051**	**~~20,384~~18,427**	**−6,325 ~~3,534~~**

Source: California Department of Conservation, 2024~~16~~

As described in the table above, for the two-year period from ~~2014~~ 2016 to ~~2016~~2018, Riverside County had a decrease of ~~3,534~~6,325 acres in the total amount of active agricultural land mapped by the Farmland Mapping and Monitoring Program (FMMP). For comparison, during the ~~2012~~ 2014 to ~~2014~~ 2016 period, Riverside County had a net decrease in agricultural land of approximately ~~3,047~~3,534 acres (California Department of Conservation, ~~2014~~2016).

The decrease in acres between 2014 to 2016 included a decrease of ~~3,635~~5,980 acres of Important Farmland (including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance) and ~~an increase of 101~~a decrease of 345 acres of Grazing Land. The largest decrease was in ~~Prime~~ Farmland of Local Importance, with 4,828~~593~~ acres converted to nonagricultural uses (California Department of Conservation, ~~2016~~2024).

The California Land Conservation Act of 1965 (referred to as the Williamson Act) allows counties such as Riverside to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use in return for a reduction in assessed property taxes (California Department of Conservation, 2023). Table 3.3-2 shows the parcels on the Project site enrolled under Williamson Act Contracts (see also Figure 3.3-1).

Table 3.3-2. Easley Project Parcels with Williamson Act Contracts

Owner	APN	Size (acres)	Instrument No.	Preserve No.	Map No.	Contract Length (as of 2023)
JMP Inc., a Nevada Corporation	808-023-018	68.09	84-42184	1	588	39 years
Spindle Top Bayou Farm, Inc.	811-270-001	20.09	87-64243	3	629	36 years
	811-270-002	20.08	87-64243	3	629	36 years
	811-270-007	32.18	87-64243	3	629	36 years
	811-270-005	19.71	87-64243	3	629	36 years
	811-270-003	19.72	87-64243	3	629	36 years
	811-270-004	19.99	87-64243	3	629	36 years
Todd Culver Draskovich John Steven Draskovich *	808-240-007	20.02	87-64239	2	622	36 years

~~* A Williamson Act contract non-renewal was filed for APN 808-240-007 in 2013, which resulted in cancellation on January 1, 2023. The final step for contract cancellation will be to complete the County's diminishment/disestablishment process.~~

The co-owners of several private parcels within and surrounding the Project site entered into a private covenant in 1981 regarding an agreement to produce only jojoba uses on their properties, and to avoid any activities that would impair or restrict jojoba production. Currently, there are no jojoba plantings on these private parcels. It appears that there have been no jojoba or other agricultural uses on these parcels for many years. The new property owner, IP Easley, LLC, has proposed an amendment to the covenant which would allow solar photovoltaic facility development on the parcels. Like the original covenant, the amended covenant would not be subject to any permit approval or discretionary action by any public/government entity. Therefore, the provisions of CEQA are not applicable and there is not a related environmental impact.

3.3.2. Regulatory Framework

3.3.2.1. Federal Laws, Regulations, and Policies

Federal Farmland Protection Policy Act. The Farmland Protection Policy Act (7 U.S. Code [USC] Section 4201 et seq.; see also 7 Code of Federal Regulations [CFR] part 658) is overseen by the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS). The Farmland Protection Policy Act is intended to "minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses." The Act applies to projects and programs that are sponsored or financed in whole or in part by the federal government.

3.3.2.2. State Laws, Regulations, and Policies

Land Conservation Act of 1965 (Williamson Act). The Williamson Act is intended to help preserve farmland. In creating the Act, the legislature noted that "the preservation of the maximum amount of the limited supply of agricultural land is necessary to the conservation of the State's economic resources, and is necessary not only to the maintenance of the agricultural economy of the State, but also for the assurance of adequate, healthful and nutritious food for future residents of this State and nation" (Government Code Section 51220). The Act enables participating local governments, such as Riverside County, to enter land conservation contracts with private landowners. Williamson Act contracts restrict specific parcels of land to agricultural and open space uses for a minimum term of ten years in return for reduced property tax assessments. The Williamson Act program is locally administered by counties (and some cities) to ensure compliance with the Williamson Act (Government Code Sections 51200–51207), local uniform rules, and individual contracts.

The DOC provides guidance and oversight to local governments to ensure consistency with the government code. Starting in 1972, the State provided counties with partial replacement of foregone local property tax revenues (Open Space Subvention Act). These subvention payments were suspended in 2009 due to State-level budget constraints.

3.3.2.3. Local Laws, Regulations, and Policies

Riverside County General Plan. The intent of the Agricultural Resources section of the Land Use Element of the Riverside County General Plan is to identify and preserve areas where agricultural uses are the long-term desirable use and to minimize the conflicts between agricultural and urban/suburban uses. The following policies included in the Land Use Element generally relate to the proposed Project with respect to agricultural resources (Riverside County, 2021b).

- **Policy LU 7.1.** Require land uses to develop in accordance with the General Plan and area plans to ensure compatibility and minimize impacts.
- **Policy LU 7.4.** Retain and enhance the integrity of existing residential, employment, agricultural, and open space areas by protecting them from encroachment of land uses that would result in impacts from noise, noxious fumes, glare, shadowing, and traffic.
- **Policy LU 7.5.** Require buffering to the extent possible between urban uses and adjacent rural/ equestrian oriented land uses.
- **Policy 20.1.** Encourage retaining agriculturally designated lands where agricultural activity can be sustained at an operational scale, where it accommodates lifestyle choice, and in locations where impacts to and from potentially incompatible uses, such as residential uses, are minimized, through incentives such as tax credits.
- **Policy LU 20.2.** Protect agricultural uses, including those with industrial characteristics (dairies, poultry, hog farms, etc.) by discouraging inappropriate land division in the immediate proximity and allowing only uses and intensities that are compatible with agricultural uses.
- **Policy LU 20.4.** Encourage conservation of productive agricultural lands. Preserve prime agricultural lands for high-value crop production. Note that this policy is also replicated in the County's Multipurpose Open Space Element (see Policy OS 7.3 below).
- **Policy LU 20.5.** Continue to participate in the California Land Conservation Act (the Williamson Act) of 1965.

The intent of the Agriculture section of the Multipurpose Open Space Element of the Riverside County General Plan regarding agricultural use is to protect agricultural lands and landscapes as historical, cultural, and scenic resources. The following policy included in the Multipurpose Open Space Element generally relates to the proposed Project with respect to agricultural resources (Riverside County, 2015).

- **Policy OS 7.3.** Encourage conservation of productive agricultural lands and preservation of prime agricultural lands.

Desert Center Area Plan. The intent of the Land Use section of the Desert Center Area Plan is to enhance and/or preserve the identity, character, and features unique to the Desert Center area. The following policy included in the Desert Center Area Plan generally relates to the proposed Project with respect to agricultural resources (Riverside County, 2021c).

- **Policy DCAP 3.1.** Protect farmland and agricultural resources in Desert Center through adherence to the Agricultural Resources section of the General Plan Multipurpose Open Space Element and the Agriculture section of the General Plan Land Use Element, as well as the provisions of the agriculture land use designation.

Riverside County Agricultural Preserve Ordinance – Ordinance No. 509. The Riverside County Agricultural Preserve Ordinance provides for the administration of lands placed in agricultural preserves, including procedures for initiating, filing, and processing requests to establish, enlarge, disestablish, or diminish agricultural preserves, pursuant to the California Land Conservation Act.

Riverside County Ordinance No. 348.4705. Zoning ordinance 348.4705 permits a solar power plant in several districts, including agricultural districts, with a use permit. Ordinance No. 348.4705 was enacted at the same time as and implements General Plan Policy LU 15.15, which states: "Permit and encourage, in an environmentally and fiscally responsible manner, the development of renewable energy resources and related infrastructure, including but not limited to, the development of solar power plants in the County of Riverside." This ordinance is consistent with Riverside County's participation in the DRECP.

Riverside County Ordinance No. 625, the "Right to Farm" Ordinance. Ordinance No. 625 factors into Riverside County's standard significance thresholds. It was enacted to conserve, protect, and encourage the development, improvement, and continued viability of agricultural land. The intent of the ordinance is to reduce the loss to the County of its agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance. Nothing in the ordinance is to be construed to limit the right of any owner of real property to request that the county consider a change in the zoning classification.

The proposed Project would install solar renewable energy facilities on some parcels that allow agriculture as well as renewable energy projects. The parcels are surrounded by federal land administered by BLM that have been designated for development of solar energy projects. Given that the land surrounding these parcels is designated for solar projects and that solar facilities are an allowed use on the County parcels, the proposed Project would not be inconsistent with the policies enumerated above.

3.3.3. Methodology for Analysis

The analysis focuses on the potential for implementation of the proposed Project to adversely affect agricultural resources through temporary disruption or disturbance of agricultural land uses and activities during construction, conversion of agricultural land to non-agricultural land uses during construction and operation, introduction of incompatible land uses or land use activities during operation, or through other changes to the physical environment that could result in loss or conversion of agricultural lands during construction and operation.

The approach is based largely on a comparison of the Project area, which is defined as the area within which all construction-related disturbance would occur, against Important Farmland as mapped in FMMP Important Farmland Series Maps, maps of Williamson Act contracts, and Riverside County General Plan Land Use designation and zoning maps. Existing agricultural uses within the Project area were also considered.

3.3.4. CEQA Significance Criteria

The criteria used to determine the significance of potential Agriculture and Forestry impacts are based on Appendix G of the State CEQA Guidelines. The proposed Project would result in a significant impact under CEQA related to Agriculture and Forestry if the Project would:

- *Conflict with existing zoning for agricultural use, or a Williamson Act contract (see Impact AG-1).*

The County of Riverside's Environmental Assessment Form includes additional significance criteria, which were also used in the analysis. The additional criteria indicate that a project could have potentially significant impacts if it would:

- *Cause development of non-agricultural uses within 300 feet of agriculturally zoned property (Ordinance No. 625, "Right-to-Farm") (see Impact AG-2).*
- *Conflict with land within a Riverside County Agricultural Preserve (see Impact AG-3).*

The following CEQA significance criteria from Appendix G were not included in the analysis and are not discussed beyond this summary:

- *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.*

  The Project area is not designated under the California Department of Conservation (DOC) FMMP due to the lack of modern soil survey data for the area. There are no lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) in the Project area; therefore, the proposed Project would not result in the conversion of the aforementioned Farmland to non-agricultural use.

- *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use.*

  The Project area is not designated under the California Department of Conservation (DOC) FMMP. There are no lands designated as Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) in the Project area; therefore, the proposed Project would not result in the conversion of Farmland to non-agricultural use.

  As there are no forestry resources on site or in the surrounding area, there would be no conversion of forest land to non-forest use.

- *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).*

  There are no forest lands or timberlands in the Project area; therefore, the proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.

- *Result in the loss of forest land or conversion of forest land to non-forest use.*

  The proposed Project would not be located on land zoned specifically as either forest land or timber-land. The Project would be located primarily on land zoned for agricultural production and as rural open space land. The Project would not be used for timber production, nor is the site forested. In addition, the Project area is not considered timberland because the land is not located in a Timberland

Production Zone. Overall, the Project does not meet the definition of "forest land"[6] and the proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use.

3.3.5. Proposed Project Impact Analysis

The scoping effort conducted by the Riverside County Planning Department did not reveal public concerns related to Agriculture and Forestry. Project decommissioning impacts would be the same as those described under Project construction and are, therefore, not addressed further.

Impact AG-1. The Project would conflict with existing zoning for agricultural use, a Williamson Act contract, or land within an agricultural preserve.

~~*SIGNIFICANT AND UNAVOIDABLE*~~*LESS THAN SIGNIFICANT*. The proposed Project would be constructed on approximately 220 acres of land zoned as Light Agriculture (A-1). Under Ordinance No. 348.4705, solar power plants are permitted in zone A-1 land on a lot 10 acres or larger, provided a conditional use permit is granted. All A-1 parcels that are part of the Project area are greater than 10 acres. Therefore, the Project would not conflict with existing zoning for agricultural use.

As shown on Figure 3.3-1, the parcels within the Project site that are subject to a Williamson Act contract and related agricultural preserve program total approximately 220 acres of land (8 parcels). After an agricultural preserve has been established, the land within the preserve is restricted to the agricultural and compatible uses specified in Riverside County Ordinance 509. Williamson Act contracts are in effect for 10 years from the anniversary date of the contract. The contracts are automatically renewed for another year each year until a non-renewal and/or cancellation notice is submitted to the County. After a Notice of Nonrenewal, the contract will continue to be in effect for the remaining nine years. Non-renewals for the parcels subject to Williamson Act contracts were submitted on September 9, 2022, and processed on October 4 and 5, 2022.

The proposed gen-tie line would start at a substation located on private land that is designated by Riverside County as Light Agriculture (A-1) and is currently subject to a Williamson Act contract. The BESS and switchyard would be located on the same parcel. During construction, the substation area would be graded and compacted to an approximately level surface, although the substation pad may be elevated a few feet pending detailed hydrological study of the area. Concrete pads would be constructed on site as foundations for substation equipment, and the remaining area would be graveled to a maximum depth of approximately 12 inches. The substation would be surrounded by an up to a 7-foot-high chain-link fence topped with one foot of barbed wire. Each of the dead-end structures would require foundations excavated to a depth of 20 feet or more. From the substation, the gen-tie would continue to traverse through BLM-administered land not zoned for agricultural uses. The energy storage facility must be nearly level; therefore, the proposed BESS area would be cleared and graded. Site preparation also would include construction of drainage components to capture and direct stormwater flow around the BESS facility. Once the concrete foundations are in place for the BESS, the batteries, inverters, and other electrical equipment would be mounted and installed.

Project development would conflict with the Williamson Act contracts recorded against parcels within the Project site and with the inclusion of those parcels in the agricultural preserves within which they currently reside. ~~here is no feasible way to mitigate or modify the Project to avoid the conflict with the Williamson Act contracts and meet the Project objectives.~~ Given the status of the contracts, the parcels are subject to Williamson Act restrictions for approximately nine more years. The proposed Project is not an allowable

[6] According to PRC § 12220 (g), Forest Land is land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

use under the County's agricultural preserve rules or Williamson Act contracts ~~program and,~~ and therefore, its construction and operation on lands would be a significant ~~and unavoidable~~ impact ~~with~~on lands in an agricultural preserve and under~~related~~ Williamson Act contract, unless the relevant contracts are canceled and lands within the Project site removed from County Agricultural Preserves, as requested by the Project applicant. Cancellation of ~~the~~ Williamson Act contracts and removal of project lands from County Agricultural preserves would be required prior to~~must occur prior to approval of the conditional use permit for the Project~~ Project development, thereby resolving any agricultural preserve- or Williamson Act-related conflicts.

To eliminate the conflict, the Williamson Act contracts will need to be cancelled per statutory findings the Riverside County Board of Supervisors makes,[7] or it must be determined that the Project is compatible under Ordinance 509. If the Williamson Act contracts are cancelled and lands within the Project site are removed from County Agricultural Preserves at the time of ~~the EIR certification~~Project approval, this impact would be avoided.

Mitigation Measures for Impact AG-1

~~No feasible mitigation would reduce this impact to a less-than-significant level.~~ No mitigation measures are required.

Significance After Mitigation

This potentially significant impact would be avoided through ~~e impact would be significant and unavoidable; however,~~ cancellation of the Williamson Act contracts and removal of lands within the Project site from County agricultural preserves, as requested by the Project applicant. Impacts would be less than significant.~~would avoid this impact.~~

Impact AG-2. The Project would cause development of non-agricultural uses within 300 feet of agriculturally zoned property (Ordinance No. 625, "Right-to-Farm").

LESS THAN SIGNIFICANT. The proposed Project is adjacent to several parcels that are zoned as Light Agriculture (A-1). One of these parcels is adjacent to parcel APN 808-023-018, where the substation, switching yard, BESS, and a portion of the gen-tie line would traverse. There is an additional parcel zoned as Open Space, Rural (OS-RUR).

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[7] The statutory findings required for a Williamson Act Contract cancellation are listed in California Government Code Section 51282. To cancel the contract, the Board of Supervisors must make one of two findings. First, the Board could conclude that the cancellation is consistent with the purposes of the Williamson Act based on the following findings:
(1) The cancellation is for land on which a notice of nonrenewal has been served;
(2) Cancellation is not likely to result in the removal of adjacent lands from agricultural use;
(3) Cancellation is for an alternative use which is consistent with the applicable provisions of the city or county general plan;
(4) Cancellation will not result in discontiguous patterns of urban development; and
(5) There is no proximate noncontracted land which is both available and suitable for the use to which it is proposed the contracted land be put, or, that development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land.
Alternatively, the Board of Supervisors could find that the cancellation is in the public interest based on the following findings:
(1) Other public concerns substantially outweigh the objectives of the Williamson Act; and
(2) That there is no proximate noncontracted land which is both available and suitable for the use to which it is proposed the contracted land be put, or that development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land.
The Board may grant tentative approval for cancellation of a Williamson Act contract only if it makes either the Consistency or the Public Interest findings.

The proposed Project would not result in the conversion of adjacent farmland properties to non-agricultural use during the Project's minimum 35-year existence. The proposed Project would not introduce a non-agricultural use that is incompatible with agricultural operations that would occur nearby.

Section 5 of Ordinance No. 625 states "*[n]o agricultural activity, operation, or facility, or appurtenances thereof, conducted or maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards, as established and followed by similar agricultural operations in the same locality, shall be or become a nuisance, private or public, due to any changed condition in or about the locality, after the same has been in operation for more than three (3) years if it was not a nuisance at the time it began*."

Vehicle emissions can affect the health and survival of crops; however, increased vehicle emissions from Project construction and decommissioning would be temporary in duration and occur only during these activities (Please refer to Section 3.4, Air Quality, for a detailed discussion regarding vehicle emissions). They would not be of significant duration, with no resulting significant impact on the life cycle of plants in the area.

Mass grading would not be conducted on the Project site. Several solar and storage facility locations would require specific ground treatments, but this represents a small percentage of the ground surface of the facility. The substation, storage container, O&M facility, laydown yards, pre-fabrication areas, and internal and external road locations would require mowing, grubbing, minor grading, and compaction~~. Best management practices identified in the Project's Fugitive Dust Control Plan would be implemented during all earthwork and vegetation removal activities to ensure that dust would not become a nuisance during construction or operation on the proposed site or at the surrounding sites~~.

The proposed Project would not interfere with neighboring agricultural operations by, for example, restricting aerial application of pesticides. Therefore, the proposed Project would result in less-than-significant impacts involving other changes in the existing environment.

The substation, BESS, switchyard, and gen-tie line would be located on parcel APN 808-023-018, which is 70 acres of land zoned as AG-1.~~ ~~This single private property would not be a nuisance to the single adjacent parcel zoned for Light Agriculture.

~~The potential for impacts to surrounding agricultural lands and the methods to reduce impacts to these lands with regards to dust and weed migration would be the similar for the substation, switchyard, BESS, and gen-tie line as for the solar facility.~~ The effects on the neighboring agriculturally zoned property would be less than significant.

Mitigation Measures for Impact AG-2

No mitigation would be required.

Significance After Mitigation

The impact would be less than significant.

Impact AG-3. The Project would conflict with land within a Riverside County Agricultural Preserve.

LESS THAN SIGNIFICANT.~~***SIGNIFICANT AND UNAVOIDABLE.***~~ When a Williamson Act contract is enacted, the land in the contract is established as an agricultural preserve or annexed into an existing preserve. The Williamson Act contract lands within the Project area comprise Riverside County agricultural preserves Chuckwalla No. 3 Map No. 629, Chuckwalla No. 3 Map No. 622, and Chuckwalla No. 3 Map No. 588. See Impact AG-1 for discussion of impacts from the Project on land within an agricultural preserve.

A portion of the Project area with solar facilities, substation, switchyard, BESS, and the gen-tie line occur within a Riverside County Agricultural Preserve under the Williamson Act, which is incompatible with the Project. ~~; therefore, this conflict with an agricultural preserve would be significant and unavoidable. There is no feasible way to mitigate or modify the Project to avoid the conflict with land within a Riverside County Agricultural Preserve and meet the Project objectives. However, if the Williamson Act contracts are canceled prior to EIR certification, this impact would be avoided.~~ The proposed Project is not an allowable use under the County's agricultural preserve rules or Williamson Act contracts and therefore, its construction and operation on lands would be a significant impact on lands in an agricultural preserve and under Williamson Act contract, unless the relevant contracts are canceled and lands within the Project site removed from County Agricultural Preserves, as requested by the Project Applicant. Cancellation of Williamson Act contracts and removal of Project lands from County Agricultural Preserves would be required prior to Project development, thereby resolving any agricultural preserve- or Williamson Act-related conflicts.

Mitigation Measures for Impact AG-3

~~No feasible mitigation would reduce this impact to a less-than-significant level.~~No mitigation would be required.

Significance After Mitigation

~~The impact would be significant and unavoidable; however, cancellation of the Williamson Act contracts would eliminate the significant impact.~~ This potentially significant impact would be avoided through cancellation of the Williamson Act contracts and removal of lands within the Project site from County agricultural preserves, as requested by the Project applicant. Impacts would be less than significant.

****The impact analyses for all Project alternatives have been moved to EIR Section 5.****

3.3.6. Cumulative Impacts

Geographic Scope

Agricultural cumulative impacts include the proposed Project's impacts as well as those likely to occur as a result of other existing, proposed, and reasonably foreseeable projects. The geographic extent for the consideration of cumulative effects to agricultural and forestry resources is the Desert Center area. This geographic area was selected because most of the parcels in the Project area, and the Desert Center area as a whole, have been previously disturbed, are currently or were previously used for agriculture, and because the pressure that a change in use may exert on agricultural operations is likely to manifest as a localized compatibility issue.

Cumulative Impact Analysis

Tables 3.1-1 and 3.1-2 include the list of existing and reasonably foreseeable projects in the region. Figure 3.1-1 shows the locations of these projects. The Athos Renewable Energy Project and Sapphire Solar Project are partially located on private disturbed agricultural land near the proposed Project and could affect agricultural resources. The other listed solar projects are located on BLM-administered public land.

Continuing development within Riverside County has resulted in the conversion of land currently utilized for agricultural production to urban and other land uses. This agricultural conversion has been a continuing trend in the County and has resulted in a net loss of ~~3,534~~6,325 acres of agricultural land between ~~2014~~ 2016 and ~~2016~~ 2018 (see Table 3.3-1). Impacts resulting from construction, operation, maintenance, and decommissioning of the proposed Project could contribute to a cumulative effect on agriculture with other past, present, or reasonably foreseeable future actions.

Implementation of the proposed Project, in combination with other projects in the Desert Center area, could include land zoned for agricultural uses that would be utilized for non-agricultural uses or would cause development of non-agricultural uses within 300 feet of agriculturally zoned property. However, with the issuance of a conditional use permit, developments under the cumulative scenario constitute allowed uses within Agricultural zones that have been found to be consistent with zoning.

The cancellation of the Williamson Act contracts and removal of lands within the project site from County agricultural preserves would ~~release these lands from the status of agricultural preserve~~alleviate any potential conflicts between proposed project uses of land and Williamson Act or County Agricultural Preserve requirements. The proposed Project would not involve other changes in the existing environment that may result in the conversion of other agricultural lands to non-agricultural uses. Further, because Project parcels zoned for agricultural use have not actually been used for agricultural purposes for many years, the Project also would not result in any change in current use from agriculture to non-agricultural uses. In addition, there are no forest lands or timber resources in the Project area.

Neither the proposed Project nor the cumulative projects would convert any designated Farmland to non-agricultural uses. After the Project and surrounding cumulative projects are decommissioned, the sites would be available to be returned to agricultural uses.

As shown in Figure 3.1-1, many of the current and reasonably foreseeable projects are in land identified as Development Focus Areas (DFAs) under the DRECP. Acknowledging that the overall trend for development of solar projects in the Desert Center area could lead to cumulative impacts on agriculture, the region has been designated a DRECP DFA. ~~The overall potential for DFA designation resulting in cumulative impacts to agriculture has been addressed in the DRECP Final EIS/EIR under *Impact AG-1: Renewable energy development on BLM lands and resulting transmission lines would impair agricultural use of adjacent agricultural operations* (BLM, 2015). As noted in the DRECP Final EIS, c~~Current agricultural uses c~~w~~ould be impaired by new renewable energy developments with related transmission lines. However, the impairment or potential loss of farmland would not be a significant cumulative impact because the Desert Center region is not classified under recognized agricultural land evaluation approaches such as the DOC FMMP's Important Farmland Map series. Further, active agriculture in the Desert Center area is already quite limited due to reductions in agriculture that have occurred over the last several decades.

Overall, the proposed Project's impacts combined with those of nearby projects would not result in a ~~new~~ cumulatively significant impact on agricultural resources. The proposed Project would not make a considerable contribution to cumulative impacts on agricultural resources.

Mitigation Measures for Cumulative Impacts

No mitigation would be required.

Significance After Mitigation

The cumulative impact would be less than significant. The Project's incremental contribution to agriculture and forestry impacts would not be cumulatively considerable.

3.3.7. Mitigation Measures

No ~~feasible~~ mitigation is ~~proposed~~required. ~~Impacts AG-1 and AG-3 would be significant and unavoidable; however, c~~Cancellation of the Williamson Act contracts would eliminate all potentially significant impacts to agricultural resources.

3.5. Biological Resources

This section describes the biological resources of the proposed Project site and vicinity, including vegetation and habitat, common and special-status plants and wildlife, and jurisdictional waters. In addition, this section identifies applicable federal, local, and state laws and regulations regarding biological resources. It identifies the criteria used to evaluate the significance of potential impacts on biological resources, the methods used in evaluating these potential impacts, and an analysis of potential impacts. Where impacts may be significant according to the criteria identified, this section identifies mitigation measures to reduce those impacts to less than significant.

The Project is located on both private and public lands (Figures 3.5-1 and 3.5-2 in EIR Appendix A). Public lands within the Project solar application area are managed by the U.S. Bureau of Land Management (BLM) and include lands designated as Development Focus Area (DFA) by the Desert Renewable Energy Conservation Plan (DRECP) and associated Record of Decision (ROD) (BLM, 2016a). Lands within DFAs have been targeted for renewable energy development. The Project site is situated between Desert Harvest Solar Facility (operational), Oberon Renewable Energy Project (operational), and Sapphire Solar Project (proposed).

3.5.1. Environmental Setting

The description of the biological resources on the proposed Easley Renewable Energy Project site is based on the Biological Resources Technical Report (BRTR) and the Jurisdictional Waters Report prepared by Ironwood Consulting Inc. (Ironwood, 2023a and 2023b). The full BRTR and Jurisdictional Waters Report are attached to this EIR as EIR Appendices C and F, respectively. The description also references biological resources found on the Oberon Project site, where the proposed Easley gen-tie line is located (Ironwood, 2021a and 2021b).

The BRTR includes a literature review of special-status biological resources reported by the CNDDB, USFWS, and CNPS, and a description of plant and wildlife surveys performed for the Project. Wildlife surveys were conducted between October 2019 and June 2022. Wildlife surveys conformed to full coverage desert tortoise protocol surveys with 10-meter transects on the Project site (USFWS, 2019a). The Jurisdictional Waters Report is discussed further in Section 3.5.1.2.

The Project site is located in the central portion of chuckwalla Valley, east of Palm Springs in the Colorado Desert. The Project site is within the Chuckwalla Valley ecoregion subsection of the DRECP area. The elevation of Chuckwalla Valley ranges from less than 400 feet (122 meters) above mean sea level (amsl) at Ford Dry Lake to approximately 1,800 feet (549 meters) amsl west of Desert Center and along the upper portions of the alluvial fans that surround the valley perimeter. The surrounding mountains rise to over 3,000 feet (92 meters) amsl. The topography of the Project site generally slopes downward toward the northeast at a gradient of less than 1 percent. Ground surface elevations at the Project site range from approximately 800 feet (244 meters) amsl in the southwest and 550 feet (168 meters) amsl in the northeast.

The Chuckwalla Valley is a region of active aeolian (wind-blown) sand migration and deposition. Aeolian processes play a major role in the creation and establishment of sand dune formations and habitat in the Chuckwalla Valley and those within the Project vicinity. Aeolian sands (dunes, sand fields, and similar habitats) are important habitats for certain plants and animals, including Mojave fringe-toed lizard, a special-status species. The areas of sand transport corridors are not fixed in time or space, as they can expand, contract, or migrate with changing weather and climate.

The eastern half of the Project site is characterized as modern alluvial fan deposits consisting of unconsolidated to slightly consolidated sand and gravel that is considered an active aeolian source (Ironwood, 2023a). In the northernmost Project site, a small portion of the site is an active aeolian source. No aeolian sand deposits are mapped on the Project site. The western portion of the Project site was not characterized as an active aeolian area (Ironwood, 2023a). Project areas may be parts of sand transport corridors, where habitat for sensitive wildlife and plant species may be present.

The Project site overlaps the Pinto Wash Linkage area as defined in the DRECP Land Use Plan Amendment (LUPA). The Project site is outside of but adjacent to desert tortoise critical habitat (in a Tortoise Conservation Area (TCA)), which is located approximately 0.8 mile west of Kaiser Road, extending to the west into Joshua Tree National Park and to the south, south of the Interstate 10 (I-10) freeway into the Chuckwalla Mountains (Figure 3.5-1). The gen-tie line (up to 7 structures) would cross desert tortoise critical habitat and a DRECP multi-species linkage that overlaps the Oberon Project site, south of BLM Open Route DC 379, to interconnect to the Oberon ~~Substation~~Switchyard. Impacts on critical habitat are evaluated in Impact BIO-1 and the Final EIR for the Oberon Project (RWQCB, 2021).

The Alligator Rock Area of Critical Environmental Concern (ACEC) is approximately 3 miles south of the Project site and the Desert Lily Preserve ACEC is approximately 4 miles east of the Project site. The closest Joshua Tree National Park boundary is located approximately 4 miles northeast of the Project site (Figure 3.5-1).

Anthropogenic features and land use near the Project site include fallow and active agricultural, aquaculture farms, trash dumping, rural residential, renewable energy, energy transmission, historical military operations, recreational development.

Ironwood Biologists performed biological resources surveys between October 2019 and June 2022, including all proposed solar facility sites and gen-tie routes (see BRTR, EIR Appendix C).

3.5.1.1. Vegetation and Habitat

The term habitat refers to the environmental and ecological conditions where a species is found. Wildlife habitat is generally described in terms of vegetation, though a more thorough explanation includes availability or proximity to water; suitable nesting or denning sites; shade; foraging perches; cover sites to escape from predators; soils that are suitable for burrowing or hiding; limited noise and disturbance; or other factors that are unique to each species. Vegetation reflects many aspects of habitat, including regional climate, physical structure, biological productivity, and food resources (for many wildlife species). Thus, vegetation is a useful overarching description for habitat, and it is one of the primary factors in the assessments of habitat suitability presented in this section, as well as the analysis of potential impacts to wildlife habitat presented in Section 3.5.5. Where additional details of habitat suitability are necessary, they are provided in the discussion of special-status wildlife species below.

One vegetation community, desert dry wash woodland, is identified by BLM and as sensitive due to the association with alluvial processes (Ironwood, 2023a). Vegetation communities on the Project site are shown in Figure 3.5-2.

Public Parcels

The public parcels on the Project site mostly consist of creosote bush scrub with desert pavement or desert dry wash woodland communities intermixed.

Sonoran Creosote Bush Scrub. Sonoran creosote bush scrub occurs on well-drained, secondary soils of slopes, fans, and valleys and is the basic creosote bush scrub habitat of the Colorado Desert (Ironwood, 2023a). Sonoran creosote bush scrub covers most of the Project site and intergrades with desert dry wash woodland along desert washes. Within the Project site, this community occurs on sandy soils with a shallow clay pan.

Desert Dry Wash Woodland. Desert dry wash woodland (DDWW) is a BLM sensitive vegetation community and is -recognized with a state rarity rank of S4 (CDFW, 2023a~~2~~). This community is synonymous with blue palo verde (*Parkinsonia florida*) ironwood (*Olneya tesota*) (microphyll) woodland alliance (Sawyer et al. 2009) and Sonoran -Coloradan Semi Desert Wash Woodland/Scrub (NVCS). Natural communities with ranks of S1-S3 are considered sensitive and rare, while S4 communities are considered sensitive and apparently secure; uncommon, but not rare in the state, with some cause for long-term concern due to declines or other factors.

Desert dry wash woodland is a xeric riparian community characteristic of desert washes and is likely to be regulated by the California Department of Fish and Wildlife (CDFW) as jurisdictional State waters. The DRECP includes it as one of the microphyll woodland communities. The terms DDWW and microphyll woodland are used interchangeably throughout this EIR. DDWW is open to relatively densely covered, drought-deciduous, microphyll (small compound leaves) riparian scrub woodland, often supported by braided wash channels that change following every surface flow event and dominated by an open tree layer. Within the Project site, this vegetation community is dominated by an open tree layer of ironwood, with occasional blue palo verde. This habitat provides greater opportunities for food, nesting, and cover, and its wildlife diversity is generally greater than in the surrounding desert. Many of the species occupying the surrounding upland desert shrublands are found in greater numbers in microphyll woodlands. Within the Project site, DDWW occurs on mostly the western portion of the site, with several ribbons of desert dry wash woodland interspersed between creosote bush scrub.

Desert Pavement. Desert pavement is not descriptive of vegetation, but rather a geomorphic condition that results in tightly interlocking gravel and pebbles which develop over time on fluvially inactive upland areas within stabilized alluvial fans (Ironwood, 2023a)~~. It has a state rarity rank of S4 (CDFW, 2022)~~. The substrates are~~It is~~ typically sparsely vegetated with an intermittent layer of cryptogamic crust. The ground surface is sandy and gravelly mixed alluvium with various rocks and gravel.

Within the Colorado desert, stands are common in the valleys, often found within creosote bush scrub and associated with the sensitive, but not rare vegetation alliance described as rigid spineflower (Chorizanthe rigida)-hairy desert sunflower (Geraea caenscens) sparsely vegetated alliance. On the Project site, rigid spineflower does not occur, so the sensitive vegetation alliance is not present. Nonetheless, this EIR treats the desert pavement with hairy desert sunflower community present on the Project site as a sensitive community. On the Project site, desert pavement is ~~Desert pavement is often~~ interwoven between areas of creosote bush scrub and desert dry wash woodland~~ where it occurs on the Project site~~, and primarily occurs on the western portion of the Project site on BLM lands. Desert pavement is also discussed in EIR Section 3.8 (Geology, Soils, and Mineral Resources).

Wetland and Riparian Vegetation. Two wetlands were identified on the Easley Project site (Figure 3.5-3). One wetland, created from drainage from the aquaculture farm, is generally in the center of the Project site, on a private parcel. Most of the wetland is outside the Project area boundary. The second wetland is created from drainage from adjacent agricultural activity that allows water to drain through the wetland area into a pond area with no outlet. Two areas of invasive tamarisk (*Tamarix ramomissima*) were also identified (Figure 3.5-3). The drainage from the aquaculture farm and agricultural activity provides supportive soil conditions for the establishment of tamarisk. See Impact BIO-5 in Section 3.5.5 for a discussion of wetlands and jurisdictional waters on the Project site.

Private Parcels

The private parcels consist of primarily man-made features that include deciduous orchard/fallow agriculture or developed areas. Private parcels in 2 locations support native vegetation communities, including creosote bush scrub and/or desert dry wash woodland.

Gen-tie Line

The gen-tie line crosses the adjacent Oberon Project site, which became operational in fall 2023. The Oberon Project site consists of similar vegetation communities, including creosote bush scrub with interspersed desert pavement and desert dry wash woodland.

3.5.1.2. Jurisdictional Waters

Ironwood delineated jurisdictional waters on the proposed Easley Project site, using desktop GIS analysis and field investigations in April, May, and June 2022. Jurisdictional waters on the Oberon site, where the Easley gen-tie line would be located, were surveyed in May 2020 (Ironwood, 2021b).

Prior to conducting delineation fieldwork, preliminary investigations consisted of identifying aquatic land surface features within the Project site. Areas with potential aquatic resource landform features were identified for follow-up detailed field investigations. Surveys were conducted between April 5 and April 27, 2022. Data for ephemeral washes and vegetation mapping were collected between May 23 and June 18, 2022. Surveys on the Oberon site were conducted between May 22-30, 2020. Field investigations evaluated all linear water features for OHWM (Ordinary High-Water Mark) indicators to assist with delineation of the lateral extents of waters. Surveyors recorded OHWM indicators associated with the primary low-flow channel and floodplain at representative cross-sections.

Desert washes within this region are almost always dry but contract and expand dramatically in size due to extreme variations in flows, which can range from high-discharge floods to extended periods when surface flow is absent. The Project site lies between the alluvial fans emanating from the Eagle Mountains to the west, Chuckwalla Mountains to the south, and Coxcomb Mountains to the north. Alluvial processes across the Project site generally flow from southwest to northeast. Agricultural practices and developments such as the I-10 freeway and CA-177, have greatly modified natural hydrology.

The Easley Project site is situated on a low-gradient alluvial plain and is intersected by numerous unnamed ephemeral drainages that flow northeast toward Big Wash, near the confluence with Pinto Wash. Big Wash is shown as an intermittent blueline stream on USGS topographic maps and is identified as an intermittently flooded riverine system by USFWS NWI (Ironwood, 2023b). Potential jurisdictional aquatic resources are discussed below and shown in Figure 3.5-3. The detailed Jurisdictional Waters Report is attached to this EIR as Appendix F (Ironwood, 2023b).

Waters of the United States

Jurisdictional waters of the U.S. defined in the Clean Water Act (CWA) include interstate waters such as lakes, rivers, streams (including intermittent streams) and their tributaries, but exclude ephemeral channels. In the case of intrastate waters (i.e., the ephemeral or intermittent drainage channels on the site), federal jurisdiction as waters of the U.S. applies only where degradation or destruction could affect interstate or foreign commerce.

The Project site is located within the Colorado River Hydrologic Region (HR), in the Big Wash and Hayfield Lake-Lake Tamarisk HUC 10 Hydrologic Areas, which flow to closed basins, not connected with the Colorado River or other traditional navigable waters (TNW). Palen Dry Lake and Ford Dry Lake represent the lowest elevations within the basin.

The U.S. Army Corps of Engineers (USACE) has determined that no jurisdictional waters of the U.S. were found within other projects in the same basin (Desert Sunlight, Desert Harvest, and Palen Solar Projects). Given the absence of a nexus to waters of the U.S., the aquatic resources in the Project site are potentially not subject to federal jurisdiction under CWA Section 404 and Section 401.

Public & Private Parcels. Aquatic resources delineated within the Easley Project site mostly lack indicators of surface connections to Pinto Wash, an ephemeral riverine feature situated northeast of the Project site. Pinto Wash conveys flows to Palen Lake, an isolated ephemeral lake that lacks a direct or subsurface connection to a known TNW. Palen Lake and the aquatic resources within the Project site do not meet the criteria described for waters of the U.S.

Gen-tie Line. The gen-tie line through the Oberon Project site is within a closed surface hydrology basin that drains to Ford Dry Lake that is not connected to the Colorado River or other traditional navigable waters. It does not meet the criteria described for waters of the U.S.

Waters of the State

Jurisdictional waters of the State are defined more broadly than waters of the U.S., to include “any surface water or groundwater, including saline waters, within the boundaries of the state” (Cal. Water Code § 13050(e)). No surface connection to larger water bodies is required under the State definition. The CDFW regulates alterations to state-jurisdictional waters under Section 1600 et seq. of the California Fish and Game Code. Jurisdictional acreage is interpreted as the bed and banks of channels and adjacent riparian vegetation.

The aquatic resources in the Project site are subject to state jurisdiction under regulations administered by Regional Water Quality Control Boards (RWQCBs) and CDFW.

Public & Private Parcels. State jurisdictional streambeds and adjacent riparian habitat within the proposed Project site include Unvegetated Ephemeral Dry Wash and Desert Dry Wash Woodland. Active channels within the lower alluvial fan, where the Project is situated, showed signs of frequent avulsion (changes in flow direction following surface water flow events) due to patterns of brief, intense surface water flow. In the Chuckwalla Valley area, Desert Dry Wash Woodland is the regional riparian vegetation type and is characterized by braided wash channels that experience regular avulsion. Within the Project site, this vegetation community is dominated by an open tree layer of ironwood, with occasional blue palo verde. Due to the abundance and close spacing of braided channels throughout the area, all mapped Desert Dry Wash Woodland is adjacent to one or more channels.

Two wetland areas were identified as anthropogenic wetlands created by adjacent agricultural activities, from artificial water sources and berms. These areas met all three criteria for a wetland and are categorized as palustrine, emergent wetlands.

Gen-tie Line. State jurisdictional streambeds and adjacent riparian habitat along the gen-tie line through the Oberon Project site include Unvegetated Ephemeral Dry Wash and Desert Dry Wash Woodland.

3.5.1.3. Special-status Plants

Ironwood Consulting conducted focused special status plant surveys in the Easley Project site between fall 2019 and spring 2022. Surveys along the gen-tie line in the Oberon Project site were conducted between fall 2019 and Spring 2020. The field methods were consistent with protocols recommended by USFWS, CDFW, and California Native Plant Society (CNPS). The BRTR provides a compilation of special-status plants with potential to occur on the Project site, and evaluates probability of occurrence for each species based on habitat, elevational and geographic ranges, and field survey results. The complete methods and results of the surveys are provided in the BRTR (EIR Appendix C).

In this analysis, special-status plants include those species classified as one or more of the following:

- Listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA);

- Listed as threatened or endangered, or candidates for listing under the California Endangered Species Act (CESA), or listed as rare under the California Native Plant Protection Act;
- Designated by BLM as Sensitive Plants: "all plant species that are currently on List 1B of the CNPS Inventory of Rare and Endangered Plants of California, are BLM Sensitive Species, along with others that have been designated by the California State Director" (note that the CNPS Lists are now known as California Rare Plant Ranks, or CRPR);
- Meet the definition of rare or endangered under CEQA Section 15380 subdivisions (b) and (d). For this report, this is generally interpreted as all plants ranked as California Rare Plant Rank (CRPR) 1b and, in some cases, may include CRPR 2, 3, or 4 plant occurrences, which may be regionally significant if the occurrence is located at the periphery of the species' range, or exhibits unusual morphology, or occurs in an unusual habitat/substrate; therefore, all CRPR 1, 2, 3, and 4 plants are addressed here; and
- Considered special-status species in local or regional plans, policies, or regulations, such as the Northern and Eastern Colorado Desert Coordinated Management (NECO) Plan/EIS.

Special status species detected within the Project site or having moderate to high potential to occur based on the presence of suitable habitat are discussed below (Figure 3.5-4)~~.~~ and species with low potential to occur due to lack of suitable habitat are briefly described. For complete lists and discussion of all special-status plants analyzed for the Project, please refer to the BRTR (EIR Appendix C).

No listed threatened or endangered plant species were observed or have the potential to occur on the Project site or in the vicinity.

Public & Private Parcels

Harwood's milkvetch (*Astragalus insularis var. harwoodii*); CRPR 2B.2. Harwood's milkvetch occurs in sandy or gravelly desert dunes and Mojavean desert scrub. It occurs at less than 500 m amsl in Southern California, and into Arizona and northwestern Mexico. In the vicinity of the Project, occurrences are documented primarily south of the I-10 freeway (CNPS, 2024). Suitable habitat is present, but it was not observed on the Project site.

Emory's crucifixion thorn (*Castela emoryi*); CRPR 2B.2. Emory's crucifixion thorn is uncommon but widespread in broad sandy wash habitat in the area. In Riverside County, several records are near or within Desert Center, including Desert Sunlight Solar Farm north of the Project site, Athos Solar Project, Oberon Renewable Energy Project, and Arica Solar Project (Ironwood, 2023a). There is suitable habitat for crucifixion thorn within wash areas of the Project site. One individual was observed along the northern boundary of the Project site on public lands. No additional occurrences on the Project site are expected because it is a large conspicuous shrub and can be identified at any time of year, even in a year of poor rainfall, and is not easily overlooked.

Desert unicorn-plant (*Proboscidea althaeifolia*); CRPR 4. Desert unicorn plant has limited distribution but is not very threatened in California. It is a low-growing, perennial species that occurs in sandy washes within Sonoran Desert scrub vegetation in San Bernardino, Imperial, Riverside, and San Diego counties of California. It is a late-season bloomer (May to August) but has large and distinctive seed pods that can be detected during the spring season and fleshy root structure that can remain dormant in dry years (Ironwood, 2023a). Suitable habitat occurs within the Project site; it was observed in 224 locations, primarily in desert dry wash woodland in the southern half of the site.

California Ditaxis (*Ditaxis serrata var. californica*); CRPR 3.2. California ditaxis occupies Sonoran Desert scrub vegetation and prefers sandy washes and alluvial fans of the foothills and lower desert slopes, from 100 feet (31 meters) to 3,000 feet (915 meters) amsl. It is known to occur in San Bernardino, Riverside, Imperial, and San Diego counties of California and in Sonora, Mexico (Ironwood, 2023a). It occurs in the

Project site and was recorded at 43 locations, primarily in the central portion of the Project site along Project boundaries.

Utah Milkvine (*Cynanchum utahense* [=*Funastrum utahense*]); CRPR 4.2. Utah milkvine occurs in sandy, gravelly Mojavean desert scrub. Utah milkvine has records primarily from San Bernardino and San Diego counties, but there are also several records in Riverside County. There is one record of this species north of Desert Center and another record southwest of Palen Lake. Suitable habitat exists throughout the Project site and one individual was observed on the east side of the Project along the CA-177.

Glandular Ditaxis (*Ditaxis claryana*); CRPR 2B.2. Glandular ditaxis occurs in Sonoran Desert scrub and blooms in the fall following the start of the rainy season. Among 49 occurrences, there is one record within Desert Center and another near Corn Spring, south of I-10 (Ironwood, 2023a). Suitable habitat occurs within the Project site, but it was not observed.

Las Animas Colubrina (*Colubrina californica*); CRPR 2B.3. Las Animas Colubrina is native to the Sonoran Desert in the southern United States and northern Mexico. It is found in desert scrub habitat between 240--920 m amsl. In the vicinity of the Project, occurrences are primarily located in the mountains to the west and south, and are absent in the valley floor (CNPS, 2024). Marginally suitable habitat is present, but it was not observed on the Project site.

Spiny Abrojo (*Condalia globose var. pubescens*); CRPR 4.3. Spiny abrojo has limited distribution but is not very threatened in California and can also be found in Arizona and Mexico. It occurs in desert scrub primarily in the Sonoran Desert. It occurs only in Imperial and Riverside counties, with the closest record within the Oberon Renewable Energy Project (Ironwood, 2023a). Suitable habitat occurs within the Project site, but it was not observed.

Argus blazing star (*Mentzelia puberula*); CRPR 2B.2. Argus blazing star occurs in sandy or rocky Mojavean desert scrub, Sonoran desert scrub, and desert mountains between 90 to 1,280 m amsl). It is found in Imperial, Riverside, and San Bernardino Counties, and into southern Nevada, Arizona, and Mexico. In the vicinity of the Project, an occurrence is located along Rice Road, northeast of the Project area near Joshua Tree National Park (CNPS, 2024). Suitable habitat is present, but it was not observed on the Project site.~~.~~

Protected Desert Native Plants. While native cacti, succulents, and trees are generally not ranked as special-status plant species, the harvesting of these plants is regulated through the NPPA and CDNPA, as described in Section 3.5.2. Cacti and native trees were observed in the Project area, including barrel cactus, beavertail cactus, cottontop cactus, Engelmann's hedgehog cactus, fishhook cactus, ocotillo, desert ironwood, blue palo verde, honey mesquite, and smoke tree (Ironwood, 2023a).

Species with low potential to occur. The following species were determined to have low potential to occur due to lack of suitable habitat or lack of known records near the project area.

- Chaparral sand verbena (*Abronia villosa var. aurita*)
- Angel trumpets (*Acleisanthes longiflora*)
- Desert sand parsley (*Ammoselinum giganteum/ Spermolepis gigantea*)
- Small-flowered androstephium (*Androstephium breviflorum*)
- Coachella Valley milkvetch (*Astragalus lentiginosus var. coachellae*)
- California ayenia (*Ayenia compacta*)
- Pink fairy duster (*Calliandra eriophylla*)
- Sand evening-primrose (*Chylisimia [Camissonia] arenaria*)
- Abram's spurge (*Chamaesyce abramsiana*)
- California satintail (*Imperata brevifolia*)
- Pink velvet mallow (*Horsfordia alata*)
- Bitter hymenoxys (*Hymenoxys odorata*)
- Spearleaf (*Matelea parvifolia*)
- Slender wooly heads (*Nemacaulis denudata var. gracilis*)
- Narrow-leaved sandpaper plant (*Petalonyx linearis*)
- Lobed cherry (*Physalis lobata*)
- Desert portulaca (*Portulaca halimoides*)
- Orocopia sage (*Salvia greatae*)
- Desert spikemoss (*Selaginella eremophila*)
- Cove's cassia (*Senna covesii*)
- Mesquite nest straw (*Stylocline sonorensis*)

- Arizona spurge (*Chamaesyce arizonica*)
- Flat-seeded spurge (*Chamaesyce platysperma*)
- Foxtail cactus (*Coryphantha alversonii*)
- Ribbed cryptantha (*Cryptantha costata*)
- Winged cryptantha (*Cryptantha holoptera*)
- Wiggins' cholla (*Cylindropuntia wigginsii*)
- Cottontop cactus (*Echinocactus polycephalus var. polycephalus*)
- Dwarf germander (*Teucrium cubense ssp. depressum*)
- Jackass clover (*Wislizenia refracta ssp. refracta*)
- Palmer's jackass clover (*Wislizenia refracta ssp. palmeri*)
- "Palen Lake atriplex" (*Atriplex sp. nov. J. Andre*) (*Atriplex canescens var. macilenta*)

For complete lists and discussion of all special-status plants analyzed for the Project, refer to the BRTR (EIR Appendix C).

Gen-tie Line

Along the gen-tie line through the adjacent Oberon Project site, desert unicorn-plant and spiny abrojo ~~was~~ were observed. Other special-status plants ~~species~~ previously discussed have suitable habitat along the gen-tie line, but were not observed. In addition to the protected desert native plants listed above, catclaw acacia (*Senegalia greggii*) was observed on the Oberon Project site. Emory's crucifixion thorn and creosote rings were ~~was not~~ present on the site, but were not observed near the Easley gen-tie line (Ironwood, 2021a).

3.5.1.4. Special-status Wildlife

Ironwood Consulting conducted full-coverage wildlife surveys in the Project area between fall 2019 and summer 2022. Surveys of the Oberon Project site, where the gen-tie line is located, were performed between fall 2019 and summer 2020. Surveys were performed focusing on protocols for desert tortoise and burrowing owl. Wildlife surveys conducted in 2019-2022 conformed to full coverage desert tortoise protocol surveys with 10-meter transects on the Project site (Ironwood, 2023a; Ironwood, 2021a). Wildlife surveys were repeated for each site at 20-meter belt transects, consistent with 2012 CDFW burrowing owl protocol surveys. The surveys identified all burrows and all evidence of wildlife use, including use by desert tortoise, burrowing owl, and desert kit fox. During all wildlife surveys, biologists recorded all wildlife species observed, regardless of status. The BRTR provides a compilation of special-status wildlife with potential to occur in the Project vicinity and evaluates probability of occurrence for each species based on habitat, elevational and geographic ranges, and field survey results. The complete methods and results of the surveys are provided in the BRTR (EIR Appendix C).

Special-status species detected within the Project site or having moderate to high potential to occur based on the presence of suitable habitat are discussed below. These species are considered to have potential to occur on public and private parcels and along the gen-tie line.

Insects

Crotch bumble bee (*Bombus crotchii*); SC. Crotch bumble bee is proposed as a candidate for State listing under CESA. It primarily occurs in southwestern California, with only a few records from Nevada and Mexico. In California it occurs along the coast and in western deserts and foothills between San Diego and Redding. It inhabits grasslands and shrublands with preferred foraging plants. They are generalist foragers and have been associated with plants in the Fabaceae, Apocynaceae, Lamiaceae, Hydophyllaceae, Asclepiadoideae, and Asteraceae families (Ironwood, 2023a). They have also been observed using plants Asclepias, Chaenactis, Lupinus, Meicago, Phacelia, and Salvia, as food (Ironwood, 2023a). Nests are often located in underground burrows in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees.

The Project site is located east of the current range of Crotch bumblebee (CDFW, 2023b), but within the historic range. Nearest records to the Project site include a record near Corn Springs in 1993 and Palm

Springs in 1954 (Ironwood, 2023a). There are more recent records on the western side of Riverside County, west of Palm Springs (Ironwood, 2023a). Suitable habitat occurs for Crotch's bumble bee on the Project site since some of the plant families and genera associated with them also occur. However, the active agriculture and developments adjacent to the Project site could lower the habitat suitability with their potential use of pesticides. No Crotch's bumble bees were observed during surveys.

Amphibians and Reptiles

Couch's spadefoot toad (*Scaphiopus couchii*); SSC, BLMS. Couch's spadefoot uses late season monsoonal rain pools for breeding, development and hatching of eggs into tadpoles and then juvenile toads. Its geographic range is the eastern part of the California desert, where monsoon rains and lowland topography provide suitable breeding pools. It requires rain pools that hold water long enough for the eggs and tadpoles to develop, and then disperse into surrounding habitat.

~~The Project site is located east of the current range of Crotch bumblebee (CDFW, 2023).~~ Documented records of this species, nearest to the Project, occur within approximately two miles of the Project site. Couch's spadefoot toad was not observed, but potential suitable breeding habitat is present within the Project site in areas where water accumulates, generally along the margins of public and private parcels. Nineteen data points were documented on the Easley Project site throughout all survey periods as potential breeding habitat where water may accumulate after rainfall or where human activities create perennial water sources (Figure 3.5-5). Several data points are along a channel with wetlands and areas of open water created on private lands from drainage from the aquaculture farm.

There is no suitable Couch's spadefoot toad habitat along the gen-tie line.

The potential for Couch's spadefoot toad to occur on the Project is expected to be low. Future surveys will occur opportunistically during summer months of May through September when sufficient rainfall in warmer temperatures allow for breeding to determine occupancy (Ironwood, 2023a).

Desert tortoise (*Gopherus agassizii*); ST, FT. Mojave desert tortoises live north and west of the Colorado River in the Mojave Desert of California, southern Nevada, northwestern Arizona, and southwestern Utah, and in the Sonoran (Colorado) Desert in southern California. Desert tortoises inhabit a variety of habitats from flats and slopes dominated by creosote bush – white bursage communities, where a diversity of perennial plants is relatively high, to a variety of habitats in higher elevations. Soils must be appropriately soft for digging burrows, but firm enough so that burrows do not collapse. Tortoises typically prefer habitats with abundant annual forbs, grasses, and cactus, which constitute its primary food sources (Ironwood, 2023a).

Trends in regional and range-wide adult Mojave desert tortoise densities show large, ongoing population declines since 2004. Only one in five critical habitat recovery units exhibited population increases between 2004 and 2014 (USFWS, 2014; USFWS, 2015). In the Colorado Desert recovery unit, abundance declined 36% between 2004 and 2014 (USFWS, 2015, 2017, 2021), while in the Chuckwalla CHU, abundance declined 37% (USFWS, 2015). Allison and McLuckie (2018) note that the proportion of juveniles has not increased in any recovery units since 2007. As of 2014, small desert tortoises were not moving into the large cohort at a rate that was sufficient to reverse declines (USFWS, 2021).

Nussear et al. 2009 includes a model for the statistical probability of desert tortoise occurrence, and since publication it has continued to be a reliable tool in determining the likelihood for tortoise occupancy across the historical range of the species. The model provides a geographic representation of predicted occupancy ranging from very low (0.0) to very high (1.0). Various analyses of desert tortoise have used a model value of ≥ 0.5 as denoting the threshold for suitable habitat for desert tortoise (Ironwood, 2023a). Conversely, lands that score < 0.5 have a low to moderate probability of desert tortoise occupancy.

Desert tortoise habitat has lower predicted occupancy levels in the northernmost portion of the Easley Project site (0 to 0.2) and increases toward the south, with the highest predicted occupancy levels of 0.5-0.6 in the southwest portion of the Project site (Nussear et al., 2009) (Figure 3.5-5). The areas with higher occupancy levels are also closest to desert tortoise conservation areas. These predicted occupancy values do not account for habitat degradation resulting from existing anthropogenic features (Nussear et al., 2009), which would further reduce the occurrence probability in disturbed areas.

Desert tortoise sign observed during field surveys were consistent with the predicted occupancy model, with all the observed sign occurring in areas with occupancy values of 0.3 or higher. Most of the desert tortoise sign was concentrated within the southwest portion of the Easley Project site. No live desert tortoises or active sign were documented. Nine locations of tortoise carcasses were observed, most of which were characterized by shell bones falling apart and growth rings on scutes peeling (class 4) or disarticulated bones or scutes more than 4 years old (class 5) (Ironwood, 2023a).

Along the gen-tie line, in the eastern portion of the Oberon Project site, desert tortoise tracks, burrows, and carcasses have been observed in desert dry wash woodland (Ironwood, 2021a).

The solar facilities on the Easley Project site do not overlap with critical habitat for desert tortoise. Critical habitat within the Chuckwalla Desert Tortoise CHU, which is encompassed under Tortoise Conservation Areas (TCAs), is located adjacent to the Project site across Kaiser Road to the west (Figure 3.5-1). The gen-tie line (up to 7 structures) would cross desert tortoise critical habitat in the southeastern portion of the adjacent Oberon Project site (RWQCB, 2021; Ironwood, 2021a).

Birds

Western burrowing owl (*Athene cunicularia hypugaea*); S~~S~~C, BCC, BLMS. Five California populations (Evolutionary Significant Units (ESUs)) of western burrowing owl are proposed as candidate for State listing under CESA: Southwestern California ESU, Western California ESU, and San Francisco Bay Area ESU were proposed endangered under CESA; Central Valley ESU and Southern Desert Range ESU were proposed as threatened under CESA. Burrowing owls inhabit sparsely vegetated open fields and grasslands with low stature vegetation and bare ground. that support their food supply and allow them to see predators. Burrowing owls are unique among the North American owls in that they nest and roost in abandoned burrows, especially those created by ground squirrels, coyotes, kit fox, badgers, skunks, kangaroo rats, and desert tortoise~~, and other wildlife~~. Burrowing owls in California rely primarily upon burrows of California ground squirrel (*Otospermophilus beecheyi*) throughout most of the state; and Mohave ground squirrel (*Xerospermophilus mohavensis*) in the Mojave Desert (CBD et. al., 2024). Burrowing owls nest in loose colonies, which are spatially tied to presence of host burrowing mammals. When natural burrows are unavailable, burrowing owls will sometimes use alternative burrows such as culverts, piles of concrete slab and rubble, and concrete pipes. In California, owls will also nest in burrows in fallow agricultural fields, in margins of cultivated fields along roads or agricultural water canals, and in pastures grazed by livestock.

The southern California breeding season (defined as the time from pair bonding of adults to fledging of the offspring) generally occurs from February to August, with peak breeding activity from April through July, although in deserts this seasonality is likely to vary from year to year, depending on rainfall and prey availability. After nesting season, most owls remain as year-round residents, but may move away from breeding areas. Burrowing owls prey on arthropods and small rodents, and will take a variety of prey such as reptiles, amphibians, small birds, fish, and carrion.

In the Project region, burrowing owls generally occur at low densities in scattered locations, but they can be found in much higher densities near agricultural lands where rodent and insect prey tend to be more abundant. Two live individuals, both in flight, were observed during survey periods. Eight burrows with either whitewash, feathers, and/or pellets were documented (Figure 3.5-6). One burrowing owl burrow with whitewash was observed along the northern portion of the gen-tie line on the Oberon Project site (Ironwood, 2021a).

Golden eagle (*Aquila chrysaetos*): CFP, WL, BCC, BLMS. Golden eagles generally nest in rugged, open habitats with canyons and escarpments, often with overhanging ledges and cliffs or large trees used as cover. They forage widely over open terrain, and prey primarily on rabbits and rodents but will also take other mammals, birds, reptiles, and some carrion. They breed from late January through August with peak activity March through July. The nearest potential nesting habitat for golden eagles is located several miles to the north, northwest, and northeast of the Project site in the Coxcomb and Eagle mountains. The Project site lacks suitable nesting habitat for golden eagles. The nearest known cliff nest sites that have some potential for golden eagle use are approximately 3.5 miles from the Project site (Figure 3.5-7). The Project site supports suitable foraging habitat for golden eagles, but no golden eagles were observed during surveys of the Easley Project site. One golden eagle was observed in flight along the gen-tie line during surveys of the Oberon Project site (Ironwood, 2021a). Golden eagles could forage at the site at any time of year (e.g., locally nesting eagles could forage there during breeding season; non-nesting eagles could forage there year-round, including wintering and migratory seasons).

Prairie falcon (*Falco mexicanus*); WL, BCC. Prairie falcon nesting and foraging habitats are similar to those of the golden eagle (above), although their principal prey differ (they tend to be ground squirrels and other small mammals, birds, and lizards). There were four observations of prairie falcon, either flying through the Project site or perched within the Project site (Figure 3.5-6). Prairie falcons were also observed along the gen-tie line. The entire Project site contains suitable foraging habitat for this species but does not have suitable nesting habitat.

American peregrine falcon (*Falco peregrinus anatum*); CFP, BCC. The American peregrine falcon was formerly listed under CESA and ESA but has been delisted under both Acts. In California, its range is primarily central to northern California, with wintering habitat located in southern California. Migrants occur along the coast and in the western Sierra Nevada in spring and fall. It is found irregularly in the southern desert region, generally during migratory and winter seasons. It nested historically in desert mountain ranges near the Colorado River and may be re-occupying this historical part of its nesting range as its populations recover. Suitable migratory or foraging habitat is present throughout the Project site, but no suitable nesting habitat is present. No American peregrine falcons were observed on the Project site during surveys or avian counts.

Elf owl (*Micrathene whitneyi*); CE, BLMS, BCC. Elf owl breeds in lowland habitats that provide cover and good nesting cavities, and winters in Mexico and southward. The Project site is near the western margin of its geographic range. Elf owls are more common and widely distributed outside of California and probably have never been common in California due to limited geographic range and generally marginal habitat. The elf owl is a secondary cavity nester (it nests in cavities of trees and cacti, generally in disused woodpecker nests). Its nesting habitat is closely correlated with nesting habitat of woodpeckers, including Gila woodpecker (below). Trees within the desert dry wash woodland habitat could provide suitable marginal habitat for nesting. Two tree cavities were observed during surveys and could be potential nesting cavities. No elf owls were observed during the survey.

Gila Woodpecker (*Melanerpes uropygialis*); CE, BLMS, BCC. Gila woodpecker is a year-around resident across its range. It can be fairly common in Southern California along the Colorado River, and occasionally ranges west to the Desert Center or Corn Springs areas. Gila woodpeckers prefer large patches of woody riparian vegetation for nesting, but they have also been documented in various habitat types, such as desert washes and residential areas. They excavate cavity nests in large riparian trees such as cotton-woods or other species that area available, including large palo verdes, ornamental trees, or palms. Potentially suitable habitat within the Project site is found in desert washes in palo verde or ironwood trees large enough for cavity nests. The probability of this species nesting on the Project site is low since only a few palo verde trees on the site are large enough for tree cavities, and the site is near the western margin of the Gila woodpecker's range. Only two tree cavities were observed in surveys, but no live Gila woodpeckers were observed (Figure 3.5-6).

Loggerhead shrike (*Lanius ludovicianus*); SSC, BCC. Loggerhead shrikes are uncommon year-round residents throughout much of southern California. They initiate their breeding season in February and may continue with raising a second brood as late as July. Suitable foraging and nesting habitat for loggerhead shrike is found throughout the Project site. Twenty observations of live individuals were documented during all surveys and avian counts (Figure 3.5-6). Loggerhead shrikes were also observed in several locations along the gen-tie line.

Le Conte's thrasher (*Toxostoma lecontei*); SSC. Le Conte's thrasher is a year-round resident in the Colorado Desert, occurring in desert flats, washes, and alluvial fans with sandy or alkaline soil and scattered shrubs. Its preferred nest sites are thorny shrubs and small desert trees, and nesting rarely occurs in monotypic creosote scrub habitat or Sonoran Desert woodlands. Suitable foraging habitat for Le Conte's thrasher occurs throughout the Project site, and suitable nesting habitat occurs in the desert dry wash woodland areas of the Project site. Le Conte's thrasher was not observed during surveys of the Easley Project site. One Le Conte's thrasher was observed in the vicinity of the gen-tie line during surveys of the Oberon Project site (Ironwood, 2021a).

Crissal Thrasher (*Toxostoma crissale*); SSC. Crissal thrasher is a year-round resident of southeastern deserts, occupying dense shrubs in desert riparian and desert wash habitats, including mesquite, ironwood, and acacia. The Project site provides limited but suitable nesting and foraging habitat primarily associated with dry wash woodlands. No crissal thrashers were observed within the Project site during surveys.

California horned lark (*Eremophila alpestris actia*); WL. The California horned lark is found throughout California except the north coast and is less common in mountainous areas. It nests in open areas. There are numerous records in Riverside County. Suitable foraging and nesting habitat occur throughout the Project site and California horned larks were observed frequently during surveys.

Black-tailed gnatcatcher (*Polioptila melanura*); WL. Black-tailed gnatcatchers are year-round residents in southeastern California and east through Arizona to southern Texas and northern Mexico. They are found in arid scrublands, desert brush, and dry washes. The Project site contains suitable foraging and potential nesting habitat for this species throughout the Project site and there was one observation during surveys and avian counts (Figure 3.5-6).

Special-status seasonal migrant birds. The following special-status bird species may migrate through the Project region during spring or fall migration or may spend winters in the vicinity but would not nest on or near the Project site due to absence of suitable wetland or riparian nesting habitat or due to geographic range. Potential for occurrence on the Project site is minimal, except for brief overflight or migratory stopovers. Four of them are listed as threatened or endangered so additional detail provided.

- Ferruginous hawk (*Buteo regalis*); WL, BCC. Potential foraging habitat during winter or migratory seasons; no potential nesting, site is outside the Ferruginous hawk's breeding range.
- Swainson's hawk (*Buteo swainsoni*); ST, BBC. Potential migration season foraging habitat; no potential nesting, well outside the nesting range.
- Northern harrier (*Circus cyaneus*); SSC. Suitable foraging habitat; no suitable nesting habitat.
- Short-eared owl (*Asio flammeus*); SSC. May be found incidentally during migration while foraging; no suitable nesting habitat.
- Vaux's swift (*Chaetura vauxi*); SSC. Suitable migration and foraging habitat; no suitable nesting habitat.

- Mountain plover (*Charadrius montanus*); SSC. Suitable habitat during migration; no potential nesting, outside breeding range.
- Sonora yellow warbler (*Setophaga petechia sonorana*); SSC, BCC. Suitable foraging habitat during migration in desert dry wash woodlands; no suitable nesting habitat.
- Yellow-breasted chat (*Icteria virens*); SSC. Potential stopover foraging occurrence during migration in desert dry wash woodlands; no suitable nesting habitat.

Other listed Bird Species. No suitable breeding or wintering habitat for the avian species below occur within or near the Project site. These state or federal listed bird species have been recorded at other utility-scale solar energy facilities, but have not been observed during field surveys on the Project site (Ironwood, 2023a) ~~facilities~~. There is a moderate potential for them to be in the Project vicinity during migration periods, but there is no suitable nesting or foraging habitat on the site for these species. ~~None of these species were observed during field surveys~~.

- **Yuma Ridgway's rail (*Rallus obsoletus yumanensis*); ST, CFP, F**E. Yuma Ridgway's rail, formerly known as Yuma clapper rail, nests in freshwater marshes. In the low desert region, it is found along the lower Colorado River and the Salton Sea and Imperial Valley areas of California. Ridgway's rails do not appear to migrate in the traditional sense; however, occasional occurrences across the desert show some level of movement. Outlier observations have been documented at Harper Dry Lake, East Cronese Dry Lake, and Desert Center, all at a great distance from known breeding areas.
- **Southwestern willow flycatcher (*Empidonax traillii extimus*); SE, FE.** Southwestern willow flycatcher breeds in dense riparian habitats in the southwestern United States, and winters in southern Mexico, Central America, and northern South America. The willow flycatcher species is comprised of several recognized subspecies, including the southwestern willow flycatcher, which is the only subspecies that nests in the region. The closest known breeding locations to the Project site are approximately 35 miles away along the Colorado River and adjacent to the Salton Sea. Recent studies indicate that southwestern willow flycatchers do not migrate over the area of the desert where the Project site is located (Ironwood, 2023a). However, other willow flycatcher subspecies (not listed as threatened or endangered) may pass through the area during migration. No suitable breeding habitat occurs on the Project site and it is outside the southwestern willow flycatcher's migratory routes.
- **Yellow-billed cuckoo (*Coccyzus americanus occidentalis*); SE, FT, BCC, BLMS.** Western yellow-billed cuckoo breeds in expansive riparian areas in portions of California, Nevada, Arizona, and New Mexico. The closest known breeding habitat is approximately 35 miles away along the Colorado River. During migration, western yellow-billed cuckoos migrate across the desert and use shrubland habitats, but there have been no documented sightings of western yellow-billed cuckoo on or near the Project site. No suitable nesting habitat is present on the Project site, although it is possible that western yellow-billed cuckoo could occur on the site briefly during migration season.
- **Least Bell's vireo (*Vireo bellii pusillus*); SE, FE.** Least Bell's vireo breeds in riparian habitats in southern California and portions of northern Baja California, Mexico and winters in southern Baja California. The closest known breeding habitat to the ~~Athos~~ Project site is to the northwest in the Big Morongo Canyon. No suitable nesting habitat is present on the Project site, although least Bell's vireo could occur on the site briefly, during migration season. The subspecies Arizona Bell's vireo (*V. b. arizonae*) is not ESA-listed, but is State-listed in California as endangered, and occurs along the lower Colorado River, approximately 35 miles east of the Project site.

Mammals

American badger (*Taxidea taxus*); SSC. The American badger is associated with dry open forest, shrub, and grassland communities with an adequate burrowing rodent population and friable soils. Badgers generally are associated with treeless regions, prairies, parklands, and cold desert areas (Ironwood, 2023a). Suitable habitat exists for American badgers throughout the Easley Project site. Two active badger burrows with dig marks and recent tracks were identified during the fall 2021 survey, and four burrows with dig marks were identified as inactive badger burrows (Figure 3.5-8). A badger skull or skull fragments (identified as carcass in the data) were observed at two locations. There are several canid burrows and complexes observed that could be used by the species, but no live individuals were observed.

Desert kit fox (*Vulpes macrotis arsipus*); CPF. Desert kit fox is not recognized as rare but it is a protected fur-bearing mammal. Title 14 of the California Code of Regulations, Section 460, stipulates that desert kit fox may not be taken at any time. Desert kit fox is a fossorial mammal that occurs in arid open areas, shrub grassland, and desert ecosystems within the Mojave and Sonoran Deserts. Desert kit fox typically occurs in association with its prey base, which includes small rodents, primarily kangaroo rats, rabbits, lizards, insects, and in some cases, immature desert tortoises (CDFW, 2022~~a~~). Burrow complexes that have multiple entrances provide shelter, escape, cover, and reproduction, but desert kit fox may utilize single burrows for temporary shelter.

Many desert kit fox burrows observed within the Project site are part of a complex with multiple entrances. During surveys, twenty-one active desert kit fox burrows or complexes with dig marks, tracks, and/or scat were observed within the Easley Project site (Figure 3.5-8). Seventy-seven burrows or complexes, some with older scat, were identified as inactive desert kit fox burrows. Two carcasses (likely a skull or bone fragments) were observed at two separate locations. The number of burrows will likely change over time since kit fox distribution is dynamic and changes under natural conditions due to prey availability and other environmental factors such as the presence of coyotes that prey on kit fox pups.

Kit fox complexes, active burrows, and inactive burrows are also scattered along the gen-tie line (Ironwood, 2021a).

Desert bighorn sheep (*Ovis canadensis nelsoni*); BLMS. The desert bighorn sheep is found from the Peninsular and Transverse Ranges through most of the desert mountain ranges of California, Nevada, and northern Arizona to Utah. Essential habitat for bighorn sheep includes steep, rocky mountain slopes, and areas where surface water is available during dry seasons. Habitat in the desert mountain ranges surrounding the upper Chuckwalla Valley is occupied by Nelson's bighorn sheep, and they occasionally use the valley floor habitat either for foraging (near the lower mountain slopes) or as movement routes among mountain ranges. No sign or evidence of desert bighorn sheep was found during field surveys, but scat is often difficult to distinguish from burro deer.

Burro deer (*Odocoileus hemionus eremicus*); CPGS. Burro deer is a subspecies of mule deer (O. hemionus) that inhabits desert dry wash woodland communities in the Colorado region of the Sonoran Desert near the Colorado River. During hot summers, burro deer concentrate along the Colorado River, natural springs, near anthropogenic water sources such as the Coachella Canal, or agricultural areas, where water infrastructure has been installed and where microphyll woodland is dense and provides good forage and cover. With late summer thundershowers and cooler temperatures, burro deer move away from the Colorado River and Coachella Canal into larger washes or wash complexes in the foothills and nearby mountains (Ironwood, 2023a).

Burro deer scat and tracks were observed throughout the Project site and along the gen-tie line (Figure 3.5-8). Burro deer likely move through the Project site and its vicinity to access artificial water sources from nearby agriculture and aquaculture farms.

Special status bats. Seven special-status bat species may forage on or near the Project site and are discussed further in the BRTR (EIR Appendix C).

Potential foraging habitat is located on the Project site in desert dry wash woodlands. Many bats, including special-status species, forage primarily on large insects such as moths, and tend to concentrate foraging activity around water sources, such as the irrigation sources around the active agricultural areas. Desert dry wash woodlands provide suitable roosting habitat for two special-status bat species, western yellow bat and big free-tailed bat, as described below.

- *Townsend's big-eared bat (Corynorhinus townsendii); SSC, BLMS.* The Project site does not provide roosting areas for Townsend's big eared bat. Foraging habitat occurs along the desert dry wash woodlands and within riparian habitat along artificial water sources near the aquaculture farm adjacent to the Project.
- *California leaf-nosed bat (Macrotus californicus); SSC, BLMS.* California leaf-nosed bat may forage within the Project site, but it is not expected to roost due to absence of suitable caves and mines.
- *Pallid bat (Antrozous pallidus); SSC, BLMS.* The Project site may provide suitable foraging habitat for pallid bats within the dry wash woodland but does not provide suitable roosting habitat. Acoustic bat surveys for Palen Solar Power Project (about 4 miles east of the Project site) detected pallid bat within the Project vicinity.
- *Western mastiff bat (Eumops perotis californicus); SSC, BLMS.* Suitable habitat for foraging occurs throughout the Project site, but roosting habitat is lacking. Western mastiff bat was detected within the vicinity on acoustic bat surveys for Palen Solar Power Project.
- *Western yellow bat (Lasiurus xanthinus); SSC.* Potential roosting habitat exists within the Project site in desert dry wash woodlands and riparian habitat. Suitable habitat for foraging also occurs in those same areas. Western yellow bat was detected within the vicinity during acoustic bat surveys for the Palen Solar Power Project.
- *Big free-tailed bat (Nyctinomops macrotis); SSC.* Foraging and potential roosting habitat for the big free-tailed bats occurs within the Project in desert dry wash woodland. Big free-tailed bat was detected within the Project vicinity through acoustic surveys conducted for the Palen Solar Energy Project.
- *Pocketed free-tailed bat (Nyctinomops femorosaccus); SSC.* Suitable habitat for foraging exists on the Project site, but roosting habitat is lacking.

3.5.1.5. Wildlife Movement

Wildlife migration corridors and movement routes are areas that connect suitable habitat in a region that may otherwise be fragmented by human disturbance, difficult terrain, or unsuitable vegetation. Natural features, including drainages, ridgelines, or contiguous natural habitat may provide routes or corridors for wildlife movement. Wildlife movement routes are critical to survival and reproduction for wildlife populations, as they provide expanded access to mates, food, and water across broad geographic areas; allow for dispersal from high-density areas; and facilitate gene flow among populations.

Accessibility between habitat areas (i.e., "connectivity") is important to long-term genetic diversity and demography of wildlife populations. In the short term, connectivity may be important to individual animals' ability to occupy their home ranges, if their ranges extend across a potential movement barrier. These considerations apply to all plants and animals. Plant populations "move" over the course of generations via pollen and seed dispersal; most birds and insects travel and disperse via flight; terrestrial species, including small mammals, reptiles, arid land amphibians, and non-flying invertebrates, disperse across land. Therefore, landscape barriers and impediments are more important considerations for movement of terrestrial species. These considerations are especially important for rare species and wide-ranging mammals, which tend to exist in lower population densities.

Movement opportunity varies for each species, depending on motility and behavioral constraints, as well as the presence of native habitats and landscape impediments.

In the Chuckwalla Valley, the biologically important functions of large mammal movement are (1) the long-term demographic and genetic effects of occasional animal movement among mountain ranges and other large habitat areas, and (2) regular movement to access local habitat resources, particularly water. Animals such as desert bighorn sheep may travel across the valley infrequently, to reach other subpopulations in surrounding mountains. In contrast to large animal movement, desert tortoises and other less-mobile animals may live out their entire lives within a linkage area between larger habitat blocks; for these species, movement among surrounding habitat areas may take place over the course of several generations.

In largely undeveloped areas, including the Chuckwalla Valley, wildlife habitat is available in extensive open space areas throughout much of the region, but anthropogenic barriers and land uses may impede or prevent movement for many terrestrial wildlife species. In these landscapes, wildlife movement planning focuses on specific sites where animals can cross linear barriers (e.g., wash crossings beneath I-10), and on broader linkage areas that may support stable, long-term populations of target species and allow demographic movement and genetic exchange among populations in distant habitats (e.g., surrounding mountains).

The Project site is located in the Chuckwalla Valley north of Desert Center. It is surrounded by the Chuckwalla Mountains to the south, the Palen Mountains to the east, the Coxcomb Mountains and Palen Valley to the north, and the Eagle Mountains to the west. Joshua Tree National Park is located to the west within 6 miles. Anthropogenic uses in the Project's vicinity that present barriers to movement include other solar development projects (either operational or in construction), the I-10 freeway to the south, the Desert Center Airport, and other roads and fences.

Multi-species linkages maintain habitat for wildlife movement between landscape blocks. The location of linkages in the Project vicinity (BLM, 2015) are based on several studies including the California Desert Connectivity Project (Penrod, 2012) and the California Essential Habitat Connectivity (CEHC) Project (Spencer et al., 2010). The CEHC identified areas surrounding the Project site as Natural Landscape Blocks (i.e., large, relatively natural habitat areas that support native diversity), including the Coxcomb Mountains to the north, the Eagle Mountains to the west, Palen Mountains to the east, and Chocolate Mountains to the south (BLM, 2015; Spencer et al., 2010). Broad habitat linkages connect these landscape blocks, and are primarily located along the desert valleys, providing connectivity between these isolated mountain ranges in the region.

The northern portion of the Project site overlaps with the southern portion of the BLM designated Pinto Wash linkage; however, since the Project site is within a BLM DRECP DFA, development for renewable energy was targeted for this area (Figure 3.5-9, 3.5-10). The Pinto Wash linkage area also overlaps the adjacent Desert Sunlight and Desert Harvest Solar Projects. Other solar projects to the south, including Oberon, Athos, Arica, and Victory Pass Solar Projects overlap with a different BLM DRECP multi-species linkage area just north of the I-10 freeway. The gen-tie line would cross through the Oberon Project site and overlap with this multispecies linkage. Like the proposed Project, these projects are located on both private lands administered by Riverside County, subject to mitigation measures through CEQA, and on BLM lands, subject to Conservation and Management Actions (CMAs) through the DRECP.

The Colorado River Aqueduct and the I-10 freeway, located north and south of the Project site, respectively, are significant obstructions to movement by terrestrial wildlife in the Project vicinity (Figure 3.5-9, 3.5-10). There are a few short below-ground segments of the aqueduct, but it is impassable to terrestrial wildlife except at those points. Some species, such as coyote, may learn to cross the freeway safely; however, the freeway presents an impassable or high-risk barrier to north-south movement for most terrestrial species, except at the I-10 freeway underpasses at wash crossings. On the 32-mile stretch of I-10 between the Desert Center and Wiley Wells Road exits there are 24 underpass crossings, ranging in from 10 feet to 75 feet wide, that provide connectivity and safe movement corridors between habitat to the north and south of the I-10 (Figure 3.5-10). Two of these crossings are located within 2 miles south of the Project area. Wildlife species and sign detected at the underpass crossings included lizards, rodents, rabbit, roadrunner, ground squirrel, fox, coyote, bobcat, and burro deer. Other linear features such as smaller paved and unpaved roads, and transmission lines have only minimal effects on wildlife movement.

3.5.2. Regulatory Framework

3.5.2.1. Federal Laws, Regulations, and Policies

Federal Land Policy and Management Act (FLPMA; 43 U.S.C. §§ 1701 1787). Directs management of public lands managed by the U.S. Forest Service, National Park Service, and BLM, addresses land use planning, rights-of-way, wilderness, and multiple use policies.

Endangered Species Act (ESA; 16 USC §§ 1531 1543). Establishes legal requirements for the conservation of endangered and threatened species and the ecosystems upon which they depend. The ESA is administered by the USFWS for terrestrial species. Under the ESA, the USFWS may designate critical habitat for listed species. Section 7 of the ESA requires federal agencies to consult with the USFWS to ensure that their actions are not likely to jeopardize listed threatened or endangered species, or cause destruction or adverse modification of critical habitat. Under the federal ESA, “the term ‘take’ means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” and “harm” is further defined to include significant habitat modification or degradation that actually kills or injures listed wildlife by significantly impairing essential behavioral patterns.

Migratory Bird Treaty Act (MBTA; 16 USC §§ 703 711). Prohibits take of any migratory bird, including eggs or active nests, except as permitted by regulation (e.g., licensed hunting of waterfowl or upland game species). Under the MBTA, “migratory bird” is defined as “any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle” and applies to most native bird species.

Bald and Golden Eagle Protection Act (BGEPA; 16 USC § 668). The Bald and Golden Eagle Protection Act (BGEPA) prohibits the take, possession, and commerce of bald eagles and golden eagles. Under the BGEPA and subsequent rules published by the USFWS, “take” may include actions that injure an eagle or affect reproductive success (productivity) by substantially interfering with normal behavior or causing nest abandonment. The USFWS can authorize incidental take of bald and golden eagles for otherwise lawful activities.

Noxious Weed Act (7 USC §§ 2801 et seq.). Provides for the “management of undesirable plants on Federal lands.”

Executive Order 13112, Invasive Species. Establishes the National Invasive Species Council and directs federal agencies to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts caused by invasive species.

Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. Directs federal agencies to review the effects of actions and agency plans on migratory birds according to the National Environmental Policy Act (NEPA) or other established environmental review processes, with emphasis on species of concern (Section 6 of the order) and identify unintentional take reasonably attributable to agency actions, focusing first on species of concern, priority habitats, and key risk factors and to develop and use principles, standards, and practices to lessen the amount of unintentional take (Section 9).

California Desert Conservation Area Plan, As Amended (CDCA Plan). The CDCA Plan guides the management of approximately 12 million acres of BLM-administered lands in the California Desert District, including the Mojave, Sonoran, and a small portion of the Great Basin Deserts. The Project is within the

CDCA Plan Area. The CDCA Plan directs management policy for multiple resources, including Wildlife and Vegetation.

Northern and Eastern Colorado Desert Coordinated Management Plan, amendment to the CDCA Plan. Provides more specific management direction for BLM lands in the Colorado Desert, including the BLM lands located within the area. Many of the specific management actions in NECO were superseded by the DRECP LUPA.

Desert Renewable Energy Conservation Plan (DRECP), Land Use Plan Amendment (LUPA) to the CDCA Plan. The purpose of the BLM DRECP is to conserve and manage plant and wildlife communities in the desert regions of California while facilitating the timely permitting of compatible renewable energy projects. The DRECP LUPA covers over 10 million acres of BLM land. The DRECP LUPA includes plan decisions necessary to adopt a conservation strategy and a streamlined process for the permitting of renewable energy and transmission development on BLM-managed lands, while integrating other uses and resources. This is achieved through the designation of land use allocations for Ecological and Cultural Conservation, Recreation, and Development, and adopting CMAs for resources on public BLM lands throughout the LUPA Decision Area. At the broadest level, the LUPA includes the following components: Development Focus Areas (DFAs), Variance Process Lands (VPLs), General Public Lands, BLM Conservation Areas, and BLM Recreation Areas (BLM, 2016). The DRECP was developed as an interagency plan in 2016, and DFAs, where renewable energy development should be concentrated, were designated by the BLM, in coordination with the U.S. Fish and Wildlife Service (USFWS), California Energy Commission (CEC), and California Department of Fish and Wildlife (CDFW). The BLM ROD for the DRECP was issued in September 2016.

3.5.2.2. State Laws, Regulations, and Policies

California Endangered Species Act (CESA; Fish and Game Code § 2050 et seq.). Prohibits take of state-listed threatened or endangered species, or candidates for listing, except as authorized by the CDFW. Under the California Fish and Game Code and CESA, "'take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" but does not include "harm" as defined under the federal ESA. Authorization may be issued as an Incidental Take Permit or, for species listed under both CESA and the federal ESA, through a Consistency Determination with the federal incidental take authorization.

Fully Protected Designations (Fish and Game Code §§ 3511, 4700, 5050, and 5515). The California Fish and Game Code designates 36 fish and wildlife species as "fully protected" from take, including hunting, harvesting, and other activities. The CDFW may only authorize take of designated fully protected species through a Natural Community Conservation Plan (NCCP) or for necessary scientific research.

Birds (Fish and Game Code § 3503 and 3513). The California Fish and Game Code prohibits take, possession, or needless destruction of bird nests or eggs except as otherwise provided by the code. Section 3513 prohibits take or possession of any migratory nongame bird, as designated in the federal MBTA; it does adopt the federal exemption of incidental take.

Protected Furbearers (Cal. Code Regs. tit. 14, § 460). Specifies that several furbearing mammals, including desert kit fox, may not be taken at any time. The CDFW may permit capture or handing of these species for scientific research but does not issue Incidental Take Permits for other purposes.

Native Plant Protection Act (Fish and Game Code §§ 1900 1913). Prior to enactment of CESA and the federal ESA, California adopted the Native Plant Protection Act (NPPA). CESA (above) generally replaces the NPPA for plants originally listed as endangered under the NPPA. However, plants originally listed as rare retain that designation, and take is regulated under provisions of the NPPA. The California Fish and Game Commission adopted revisions to the NPPA allowing CDFW to issue incidental take authorization for listed rare plants, effective January 1, 2015.

California Desert Native Plant Act (CDNPA) (Food and Agricultural Code § 80001 et. seq.; Fish & Game Code §§ 1925-1926). The CDNPA protects species of California desert native plants from unlawful harvesting on public and private lands. The CDNPA prohibits harvest, transport, sale, or possession of specific native desert plants without a permit. Permits are obtained from the county where collecting will occur and are intended to provide for successful survival of salvaged and transplanted plants. Native plants protected include such species as yuccas, cacti, ocotillo, mesquites, palo verdes, smoke tree, and desert ironwood.

Lake and Streambed Alteration (Fish and Game Code §§ 1600 1616). The CDFW regulates activities that would divert, obstruct or change the natural flow, bed, channel, or bank of any river, stream, or lake.

Porter-Cologne Water Quality Control Act of 1969 (California Water Code § 13000 et seq.). RWQCBs regulate Waters of the State, including State coordination with the Clean Water Act where federally jurisdictional waters are present. The Project is within the Colorado River Basin RWQCB area.

California Biodiversity Collaborative (Executive Order N-82-20). EO N-82-20 was issued on October 7, 2020, by California Governor Gavin Newsom. This executive order directed California Natural Resources Agency in consultation with the California Department of Food and Agriculture, the California Environmental Protection Agency and other state agencies, to establish the California Biodiversity Collaborative (Collaborative) to bring together other governmental partners, California Native American tribes, experts, business and community leaders and other stakeholders from across California to protect and restore the State's biodiversity. The EO also established a goal of California to conserve at least 30% of California's land and coastal waters by 2030.

The California Natural Resources Agency is directed to prioritize investments in actions that: promote biodiversity protection, habitat restoration, wildfire-resilience, sustainability managed landscapes and other conservation outcomes; implement actions to increase the pace and scale of environmental restoration and land management efforts by streamlining the State's approval process; collaborate with federal and state research institutions to utilize innovative scientific observation technology, and incorporate tribal expertise and traditional ecological knowledge; and participate in regional, national, and international efforts to advance biodiversity protection and prevent extinctions across the planet.

3.5.2.3. Local Laws, Regulations, and Policies

Riverside County General Plan (2015). Includes policies addressing biological resources within the Land Use (LU) and Open Space (OS) elements, as follows:

- **Policy LU 9.1**: Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values (AI 10).
- **Policy LU 9.2**: Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and federal and state regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.
- **Policy LU 24.1**: Cooperate with the CDFW, USFWS, and any other appropriate agencies in establishing programs for the voluntary protection, and where feasible, voluntary restoration of significant environmental habitats (AI 10).
- **Policy OS 18.1**: Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCPs and through implementing related Riverside County policies. (The Project site is not within an MSHCP area).

3.5.3. Methodology for Analysis

The impact assessment presented in this EIR was conducted to identify and disclose potential direct, indirect, and cumulative impacts of the proposed Project and alternatives. Examples of potential direct impacts to biological resources include mortality, injury, or displacement of special-status plants or animals; loss or degradation of native habitat; interference with wildlife movement or migration; and disturbance to plants, animals, and habitat from noise, light, or dust. Examples of potential indirect impacts that occur later in time or farther removed in distance, include erosion, sedimentation, introduction of invasive species, or increased predation on native wildlife due to habitat alterations (e.g., perch sites or "subsidies" for predators).

The analysis presented in Section 3.5.5 (Proposed Project Impact Analysis) is based on the biological resources on the Project site, described in Section 3.5.1 (Environmental Setting) and in Appendix C (Biological Resources Technical Report), and on the Description of the Proposed Project and Alternatives (Section 2 of this EIR). Several meetings were held among the Applicant, wildlife agencies, and BLM biologists to discuss potential impacts and applicable regulation. In addition, written and oral comments regarding the Project's potential impacts to biological resources during the scoping process (EIR Appendix B, Scoping Report) were reviewed to inform the analysis.

The analysis identifies and describes the proposed Project's expected impacts on biological resources and identifies mitigation measures to reduce those impacts to less than significant. Sections 3.5.6 and 3.5.7 provide similar analyses of Project alternatives. Potential impacts on biological resources that may be individually limited, but cumulatively considerable are addressed in Section 3.5.6~~8~~.

3.5.4. CEQA Significance Criteria

The criteria used to determine the significance of potential biological resources impacts are based on Appendix G of the State CEQA Guidelines. The proposed Project would result in a significant impact under CEQA related to biological resources if the Project would:

- *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (Impact BIO-3).*
- *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service (Impact BIO-4).*
- *Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Impact BIO-5).*
- *Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Impact BIO-6).*

The County of Riverside's Environmental Assessment Form includes additional significance criteria, which were also used in the analysis. The additional criteria indicate that a project could have potentially significant impacts if it would:

- *Have a substantial adverse effect, either directly or through habitat modifications, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12) (Impact BIO-1).*

- *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U. S. Wildlife Service (Impact BIO-2).*

The following CEQA significance criterion from Appendix G was not included in the analysis and is not discussed further beyond this summary:

- *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state conservation plan.*

  The Project site is not within an area covered by an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or State habitat conservation plan. Therefore, no impacts would occur. Public lands within and surrounding the Project site are within the area managed by BLM under the DRECP, which is applicable only on federal lands. The BLM is responsible for environmental review, including DRECP compliance, under NEPA.

3.5.5. Proposed Project Impact Analysis

The scoping effort conducted by the Riverside County Planning Department resulted in several public comments and concerns related to Biological Resources. Public concerns communicated in the scoping process related to biological resources include:

- Impacts to vegetation communities, desert dry wash woodlands, ironwood trees, and desert wildflowers.
- Impacts to displaced wildlife (including desert tortoise, deer, coyote, cougar, lizards, and migrating birds), loss of habitat, and new barriers to movement routes. Concerns that fewer wildlife are seen in the community since solar development started.
- Impacts to desert tortoise habitat connectivity between designated critical habitat units and loss of gene flow.
- Potential “lake effect” that may attract birds, resulting in collisions with facilities. Impacts of power lines on birds, resulting in electrocution. Impact of solar development on health and presence of migratory birds.
- Ground disturbance and grading resulting in modifications to washes, stormwater runoff, and potential for floods in the community. Impacts of vegetation management on erosional patterns during flash flooding.
- Success of post-construction revegetation, considering climate change in an arid climate.
- Concerns regarding an increase in termite swarms and rattlesnake encounters (see Section 4.5, Other Public Concerns).
- Need to consider acreage already lost to solar development in the DFA, and what is likely to be developed in the future.
- Potential for increased local temperatures due to “PV heat island effect”.

Acreages of impacts to sensitive resources in the proposed solar facility footprint are outlined in Tables 3.5-1a and 3.5-1b. Impacts on desert dry wash woodland are described in Impact BIO-1. Impacts to desert tortoise critical habitat are described in Impact BIO-2. Impacts to the DRECP desert tortoise and multi-species linkages are described in Impact BIO-3.

Impacts would be less than significant with the incorporated mitigation. This section of the EIR describes biological resources at the Project site and evaluates the Project’s potential impacts to biological resources, including special-status species, wildlife movement, and jurisdictional waters. With implementation of mitigation measures (Section ~~3.5.9~~3.5.7), none of the Project's potential impacts to biological resources would be significant.

The analysis is based on the Biological Resources Technical Report (BRTR) and Jurisdictional Waters Report, prepared by Ironwood Consulting (Ironwood, 2023a; 2023b) (see Appendices C and F, respectively). Impacts along the gen-tie line were evaluated based on descriptions and mapping of biological resources on the Oberon Renewable Energy Project site (Ironwood, 2021a; 2021b).

3.5.5.1. DRECP CMAs

The Applicant is required to comply with DRECP CMAs on BLM-administered lands. Applicable CMAs that are required to protect biological resources are detailed in Appendix CC, which provides a list of CMAs, an explanation of their applicability, and demonstration of compliance with the CMA. Implementation of CMAs would avoid, minimize, mitigate, and compensate for loss of native habitat, and reduce direct and indirect impacts to special-status wildlife by requiring qualified biological staff to conduct surveys, inspections, and monitoring, require the Applicant to provide compensation for impacts to native and sensitive habitats, re-vegetate disturbed areas, and require specific protections and buffers for native habitat types, including desert dry wash woodland and special-status species.

While impact significance conclusions in this chapter are not predicated on DRECP CMA compliance on private lands within the Project site, the Applicant has committed to complying with DRECP CMAs on private lands to further minimize impacts to biological resources and provide a uniform approach to Project development across public and private lands within the Project site. Mitigation measures, as described in Section 3.5.7, encompass and are consistent with the requirements of the CMAs, thereby further ensuring that DRECP CMAs would also be implemented on private land within the Project site. Applicable CMAs and their role in the avoidance, minimization, and mitigation of impacts on BLM land are described for each Impact below.

3.5.5.2. DRECP Compensatory Mitigation

All of the BLM-administered lands considered for Project development are lands designated as Development Focus Area (DFA) in the DRECP LUPA. The DRECP LUPA, as described in Section 3.5.2, is administered by BLM and has two primary goals. One is to provide a streamlined process for the development of utility-scale renewable energy generation and transmission in the deserts of southern California consistent with federal and state renewable energy targets and policies. The other is to provide for the long-term conservation and management of special-status species and desert vegetation communities, as well as other physical, cultural, scenic, and social resources within the DRECP Plan Area using durable regulatory mechanisms. The DRECP LUPA includes Conservation and Management Actions (CMAs) that are requirements designed to reduce the effects of development on sensitive resources, as well as highlight other types of mitigation to further reduce impacts.

Based on impacts to both private and BLM-administered public land and following ratios required in applicable DRECP CMAs (e.g., CMA LUPA-BIO-COMP-1), the Applicant, in coordination with BLM, is developing an approximately 2,700-acre compensation package to be compiled and managed by Wildlands, Inc. Although DRECP CMAs only apply to BLM-administered lands, compensatory mitigation at the mitigation ratios called for in the CMAs are included in the County's mitigation measures for the Project.

In accordance with DRECP CMAs and pending coordination with/approval by resource agencies, the compensation package will mitigate impacts to desert dry wash woodland, suitable desert tortoise habitat, designated critical habitat (along the gen-tie route), and other sensitive habitats. DRECP CMA LUPA-BIO-COMP-1 requires a mitigation ratio of 1:1 for impacts to standard biological resources (i.e., Sonoran creosote bush scrub) and a ratio of 5:1 for impacts to desert riparian woodland vegetation types and desert tortoise critical habitat. Compensation lands would be of much higher quality habitat than the existing habitats within the Easley Project development footprint. Much of the area surrounding the Project site is degraded and contains anthropogenic features and land uses that reduce habitat value, such as agriculture, residential, renewable energy, transmission lines, historic military operations, recreational development/limited dispersed camping, BLM designated Off-Highway Vehicle (OHV) open routes, and State Route 177/Rice Road, Kaiser Road, and the Interstate 10 freeway farther to the south.

Impact BIO-1. The Project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Wildlife Service.

LESS THAN SIGNIFICANT WITH MITIGATION. Potential effects on special-status plants and wildlife could result from construction or operation and maintenance (O&M) of the proposed Project. Construction activities would minimize ground disturbance, grubbing, and grading using mowing and rolling methods for vegetation in the solar array areas. ~~, except for s~~Specific facilities, including the substation, storage containers, O&M facilities, laydown yards, pre-fabrication areas, and roads would require ground disturbance in the form of mowing, grubbing, grading, and compaction. Construction would involve minor changes to on-site topography. The proposed layout of solar panels would avoid major existing hydrologic patterns with respect to runoff, avoiding washes, stream beds, stream banks, where feasible. The Applicant has committed to avoiding desert dry wash woodlands, except for minor incursions of linear features and where there is existing intervening infrastructure on private land, in compliance with DRECP CMAs and impacts to jurisdictional drainages would be regulated with permits from CDFW and RWQCB. ~~The solar array areas would require trimming of woody vegetation. Certain areas of the site with highly irregular topography that provide important hydrologic functions to the site would be avoided by Project design. Other irregular areas would be leveled or smoothed to provide for construction access and installation.~~

During O&M, impacts would be reduced compared to construction, and would be limited to repair and maintenance of facilities and fencing, requiring minimal staff on site. Vegetation under solar panels would continue to be trimmed, and panels would be washed infrequently if natural rains do not sufficiently remove dust and debris. Vehicles would be used to access Project facilities, which may create a hazard for wildlife in the vicinity of access roads.

Potential direct and indirect impacts on special-status plants and wildlife are outlined below for the solar facilities and the gen-tie line. ~~These d~~Direct and indirect impacts to special-status species and their habitat would be significant. Compliance with applicable CMAs (discussed in detail below) would minimize impacts of the proposed Project on special-status species on BLM lands. Impacts on private lands ~~can~~ will be avoided, minimized, and mitigated with implementation of mitigation measures, as listed below and ~~specified~~ detailed in Section ~~3.5.9~~3.5.7. ~~and as detailed below for vegetation and habitat, special-status plants, and special-status wildlife. Compliance with applicable CMAs and any Project-specific mitigation measures developed during the NEPA process would further minimize impacts of the proposed Project on special-status species on BLM lands. With mitigation, impacts to special-status plants and wildlife would be less than significant.~~

- MM BIO-1 (Biological Monitoring)
- MM BIO-2 (Worker Environmental Awareness Training)
- MM BIO-3 (Minimization of Vegetation and Habitat Impacts)
- MM BIO-4 (Integrated Weed Management Plan)
- MM BIO-5 (Vegetation Resources Management Plan)
- MM BIO-6 (Wildlife Protection)
- MM BIO-7 (Desert Tortoise Protection)

- MM BIO-8 (Bird and Bat Conservation Strategy (BBCS))
- MM BIO-9 (Nesting Bird Management Plan (NBMP))
- MM BIO-10 (Gen-tie Lines)
- MM BIO-11 (Burrowing Owl Avoidance and Relocation)
- MM BIO-12 (Desert Kit Fox and American Badger Relocation)
- MM BIO-13 (Wildlife Protection and Relocation Plan)
- MM BIO-14 (Streambed and Watershed Protection)

A detailed discussion of impacts and mitigation is provided below for vegetation and habitat, special-status plants, and special-status wildlife. With (1) implementation of the identified mitigation measures on private land portions of the Project, and (2) implementation of the identified CMAs on BLM land portions of the Project, impacts to special-status plants and wildlife and associated habitat would be less than significant.

Solar and BESS Facility

Vegetation and Habitat

Impacts Discussion

The proposed Project would permanently impact native habitats as shown in Figure 3.5-2 and Tables 3.5-1a and 3.5-1b. Impacts to desert dry wash woodland from minor incursions and impacts to desert pavement, ~~,~~ which would primarily occur on public lands (BLM), ~~a sensitive community,~~ are detailed further in the discussion ~~of~~ in Impact BIO-4 on sensitive communities. ~~and would primarily occur on public lands (BLM).~~ All affected habitats may support special-status plant and wildlife species (described below).

Table 3.5-1a. Impacts to ~~Vegetation~~ Native Habitats and Communities

Vegetation Type	Solar & BESS Facility (Acres)	500kV Gen-tie Line ROW (175-ft wide)*	Exterior Components (Roads & MVAC Lines)	TOTAL
Native Habitats and Communities				
Creosote Bush Scrub	~~1,545.9~~1,339.1	~~107.0~~36.1	~~28.0~~51.3	~~1,680.9~~1,426.5
Dry Desert Wash Woodland	0.3	4.4	13.0	17.7
Desert Pavement	~~44.0~~38.8	~~8.0~~1.1	~~-~~0.2	~~52.0~~40.0
~~Dry Desert Wash Woodland~~	~~3.8~~	~~22.5~~	~~5.3~~	~~31.6~~
Non-Native Habitats				
Annual grasses	~~31.7~~24.9	-	~~-~~0.9	~~31.7~~25.8
Deciduous Orchard/Fallow Agriculture	~~406.0~~456.3	-~~0.4~~	~~5.9~~6.4	~~412.3~~462.8
Developed Water Feature	10.~~1~~2	-	-	10.~~1~~2
Invasive Tamarisk/Riparian	0~~0.4~~.1	-	-	~~0.4~~0.1
Urban/Developed	~~8.6~~11.7	-~~0.4~~	~~1.5~~-	~~10.5~~11.7
TOTAL	**~~2,050.5~~ 1,881.3 acres**	**~~138.3~~41.5 acres***	**~~40.7~~71.8 acres**	**~~2,229.5~~ 1,994.7 acres**

*Final gen-tie line impact acreages will be less than the 175-foot-wide ROW shown in the table, as impacts would occur only at structures (up to 45 poles) and spur roads. Disturbance assumptions at each structure location are included in EIR Section 2.4.6. Furthermore, structures would be micro-sited to minimize impacts to sensitive habitats and resources to the maximum extent feasible.

Table 3.5-1b. Impacts to Native Habitats by Land Ownership

Vegetation Type	Solar/BESS Facility (all components excluding gen-tie line)	500 kV Gen-tie Line ROW (within Oberon Project)	TOTAL	Undeveloped Land within Project Area (acres avoided)
Public Lands (BLM)				
Sonoran Creosote Bush Scrub	~~1,374.4~~1,209.7	~~107.0~~34.8	1,244.5~~1,481.4~~	768.9~~614.7~~
Desert Dry Wash Woodland	~~8.9~~12.1	~~22.5~~4.4	16.5~~31.4~~	644.6~~648.5~~
Desert Pavement	~~44.0~~38.9	~~8.0~~1.1	39.9~~52.0~~	27.1~~22.1~~
TOTAL (Public Lands)	**~~1,427.3~~1,260.7 acres**	**~~137.5~~40.3 acres***	**~~1,564.8~~1,300.9 acres**	**1,~~285.3~~440.5 acres**
Private Lands				
Sonoran Creosote Bush Scrub	~~196.5~~180.7	~~0.0~~1.3	~~196.5~~182.0	~~135.3~~164.2
Desert Dry Wash Woodland	~~0.2~~1.2	0.0	~~0.2~~1.2	83.6~~7~~
TOTAL (Private Lands)	**~~196.7~~181.9 acres**	**~~0.0~~1.3 acres**	**~~196.7~~183.2 acres**	**~~219.0~~247.8 acres**
TOTAL	**~~1,624~~1,442.6 acres**	**~~137.5~~41.5 acres***	**~~1,761.5~~ 1,484.1 acres**	**1,~~504.3~~688.2 acres**

*Final gen-tie line impact acreages will be less than the 175-foot-wide ROW shown in the table, as impacts would occur only at structures (up to 45 poles) and spur roads. Disturbance assumptions at each structure location are included in EIR Section 2.4.6. Furthermore, structures would be micro-sited to minimize impacts to sensitive habitats and resources to the maximum extent feasible.

Vegetation, including native vegetation, habitat, and special-status plants would be trimmed, cut, or removed. Soils throughout the solar fields would be affected by some form of ground disturbance, which may result in erosion or compaction of soils. Potential direct impacts may include direct crushing, burial, or uprooting of vegetation and root damage.

Vegetation, including native vegetation and habitat, would be cut or removed. Soils throughout the solar fields would be affected by some form of ground disturbance, which may result in erosion or compaction. Construction activities could accumulate dust on vegetation, which could diminish gas exchange or photosynthesis. Altered hydrology from site preparation could directly or indirectly affect native habitats by increasing stormwater runoff, increasing erosion, and degrading habitat conditions. Effects to soils and vegetation, in turn, would affect special-status wildlife that may be present due to the collapse of burrows and removal of vegetation used as nesting and foraging habitat.

During construction, the Project would temporarily affect surrounding habitat by introducing heavy equipment, vibrations, noise, lighting, dust, and increased human presence, resulting in disturbances that would affect wildlife behavior. Temporary noise and disturbances would occur at various parts of the Project areas at various times during construction. These impacts cannot be quantified as each species or individual animal would react differently to the various disturbances.

Construction would indirectly affect native vegetation communities through the potential introduction and spread of invasive weeds, which could outcompete native plant species and degrade plant and wildlife habitat on the Project site and beyond the site boundaries. Invasive weeds that were found on the Project site are Saharan mustard (*Brassica tournefortii*), Russian thistle (*Salsola tragus*), tamarisk or saltcedar (*Tamarix ramosissima*), Mediterranean grass (*Schismus barbatus*), London rocket (*Sisymbrium irio*), red brome (*Bromus madritensis* ssp. *rubens*), foxtail barley (*Hordeum jubata*), annual beard grass (*Polypogon monspeliensis*), and athel tamarisk (*Tamarisk aphylla*).

While chemical control with herbicides may be necessary to minimize the spread of non-native invasive species following construction, their use may affect adjacent non-target vegetation and wildlife in treatment areas. Accidental spills and herbicide drift from treatment areas could be particularly damaging to non-target vegetation.

As described for O&M and decommissioning, washing of solar panels would introduce additional water to the site, which would supplement natural sources and may affect vegetation composition or persistence. However, panel washing would be performed infrequently (up to four times each year) if natural rains do not sufficiently clear dust and debris. No chemical agents would be used for module washing. It is not expected that panel washing and the supplemental water would be enough to affect vegetation community composition or persistence.

Photovoltaic Heat Island Effect

A photovoltaic (PV) "heat island" effect refers to the temperatures in and around PV solar power plants increasing from ambient temperature due to replacement of native land cover with solar panels that absorb heat. This is similar to the "urban heat island" effect, where native cover is replaced with pavement and concrete buildings. Solar panels convert solar radiation into heat, which can alter the air flow, energy flux dynamics, and temperatures near the panels (Fthenakis and Yu, 2013; Barron-Gafford et al, 2016). Soils, vegetation, and wildlife may be affected by such changes and increases in temperature in and around the solar farms. Increased temperatures may increase evapotranspiration from vegetation and affect recovery and persistence of native habitat and preferred forage plants. This may also decrease soil moisture, which could impact suitability of soils for burrowing wildlife such as desert tortoise, burrowing owl, badger, and kit fox.

Fthenakis and Yu (2013) found that annual average air temperature in the center of a solar project at heights approximately 2.5 meters (8 feet) above the ground can reach up to 1.9°C (3.5°F) above ambient temperature. This thermal energy dissipates and reaches ambient temperature at 5-18 meters (16-60 feet) above the ground. This same study found a prompt dissipation of thermal energy and decrease to ambient temperatures around the PV panels at 300 meters (984 feet) away from the perimeter of the solar farm and that access roads between solar fields allow for substantial cooling. Over 18 months of data showed that the solar array was cooled to ambient temperatures overnight. This study suggests that increases in temperatures surrounding solar farms are localized during the day.

Similarly, Broadbent (2019) found increased temperatures during the day, with an average 1.3°C increase in air temperature in the solar field at a height of 1.5 meters (5 feet). During the night, their results also showed no significant difference in the air temperatures between the solar facility and a reference site. This study also showed that the average soil temperature at 2 to 6 centimeters (0.75 to 2.4 inches) depth at the solar site was approximately 10°C cooler than at the exposed reference site. By contrast, the nighttime soil temperatures at the solar site were warmer than the reference site. The study demonstrated that shading from solar panels causes cooler soil temperature during the day and slightly warmer soil temperature at night.

Barron-Gafford et al (2016) monitored three study sites (natural desert ecosystem, traditional built environment (parking lot with commercial buildings), and PV power plant), measuring air temperature at 2.5 meters (8 feet) off the ground. The average annual air temperature was greater at the PV power plant, increasing 2.5°C during the day. Contrary to other studies, a delayed cooling of ambient temperatures was detected in the evenings, with average annual midnight temperatures increasing 3.5°C, compared with the natural desert ecosystem. This study asserted that by removing vegetation, heat-dissipating transpiration from vegetation is decreased, and compared to natural systems, the greater amount of exposed ground surfaces absorbs more solar radiation during the day, which may increase soil temperatures (Barron-Gafford et al, 2016). During the night, stored heat is reradiated, where warming under the panels may be due to the heat trapping of reradiated heat flux (Barron-Gafford et al, 2016). Broadbent (2019) suggests that these considerable nighttime temperature increases detected were partially caused by advection from urban surfaces near the study site.

Devitt (2022) evaluated a large solar facility in the Mojave Desert and the effect it had on adjacent down gradient creosote communities. The study monitored changes in soil and plant water status over a 900-meter transect where a built service road resulted in decoupling of up-gradient washes from down-gradient locations leading to a decline in soil water in storage. Similar to other studies, air temperatures were significantly warmer near the solar facility compared to a reference point. Consistent with Barron-Gafford (2016), night temperatures were found to be higher closest to the solar facility.

Beatty (2017) studied revegetation of a solar facility with varying treatments (varying seed mixes (shade tolerant vs. sun tolerant), varying cultural treatments (protection of seeds), and varying amounts of shade (based on orientation of collector panels)). The highest total vegetation cover was associated with seeding warm-season native grasses in the absence of any seed protection. Renewable Energies Agency looked at revegetation under modules for various case studies and recommended using a seed mixture appropriate for local site fauna to promote re-establishment of vegetation (Beatty et al, 2017). Although the study did not address whether successful revegetation fostered reestablishment of wildlife use, incidental observations suggested that it had to some extent.

Notably, these studies were performed on solar sites that were graded and unvegetated. Barron-Gafford concluded, in part, that mitigation of the PV heat island effect would be achieved through targeted revegetation, which could ease ecosystem degradation associated with development of utility scale solar projects (Barron-Gafford et al, 2016). Further, the study performed by Devitt (2022) was located at a solar facility with a fixed panel system. Regarding nighttime temperatures, the study suggested that if the panels are mounted as a tracking system, the panels could be situated in a perpendicular position relative to the ground at night, allowing longwave radiation and trapped heat to escape to the sky, reducing the heat displacement into adjacent plant communities during the early morning hours.

Based on studies to date, impacts to vegetation and wildlife at solar facilities related to the PV heat island effect include increased air temperatures in the vicinity of the solar field and changes in soil temperatures. Increased temperatures could impact the species composition of vegetation and wildlife in the vicinity of the solar facility, where temperatures could be too high for certain species to persist. Mobile species may be displaced as they are forced to vacate the area of increased temperatures. Changes in hydrology could reduce water availability for vegetation communities and increases or decreases in soil temperatures could affect persistence of vegetation and habitat suitability for burrowing wildlife.

However, unlike the solar farms in these studies, the proposed Project would maintain vegetation under the solar panels, which would be mowed and rolled to a height of 12 inches to preserve vegetation and facilitate more effective post-construction site revegetation (see Section 2.6.3). Woody vegetation, such as palo verde trees, that are in areas adjacent to infrastructure where it does not affect solar panel performance would be partially cut, leaving the lower trunk intact to allow regrowth of branches and leaves. The proposed layout of solar panels would avoid desert dry washes except for minor incurious and where there is intervening infrastructure. ~~Certain areas of the site with highly irregular topography that provide important hydrologic functions to the site would be avoided by Project design.~~ It is anticipated that many species will regenerate post-construction due to preservation of desert vegetation during the construction phase. After construction, a Vegetation

Resources Management Plan (MM BIO-5) would be implemented to direct revegetation of temporarily disturbed areas and monitor the success of revegetation efforts. Revegetation would also be the primary strategy to control dust across the solar facility site. Onsite vegetation may be trimmed approximately once every three years, as needed. Further, the proposed panel mounting system is expected to be single-axis trackers with a portrait module orientation (see Section 2.5.1), that could be oriented throughout the night to release stored heat.

The studies suggest that many factors interact in complex ways to influence the movement of heat away from solar facilities, including topography, wind direction, flows of cold air, seasonal changes in climate, shading from solar panels, presence of native vegetation and hydrology, and structural features of the solar panels (ability to tilt and height from the ground). Further research is needed to evaluate the PV heat island effect at solar facilities where vegetation is maintained in the solar field and where solar panels are mobile on a tracking system. However, existing studies suggest that by maintaining vegetation under the solar panels, and adjusting the nighttime tilt of solar panels, the PV heat island effect can be mitigated and impacts would not be significant. As described in the project description, panels would be stowed at max tilt (60 degrees) overnight, thereby allowing heat to escape from beneath the panels (see Section 2.3.1). Panels may be temporarily stowed in a different angle position if needed due to mechanical or electrical maintenance or for high wind protection.

Mitigation of Project Impacts on Private Land

Without mitigation, the loss of native vegetation and habitat on private lands in the Project site would significantly affect special-status species on the site or in the vicinity. Impacts would be avoided, minimized, and mitigated by implementing mitigation measures (MMs), listed below.

MM BIO-1 (Biological Monitoring) would require monitoring and reporting by qualified biologists to ensure compliance with all biological resource measures and permitting requirements.~~, including avoidance and minimization of habitat impacts.~~ Biological monitoring during construction would ensure that ground and vegetation disturbance would not be performed outside of approved work areas and that impacts to vegetation are minimized.

MM BIO-2 (Worker Environmental Awareness Training) would require training of on-site workers by Project biologists to identify and avoid sensitive biological resources, and to report observations to the Project biologists. ~~and to avoid and minimize impacts to special-status species and their habitat.~~ Comprehensive training of on-site workers would ensure that they limit ground disturbance to work areas and that they avoid sensitive habitats and special-status species.

MM BIO-3 (Minimization of Vegetation and Habitat Impacts) would require clear demarcation of work areas with staking, flagging, or other appropriate materials that are readily visible and durable.~~-~~ Work areas include staging areas, access roads, and sites for temporary placement of construction materials and spoils. All disturbances, vehicles, and equipment will be confined to the fenced/flagged areas. Sensitive resources that require avoidance would be flagged by the Lead Biologist. Fencing/staking will remain in place for the duration of construction. ~~and limitation of activities within those areas, to minimize significant effects to habitat.~~ Native vegetation would be allowed to recover from rootstocks where permanent facilities are not required, improving post-construction habitat values in the Project area. Flagging and staking work areas would avoid ground, soil, and vegetation disturbance outside of approved boundaries, minimizing impacts to habitat in the vicinity of work areas.

MM BIO-4 (Integrated Weed Management Plan) requires ~~that~~ the development of an Integrated Weed Management Plan (IWMP) (EIR Appendix N), which will specify weed species occurring or potentially occurring in the Project area, the means to prevent their introduction or spread, monitoring methods to identify infestations, timely implementation of suppression and containment measures, and a reporting schedule. In addition, MM BIO-4 requires the IWMP to identify herbicides that may be used for control or eradication, and avoid herbicide use in or around any environmentally sensitive areas. Management of the sources of non-natives (equipment tires, construction materials) and suppression and containment of non-native invasives (mechanical and/or chemical control) would improve post-construction habitat values in the Project area by preventing introduction and spread of weeds that outcompete native species and increase risk of wildfire. Proper use of herbicides, in compliance with BLM guidelines, would minimize herbicide drift and spills to avoid contamination and degradation of non-target vegetation.

MM BIO-5 (Vegetation Resources Management Plan) requires a plan to direct revegetation of temporarily disturbed areas to minimize dust and erosion and to improve post-construction habitat values (Appendix S). The plan would specify revegetation methods including soil preparation, erosion control methods, and planting and seeding, cactus salvage procedures, a planting schedule, irrigation and maintenance guidelines, a vegetation monitoring and reporting program, and quantitative success criteria to measure the recovery of vegetation post-construction. Erosion control shall be implemented as described in the Drainage Erosion and Sedimentation Control Plan (DESCP) (MM HWQ-1). Seeding and revegetation, soil decompaction, and erosion control would stabilize soils post-construction and promote native habitat recovery, which would minimize long-term impacts to native habitats and soils in the Project area.

~~Impacts to native habitat would be mitigated in accordance with regulatory permits from the CDFW and RWQCB. Impacts to desert dry wash woodland would be avoided on private lands, as on BLM lands in accordance with the DREPC CMAs. Habitat impacts on BLM lands would also be mitigated in accordance with the DRECP and mitigation measures in the final NEPA document.~~

These mitigation measures would ensure that disturbance of vegetation and habitat on private land portions of the project site is minimized and restricted to designated and demarcated work areas.

Impacts to desert dry wash woodland have been avoided (except for minor incursions of linear features and where there is existing intervening infrastructure on private lands) on private and BLM lands as part of the Project design (Section 2.7.3), consistent with DRECP CMA LUPA-BIO-RIPWET-1 (see below and in Appendix CC). Compensatory mitigation for minor incursions into desert dry wash woodland on private land shall be identified prior to disturbance of the features at a minimum 5:1 ratio, as required in MM BIO-14 and consistent with DRECP CMA LUPA-BIO-COMP-1. Compensatory mitigation for impacts to desert pavement on private land shall be identified at a minimum ratio of 1:1, as required in MM BIO-3 and consistent with DRECP CMA LUPA-BIO-COMP-1. Compensatory mitigation for impacts to suitable desert tortoise habitat (creosote bush scrub) on private land shall be identified prior to disturbance of features at a minimum 1:1 ratio and impacts to desert tortoise critical habitat at a 5:1 ratio, as required in MM BIO-7 and consistent with DRECP CMA LUPA-BIO-COMP-1. Avoidance of desert dry wash woodland would preserve habitat values on the Project site and minimize impacts to vegetation. Compensation for impacts to vegetation would offset habitat loss.

Mitigation of Project Impacts on BLM Land

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations included in any BLM ROW Grant issued for the Project. Compliance with the following CMAs, which would be required on BLM land, would mitigate impacts on BLM land to less than significant, as described below.

- **LUPA-BIO-1** (Biological Resources) requires assessments of habitat, identification of vegetation types, and protocol surveys for BLM Special Status Species where suitable habitat may be present in the Project area. Habitat assessments and protocol surveys would ensure that sensitive biological resources would be detected and identified for avoidance.

- **LUPA-BIO-2** (Biological Resources) requires a designated biologist to conduct and oversee biological monitoring and reporting during pre-construction, construction, and decommissioning. Using a qualified biologist to oversee surveying, monitoring, and reporting will ensure that ground and vegetation disturbance would not be performed outside of approved work areas and that direct injury and mortality of wildlife species is avoided.
- **LUPA-BIO-5** (Worker Education) requires that all activities implement a BLM-approved worker education program that describes biological resources and how to identify them, their legal protections, minimization and mitigation measures, and reporting requirements. Comprehensive training of on-site workers would ensure that they limit ground disturbance to work areas and that they avoid sensitive habitats and special-status species.
- **LUPA-BIO-7** (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance) requires that temporary impact areas be restored using site-specific seed and soils, planting methods and timing, and success criteria, monitoring, and contingency measures, and that cactus be salvaged from the site and re-planted to the maximum extent practicable. Seeding, revegetation, soil decompaction, and erosion control would stabilize soils post-construction and promote native habitat recovery, which would minimize long-term impacts to native habitats and soils in the Project area.
- **LUPA-BIO-10** (Standard Practices for Weed Management) requires best management practices for weed management such as cleaning tires and equipment prior to entering the site, using certified weed free construction materials, re-vegetation of disturbed areas, and monitoring, identification, and eradication of weed infestations. Identification, suppression, and containment of non-native invasives and their sources would improve post-construction habitat values in the Project area by preventing introduction and spread of weeds that outcompete native species and increase risk of wildfire.
- **LUPA-BIO-11** (Nuisance Animals and Invasive Species) requires the management and proper use and disposal of herbicides and pesticides, and restriction of herbicide use near streams, washes, and surface and subsurface waters. Proper use of herbicides, in compliance with BLM guidelines, would minimize herbicide drift and spills to avoid contamination and degradation of non-target vegetation and waterways.
- **LUPA-BIO-13** (General Siting and Design) requires siting and design to avoid impacts to unique plant assemblages. The CMA requires projects along the edges of the biological linkages to maximize the retention of microphyllous woodlands, in order to maintain the function of the connectivity area. The CMA requires that Project boundaries be demarcated and that Project activities, equipment, and vehicles be restricted to marked areas and existing roads and utility corridors. Lighting is required to be limited and directed away from habitat areas to minimize disturbance. Avoidance of desert dry wash woodland would prevent direct removal of functional corridor habitat. Flagging and staking work areas would avoid ground, soil, and vegetation disturbance outside of approved boundaries, minimizing impacts to habitat in the vicinity.
- **LUPA-BIO-SVF-1** (Special Vegetation Features) requires that a habitat assessment be performed for special vegetation features such as yucca, creosote rings, microphyll woodland, and Crucifixion thorn stands, which would ensure that these resources are identified and demarcated for avoidance or salvage.
- **LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6** (General Vegetation Management) requires that management and salvage of cacti and BLM sensitive plants adhere to BLM-policies, downed wood be promoted for habitat values, and plant material be collected for re-vegetation. These measures would ensure that habitat values are improved in the Project area after construction.

The following CMAs describe protection for desert dry wash woodland. The Project design would avoid desert dry wash woodland with a 200-foot setback buffer, except for minor incursions, consistent with the CMAs (Section 2.7.3).

- **LUPA-BIO-3** (Resource Setback Standards) requires setbacks from specific biological habitats with allowable minor incursions as specified in applicable CMAs. Setback requirements are described in the species-specific CMA. The Project would avoid the desert dry wash woodland vegetation type with the required 200-foot buffer per LUPA-BIO-RIPWET-1 (See LUPA-BIO-RIPWET-1).
- **LUPA-BIO-RIPWET-1** (Other Riparian & Wetland Focus Species) requires that certain vegetation types be avoided with a specified setback, except for allowable minor incursions. Sonoran-Coloradan Semi-Desert Wash Woodland (desert dry wash woodland, microphyll woodland) is required to be avoided with a 200-foot setback.
- **LUPA-BIO-SVF-6** (Special Vegetation Features) requires that impacts to microphyll woodland be avoided except for minor incursions.
- **LUPA-BIO-COMP-1** (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation) require compensation for loss of desert riparian woodland vegetation (5:1), through non-acquisition (i.e., restoration and enhancement), land acquisition (i.e., preserve), or a combination of these options. Compensation would offset habitat loss resulting from direct vegetation removal in work areas. Impacts to desert dry wash woodland would be avoided, except for minor incursions; compensation for minor incursions would be mitigated at a 5:1 ratio.

Similar to the requirements of the MMs, CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve sensitive habitat in the Project area and prevent degradation from disturbance in adjacent areas.

Mitigation Conclusion

With implementation of~~MMs BIO-1 through BIO-5~~ mitigation measures on private land and CMAs on BLM land as described above, impacts to vegetation and habitat would ~~minimize significant impacts to native habitat~~be less than significant.

Special-status Plants

Impacts Discussion

Construction activities may result in direct impacts to special-status plants, including loss of individuals. Four special-status plants were observed on the Project site (Figure 3.5-4). One Emory's crucifixion thorn was observed along the northern boundary of the site and would be avoided outside the development footprint. California ditaxis was observed primarily along or outside Project boundaries, and impacts would be minimal. Desert unicorn-plant is located primarily in desert dry wash woodland habitat that would be avoided outside the development footprint, and impacts would be minimal. Utah milkvine was observed in one location. As CRPR 4 (watch list) species without additional reasons for conservation concern (e.g., geographic range, unusual morphology, or unusual habitat/substrate), potential impacts to desert unicorn-plant and Utah milkvine are not significant. Suitable habitat for glandular ditaxis, Harwood's milkvetch, Las Animas Colubrina,~~ and~~ spiny abrojo, and Argus blazing star is located within the Project area, but they were not observed. No other special-status plant species were observed. Protected desert native plants, as listed in Section 3.5.1.3, were observed in the Project area (Refer to the BRTR [EIR Appendix C] for a map of locations).

Impacts to special-status plants and protected native desert species would be similar to those previously described for Vegetation and Habitat. Potential direct impacts to special-status plants may include direct crushing, burial, or uprooting of individual plants; root damage; disturbance of seed banks, underground dormant plants, and plant nutrients; burial or scour of plants from altered runoff, sedimentation, and erosion; and disruption of photosynthesis from fugitive dust. These impacts would result from trimming, cutting, or removing vegetation, grading, earth-moving, and vehicle traffic.

Indirect impacts to special-status plants may occur from incidental introductions of invasive weeds that outcompete native species and reduce habitat quality. Although some impact areas may be temporarily disturbed, the effects to special-status plants may be long-term or permanent in that area due to changes in soil conditions and seed banks after construction.

Mitigation of Project Impacts on Private Land

Without mitigation, Project construction on private land within the Project site could result in the loss or disturbance of local populations of special-status plants and established seed banks, which would be a significant impact to special-status plants on the Project site or in the vicinity. ~~the loss of vegetation and natural habitat on the Project site would significantly affect special-status plants on the site.~~

Impacts to special-status plants on private land in the Project site would be avoided and minimized by implementing MMs BIO-1 through BIO-5. As described in detail for Vegetation and Habitat, MMs BIO-1 to MM BIO-5 require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive plant and wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan). These measures would avoid direct disturbance and removal of individual special-status plants as marked, and minimize the disturbance of the seed bank and disruption of supporting soils by keeping work activities within designated work areas. Low impact site preparation would increase vegetation retention and restoration after construction. The IWMP (Appendix N) would prevent contamination and degradation of non-target vegetation and improve habitat values by managing herbicide use and preventing and controlling spread of weeds in disturbed areas. The VRMP (Appendix S) would describe methods for salvaging, storing, and handling seed and plants from the Project site. By implementing seed and plant salvage, seeding and revegetation, soil decompaction, erosion control, and non-native control in disturbance areas, soils would be stabilized, native vegetation would be re-established, and post-construction habitat values would be improved in the Project area to support recovery of special-status plants.

The Project has been designed to avoid desert dry wash woodland (except for minor incursions). Compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values and offset habitat loss.

Mitigation of Project Impacts on BLM Land

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations in any ROW Grant issued for the Project. Compliance with these CMAs, which would be required on BLM lands, would mitigate impacts on BLM land to less than significant, as described.

The following CMAs, previously detailed for Vegetation and Habitat, would reduce impacts for special-status plants for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-SVF-1 (Special Vegetation Features).
- LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

These CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve sensitive habitat in the Project area and prevent degradation from disturbance in adjacent areas. Compensation would offset habitat loss.

Additionally, the following CMA would be implemented to minimize impacts to special-status plants:

- **LUPA-BIO-PLANT-1** (Plant Species (PLANT): Plant Focus and BLM Special Status Species CMAs) requires properly timed protocol surveys for BLM Special Status Plant Species, which would ensure identification of special-status plants in disturbance areas that require demarcation for avoidance or salvage.

By identifying individual special-status plants in the Project area, they could be avoided or salvaged for post-construction re-vegetation, promoting recovery of habitat values.

Mitigation Conclusion

With implementation of mitigation measures on private land and CMAs on BLM land as de~~fined~~scribed above, impacts to special-status plant species would be less than significant.

Special-status Wildlife

Impacts Discussion

Construction may result in direct impacts to special-status wildlife including injury or mortality. Construction activities would cause most mobile vertebrate wildlife to leave or attempt to leave the site. Wildlife dispersing from the site could be at increased risk of predation and possible vehicle collisions as they flush from cover during site clearing. After leaving their home territories, displaced wildlife may be unable to find suitable food or cover in new, unfamiliar areas. Displacement effects would apply to common and special-status wildlife species.

Construction could cause mortality of small mammals and reptiles which may be crushed by construction equipment. In most cases, adult birds would fly away from the disturbance, but bird nests (including eggs or nestlings, if present) would be lost. Burrowing owls and some reptiles, if present during construction, would tend to shelter inside burrows where they could be vulnerable to crushing. Land use conversion could exclude reptiles, birds, and mammals from portions of their territories, and could reduce availability of prey items and breeding opportunities.

Introduction of new roads fragments and degrades habitats in the vicinity, interrupts surface hydrology, disrupts wildlife movement patterns and behaviors, divides wildlife populations, and may result in increased wildlife mortality from vehicle strikes. Increased roadkill becomes an attractant for opportunistic predators that prey on special-status wildlife. Wildlife populations may decline with cumulative mortality and loss of larger reproductive animals (Nafus et al., 2013).

Facilities could present hazards to wildlife. For example, vertical structures can be collision hazards for birds or bats in flight; trenches can be pitfall hazards for terrestrial wildlife; and construction materials such as open pipes or tubing can attract birds or terrestrial species, which can become trapped inside. Open, uncovered water tanks may attract wildlife that subsequently drown without a means of exit. Installed fencing may provide opportunities for perching of predatory birds, such as raptors and ravens.

Noise and lighting during construction could affect wildlife in adjacent habitats by disrupting foraging, breeding, sheltering, and other activities; or may cause wildlife to avoid otherwise suitable habitat surrounding the site. Lighting during construction may affect nocturnal wildlife species, by causing alterations to forage or movement behavior, possibly attracting some species to the site (e.g., bats may be attracted to insects at light sources) or dissuading other species from approaching the site. Various other human activities (e.g., vehicle traffic, accumulated waste, or nuisance water sources) can be injurious to wildlife, either as direct hazards (vehicle strikes) or as attractants and subsidies such as food or water. ~~that may~~ Subsidies could attract special-status species and put ~~wildlife~~ them in harm's way or attract opportunistic predators that prey on those species. Facilities and equipment may become nest or perch sites for certain birds (common raven, loggerhead shrike) which may prey on special-status species (desert tortoise).

Herbicides used to treat invasive weeds may also pose risks to terrestrial or aquatic wildlife species. Herbicides that persist on site could injure wildlife that ingest target plants or come into contact with herbicides (e.g., by digging or rolling in treated soil).

Mitigation of Project Impacts on Private Land

Without mitigation, the loss and modification of native habitat and direct disturbance, mortality, or injury of special-status wildlife as a result of project construction on private land within the Project site could significantly affect species on the project site or in the vicinity.

Impacts to special-status wildlife on private land would be minimized and avoided with implementation of mitigation measures.

MMs BIO-1 to MM BIO-5, as discussed in detail for Vegetation and Habitat, require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive plant and wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing herbicide use and the introduction and spread of non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan).

These measures would minimize direct disturbance, loss, degradation, and contamination of nesting, sheltering, and foraging habitat for special-status wildlife by keeping work activities within designated work areas. By implementing seeding and revegetation, soil decompaction, erosion control, and non-native control in disturbance areas, as directed in the IWMP and VRMP, soils would be stabilized, native vegetation would be re-established, and post-construction habitat values would be improved in the Project area. Management of herbicides in accordance with established protocols will prevent wildlife encounters with treated vegetation.

The Project has been designed to avoid desert dry wash woodland (except for minor incursions of linear features and where there is existing intervening infrastructure), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values for wildlife and offset habitat loss.

Additionally, MM BIO-6 (Wildlife Protection) ~~are discussed by species in detail below. Without mitigation, impacts to special-status wildlife would be significant, as described for each species.~~

~~MM BIO-6 (Wildlife Protection)~~ identifies numerous requirements to manage hazards to wildlife in work areas and report dead or injured wildlife. ~~avoid, minimize, and mitigate wildlife injury and mortality, such as site inspections, ramps to ensure escape from excavations, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits.~~ By performing site inspections; restricting vehicle speed limits; monitoring for wildlife entrapment and providing means of escape in trenches, holes, piping, or water tanks; managing food, trash, and water subsidies; and properly handling hazardous materials, predation, injury, and mortality of special-status wildlife would be reduced. Use of directed night lighting would minimize disturbance of wildlife in the Project vicinity and adjacent habitat. These measures would increase detection of wildlife that require avoidance in Project areas and would prevent attraction of predators and special-status species to the Project site, where there is increased likelihood of disturbance.

~~Additionally, BLM with Cornell University, USGS, and UC Davis would conduct a three-year BACI scientific research study on wildlife responses to solar energy development (e.g., site preparation, management actions, and conservation measures) on federal lands in the Project vicinity. The Easley site would be surveyed during construction and O&M to better understand wildlife movement in desert wash corridors in relation to solar facilities, post-construction wildlife responses relative to pre-construction baselines, and effective conservation measures and adaptive management. While the study will not focus on federally listed species, the responses of other sensitive and common species would inform management approaches.~~

Mitigation of Project Impacts on BLM Land

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with these CMAs, which would be required on BLM lands, would further mitigate impacts to less than significant, as described.

The following CMAs, previously detailed for Vegetation and Habitat, would reduce impacts to wildlife habitat used by special-status species for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).

- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

These CMAs reduce impacts to wildlife and habitat by requiring qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot setback buffer would prevent direct removal of sensitive habitat used by many wildlife species for foraging, shelter, breeding, and movement through the Project vicinity. A 200-foot setback would reduce degradation from disturbance in adjacent areas.

Additionally, the following CMAs would be implemented to minimize impacts to special-status wildlife:

- **LUPA-BIO-4** (Seasonal Restrictions) requires species-specific seasonal restrictions on Project activities as specified in the applicable CMAs. Seasonal restrictions and requirements are described in the species-specific CMA. Seasonal restrictions would ensure that construction activities do not disturb sensitive wildlife species during vulnerable periods in their life cycle.
- **LUPA-BIO-6** (Subsidized Predators Standards) requires management of predator subsidies including food, water, trash, breeding and roosting sites for common raven. By reducing predator attractants and managing subsidies, injury or mortality of special-status wildlife due to predation would be minimized.
- **LUPA-BIO-12** (Noise) requires that noise from stationary sources that exceed background ambient levels and that may impact BLM Special Status Species be managed, and that equipment be fitted with mufflers to reduce noise. By reducing noise in the Project area, indirect disturbance to wildlife in adjacent habitats and foraging, breeding, and movement behaviors would be minimized.
- **LUPA-BIO-14** (Biology: General Standard Practices) requires that BMPs be implemented to protect BLM Special Status Wildlife Species, such as prohibiting harassment or feeding wildlife; prohibiting domestic pets on the Project site; inspection of construction materials that may provide shelter for wildlife; covering and inspection of trenches and excavations that may be an entrapment hazard to wildlife; providing a means of escape from excavations; and minimizing vegetation removal using crushing or mowing techniques. These measures would increase detection of wildlife that require avoidance in Project areas and would prevent attraction of predators and special-status species to the Project site, where there is increased likelihood of disturbance, mortality, and injury. Using crushing and mowing techniques would minimize impacts to vegetation and promote recovery of native wildlife habitat.
- **LUPA-BIO-15** (Biology: General Standard Practices) requires use of BLM-approved "state-of-the-art" construction techniques that minimize site disturbance, soil erosion and compaction, and removal of vegetation. Using current BLM-approved methods would minimize impacts to vegetation and promote recovery of native wildlife habitat.
- **DFA-BIO-IFS-1 to -3** (Biological Resources) requires that species-specific protocol surveys be implemented in DFAs for desert tortoise, Bendire's thrasher, and burrowing owl and that species-specific setbacks be implemented in DFAs for Bendire's thrasher, burrowing owl, and Swainson's hawk. Surveys and setback buffers would ensure that species are detected on the Project site and avoided at a distance that is sufficient to prevent disturbance of target species.

These CMAs reduce disturbance, injury, and mortality of wildlife species, by surveying and buffering for individuals, limiting work during species active seasons, and managing work site hazards and sources of disturbance.

Species-Specific Measures

The following paragraphs summarize species-specific impacts, mitigation measures, and CMAs in addition to the MMs and CMAs previously described, which provide improvement and avoidance of habitat and protection of wildlife from work site hazards for all special-status species on the Project site.

Species-specific mitigation measures, as discussed in detail below, ensure that work areas on private land in the Project site would be surveyed, and that special-status wildlife would be identified, monitored, buffered and avoided, or properly excluded or relocated. These measures are expected to reduce the need for handling, the likelihood and severity of injury, and the likelihood of mortality of special-status wildlife with potential to occur in the Project areas. CMAs described below would likewise minimize impacts on special status wildlife on BLM land within the Project site.

~~With implementation of MM BIO-6 and other wildlife mitigation measures described for each species, impacts to special-status wildlife would be less than significant.~~

Couch's spadefoot toad. Couch's spadefoot toad uses late season monsoonal rain pools for breeding, development and hatching of eggs into tadpoles and then juvenile toads. It requires rain pools that hold water long enough for the eggs and tadpoles to develop, and then disperse into surrounding habitat (approximately 1 week). Couch's spadefoot toad was not observed, but potential suitable breeding habitat is present within the Project site in areas where water accumulates, primarily along Project boundaries where water from agricultural uses accumulates (Figure 3.5-5).

Impacts to Couch's spadefoot toad, if present, may include direct loss of habitat, mortality from crushing, entrapment, or vehicle ~~collision~~strikes, ~~or~~ increased predation by opportunistic predators, or contamination of waterways with hazardous fuels or herbicides. Noise, lighting, or vibrations during construction could disrupt sheltering or breeding behaviors or may cause the toad to avoid otherwise suitable habitat surrounding the site.

~~MMs BIO-1 to BIO-5, previously discussed, would minimize significant impacts to native vegetation and habitat. MM BIO-6 (Wildlife Protection) would minimize mortality and injury with implementation of pre-construction surveys, vehicle speed limits, and measures to prevent entrapment and release entrapped wildlife.~~ In addition to MMs previously detailed, MM BIO-~~12~~ 14 (Streambed and Watershed Protection) would require Best Management Practices (BMPs) to protect water resources on the Project site, where Couch's spadefoot toad may occur. BMPs limit operation of vehicles and equipment in flowing or ponded water and construction in ephemeral drainages, and require containment and cleanup of fuels and construction debris to prevent contamination and pollution of waters. Impacts to jurisdictional features ~~Construction~~ would require coordination with CDFW regarding a ~~a~~ Lake and Streambed Alteration Agreement (LSAA) ~~from CDFW~~ and with RWQCB regarding Waste Discharge Requirements (WDR) ~~from RWQCB~~, which would have ~~additional~~ permit requirements to protect jurisdictional wetlands and waters, including Couch's spadefoot toad habitat (see Impact BIO-5). Compensatory mitigation shall be implemented for impacts to jurisdictional waters at a minimum 1:1 ratio, in coordination with CDFW and RWQCB.

In addition to the CMAs previously detailed for all special-status wildlife species, LUPA-BIO-9 (Water and Wetland Dependent Species Resources) requires that BMPs be implemented to prevent toxic and hazardous materials from entering streams and washes, such as proper maintenance and fueling of vehicles and equipment, and prompt clean up of spills. The CMA requires erosion and sedimentation control, including maintaining natural drainages, reducing impervious surfaces, stabilizing disturbed areas, and performing regular inspections and maintenance of erosion control. The CMA also requires that means of escape be provided for wildlife from ponds or other Project related water infrastructure. By properly handling and containing hazardous fuels and managing erosion in work areas, contamination, pollution, and sedimentation of waters would be minimized and avoided. Protection of waters would reduce impacts to Couch's spadefoot toad. Use of escape structures for wildlife from open water would prevent injury or mortality from drowning. Compensatory mitigation for impacts to jurisdictional waters that may provide habitat for Couch's spadefoot toad would also be required pursuant to CMA LUPA-BIO-COMP-1.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to Couch's spadefoot toad would be less than significant.

Native Birds. Native birds are protected under the California Fish and Game Code and federal MBTA (see Section 3.5.2, Regulatory Framework). Special-status birds are discussed in the paragraphs below. The Project site and surrounding area provides suitable nesting habitat for numerous resident and migratory bird species. Bird nests, including eggs and nestlings, are vulnerable to construction activities that may disrupt nesting behavior or damage nests, birds, or eggs.

Direct removal of vegetation and habitat on the Project site would reduce availability of nesting and foraging habitat and disturbance would reduce availability of food sources. Open water tanks and project materials or equipment may introduce an entrapment hazard, which could lead to injury or mortality. Indirect impacts would include increased noise, dust, light, and activity, which may affect migratory or foraging behavior. Exposure to herbicides or spilled fuels may injure or kill individuals. After completion of construction and throughout the life of the Project, the solar facilities and other Project components may present a collision or electrocution risk to birds. Impacts due to collision and electrocution are detailed below.

Impacts to native birds, including special-status birds, would be significant. Impacts would be avoided and minimized with implementation of mitigation measures. ~~Implementation of MMs BIO-1 through BIO-6, which require habitat compensation, revegetation of short-term impact areas, pre-construction surveys and marking of sensitive resources, management plans, and construction crew training, would minimize and offset adverse impacts to native vegetation, thereby minimizing impacts to bird and bat habitat.~~

In addition to MMs BIO-1 to BIO-6, previously detailed, ~~MM BIO-6 (Wildlife Protection) would minimize Project impacts to birds through a series of requirements to minimize or avoid wildlife injury, such as site inspections, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits.~~

MM BIO-8 (Bird and Bat Conservation Strategy [BBCS]) requires a ~~Bird and Bat Conservation Strategy (~~BBCS~~)~~ Plan that would identify potential hazards to birds and bats during construction and O&M. The Plan (see Appendix M) specifies measures to recognize, minimize, and avoid hazards, describe procedures for reporting and handling dead or injured wildlife, and describe post-construction monitoring and adaptive management for bird and bat mortality. Hazards may include collision, electrocution, territory abandonment, nest and roost site disturbance, habitat loss and fragmentation, disturbance from human presence, and predator subsidies, in accordance with USFWS guidelines (USFWS, 2010). The plan requires provisions for adaptive management to evaluate the death and injury of birds that are detected, based on the results of similar monitoring at other solar project sites in the vicinity. Resulting data would be used to inform adaptive measures needed to mitigate or minimize Project-related avian impacts, which may include implementing additional mortality monitoring or installing bird deterrents. By implementing the requirements of the BBCS, injury and mortality from work site and Project related hazards and operation of the solar facilities would be adaptively managed and reduced.

MM BIO-9 would protect nesting birds by implementing a Nesting Bird Management Plan (NBMP) (Appendix O), which requires pre-construction nest surveys and sweeps, establishment of exclusion buffers around active nests and nest monitoring, and agency reporting and adaptive management. Surveys, exclusion buffers, and monitoring would protect nesting birds from direct mortality or injury; avoid direct destruction of nests, eggs, and young; and minimize disturbance of nesting behaviors from construction noise, vibrations, dust, lighting, and increased human presence, which could otherwise result in nest abandonment. ~~, implement nesting bird surveys per a Nesting Bird Management Plan (NBMP), include monitoring and avoidance of nesting seasons, and specify measures to recognize, minimize, and avoid hazards. With mitigation, impacts to native birds would be less than significant.~~

Bird Collision

After completion of construction and throughout the life of the Project, the solar facilities and other components may present a collision or electrocution risk to birds. Collisions typically occur when the structures are not visible (e.g., power lines or guy wires at night), or are deceptive (e.g., glazing and reflective glare) or confusing (e.g., light refraction or reflection from mist). In the case of solar panels, birds may collide with the panels that reflect the sky and clouds and are misconstrued as safe passage (USGS, 2016). S~~s~~ome have hypothesized that the collision risk may be linked to a “false-lake effect,” wherein birds may mistake PV panels for water bodies, and consequently be attracted to them. This effect may be the cause of water-associated and water-obligate species mortalities, including federally listed Yuma Ridgway’s rail, which has been found at another solar facility.

Injuries from collisions with panels may result in immediate death due to fatal blunt trauma, or stranding (the inability of a bird to take flight) (USGS, 2016). Stranding can occur when an individual crippled by collision impact is unable to take off, or when a water bird (that can reach take-off velocity only after running on the surface of a water body) lands safely but, without a sufficiently large body of water, cannot take off and may succumb to starvation or heat exhaustion.

Solar structures found in large solar generation facilities may mimic water bodies (i.e., “lake effect”) and create solar flux that could potentially result in collision. The highest anticipated collision risk is in the Cadiz Valley and Chocolate Mountain area where the Project is located (BLM, 2015). The Project is located within the Pacific Flyway, and is centrally located within 40 miles of the Salton Sea to the southwest and within 50 miles of the Colorado River to the east, both of which provide stopover habitat for migratory birds. The nearby Lake Tamarisk also serves as habitat for a large abundance of birds. The lake effect is at present a hypothesis that remains unsupported by empirical research. The cause of avian injuries and fatalities at commercial-scale PV solar projects are being evaluated by the USFWS, CDFW, and others. The structures that have been empirically demonstrated to result in elevated collision risk at various types of facilities (e.g., tall buildings, communication towers, wind turbines, or concentrating solar thermal towers) would not be required at the solar facility for the Project, which consists of low-height PV arrays.

A collection of 13 fatality monitoring studies at PV solar facilities in three bird conservation regions (BCRs) in California and Nevada have shown the highest percentage of fatalities across all studies were common species, including mourning dove, horned lark, house finch, and western meadowlark.

Passerines (55.0 percent) and doves/pigeons (17.0 percent), on average, are the most common detections (Kosciuch et al., 2020). Carcasses of water-associated birds (e.g., herons and egrets) and water-obligate birds (e.g., loons and grebes) have been found at PV solar facilities in the Sonoran and Mojave Deserts, primarily found at sites within 60 miles of the Salton Sea. Water-associated (6.3 percent) and water-obligate species (7.8 percent) each compose less than 10 percent of the detections. Raptors are very uncommon detections (less than 1.0 percent) (Kosciuch et al., 2020). Sensitive species that could occur at the Easley Project site that have been detected as fatalities in the arrays at desert sites include loggerhead shrike (four) and yellow-breasted chat (two). No large mortality events have been documented at PV solar facilities.

Kagan et al (2014) identified bird remains recovered from the three solar facilities in Southern California, Ivanpah, Genesis Solar, and Desert Sunlight. These birds comprised 71 species representing a broad range of ecological types from strictly aerial feeders (e.g. swifts and swallows), strictly aquatic feeders (pelicans and cormorants), ground feeders (roadrunners), to raptors (hawks and owls). The species were equally divided among resident and non-resident species. Both nocturnal and diurnal species were represented. As part of this study, the carcass of one federally endangered Yuma Ridgway's rail was found on the Desert Sunlight Solar Project in 2013 (Kagan, 2014). Harrity and Conway (2020) suggest that rails, which migrate long-distances primarily at night, may benefit from orienting solar panels more perpendicular to the ground overnight in order to minimize potential lake effect (in addition to the PV heat island effect as previously discussed in Vegetation and Habitat).

Kosciuch (2021) studied aquatic bird occurrences at PV solar facilities in Southern California. Over 2 study periods (2018 and 2019) at all study sites (PV facility and reference), 26 aquatic bird species were detected during point counts. The study included Lake Tamarisk as an aquatic reference site, which supported a much higher abundance (25-800 times) of aquatic birds compared to PV solar sites, considering the opportunities for foraging and loafing on the lake. Birds with the highest abundance at Lake Tamarisk were American coot, mallard, ring-necked duck, ruddy duck, black-crowned night-heron, and pied-billed grebe (Kosciuch et. al., 2021). Detections of aquatic bird species at the three studied solar facilities (Blythe, Highlander II, Seville 1 and 2) included mallard (carcass), tree swallow, great egret, northern rough-winged swallow, yellow-headed blackbird, cliff swallow, great blue heron, blue-winged teal (carcass), and common loon (carcass). Monitoring from the study found that live aquatic birds occurred at PV solar facilities, but did not find flocks approaching the sites or landing behavior, which may be expected if aquatic birds are attracted to the solar sites. Aquatic bird detections were made at the studied PV solar facilities and in agricultural reference areas, but not in reference desert scrub and grassland habitats, which may indicate that they are attracted to the facility (Kosciuch et. al., 2021). The study concluded that PV solar facilities are unlikely to provide a signal of a lake to all aquatic birds at all times and that attraction is likely context dependent (based on bird species, its health status (ill or exhausted birds land randomly on a landscape), and causal mechanism of attraction).

~~The structures that have been empirically demonstrated to result in elevated collision risk at various types of facilities (e.g., tall buildings, communication towers, wind turbines, or concentrating solar thermal towers) would not be required at the solar facility for the Project, which consists of low-height PV arrays.~~

MM BIO-8 (Bird and Bat Conservation Strategy), as detailed above for Native Birds, would require the Applicant to prepare a BBCS (Appendix M) that would identify potential hazards to birds and bats during construction and O&M. The Plan specifies measures to recognize, minimize, and avoid hazards, including collision, and describes procedures for reporting and handling dead or injured wildlife. The plan requires provisions for adaptive management to detect and evaluate Project related death and injury of birds, based on the results of similar monitoring at other solar project sites in the vicinity.~~with provisions for adaptive management to monitor the death and injury of birds, based on the results of similar monitoring at other solar project sites in the vicinity.~~ Resulting data would be used to inform adaptive measures needed to mitigate or minimize Project-related avian impacts, which may include implementing additional mortality monitoring, installing bird deterrents, or adjusting overnight orientation of solar panels. ~~Adaptive management during O&M would minimize adverse impacts to birds flying over the Project site.~~By implementing adaptive management, instances of mortality associated with solar facilities would be identified and managed to reduce impacts from collision with solar panels.

Impacts to birds due to electrocution are discussed below for gen-tie lines.

In addition to CMAs previously detailed for all special-status wildlife species, the following CMAs would be implemented to minimize impacts to native birds on BLM land in the Project site:

- **LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs)** requires measures to avoid and minimize impacts to birds and bats, such as managing lighting that will not attract birds and bats and monitoring for birds and bat mortality on the Project site. The CMA requires that a Bird and Bat Conservation Strategy (BBCS) be developed to assess operational impacts to birds and bats, incorporating a bird and bat use and mortality monitoring program during operations, using current protocols and best procedures available at time of monitoring. By implementing the requirements of the BBCS, bird injury and mortality from work site hazards and Project related risks during operation of the solar facilities (collision, electrocution) would be adaptively managed and reduced.
- **LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species)** requires that activities within 0.25 mile of a riparian or wetland vegetation type that may impact riparian and wetland birds would be surveyed with pre-construction/activity nesting bird surveys. Surveys and monitoring would identify nesting birds, nests, eggs, and young that require protection from direct mortality, injury, and destruction and would minimize disturbance from construction noise, vibrations, dust, lighting, and increased human presence, which could otherwise result in nest abandonment.
- **LUPA-BIO-COMP-2 (Compensation [Birds and Bats])** requires that compensation for the mortality impacts to birds and bats from the Project be determined based on monitoring of bird and bat mortality and a fee reassessed every 5 years to fund compensatory mitigation. Monitoring must inform the amount and type of compensation required to offset the effects. Compensation will be satisfied by restoring, protecting, or otherwise improving habitat or non-restoration actions that reduce mortality risks, such as increased predator control and protection of roosting sites from human disturbance. By monitoring bird and bat mortality, the level of impact and associated compensation will be adequately identified.
- **LUPA-BIO-IFS-11 (Bendire's Thrasher)** requires biological monitoring to ensure that individuals are detected in the Project area and are not directly injured or killed.

By identifying potential hazards to birds and bats during construction and O&M, and monitoring for injury and mortality from work site and Project related hazards, implementation of these CMAs on BLM land would ensure that impacts are adaptively managed and reduced. Protecting nesting birds would avoid direct mortality or injury, destruction of nests, eggs, and young, and disturbance of nesting behaviors from construction.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, i~~I~~mpacts to native birds would be mitigated to less than significant.~~With implementation of the mitigation measures described above, impacts to native birds would be less than significant.~~

Western Burrowing Owl. Two burrowing owls, eight burrows, and sign were observed at the Project site and suitable habitat is present. Potential direct Project impacts to burrowing owls include mechanical crushing of individuals or burrows by vehicles and construction equipment, habitat loss and degradation, and noise and disturbance to surrounding habitat.

~~MMs BIO-1 through BIO-5, as previously described, would~~ In addition to MMs BIO-1 to BIO-6, previously detailed, ~~minimize adverse impacts to native vegetation. MMs BIO-6 (Wildlife Protection),~~MM BIO-8 (Bird and Bat Conservation Strategy) (Appendix M), as previously described, would identify Project related hazards and adaptively manage for Project related bird mortality detected on the Project site. By implementing adaptive management, instances of mortality associated with solar facilities would be identified and managed to reduce impacts from Project related hazards. MM BIO-9 (Nesting Bird Management Plan) (Appendix O), as previously described, requires performing pre-construction nest surveys and implementing buffers and monitoring around active nests, which would protect nesting burrowing owls from disturbance due to increased noise, dust, vibration, and human presence and from direct destruction of nests, eggs, and young.

~~, and~~MM BIO-~~10~~ 11 (Burrowing Owl Avoidance and Relocation) would prevent or minimize potential injury to burrowing owl by requiring ~~site inspections, species avoidance,~~ pre-construction ~~nest~~ surveys in accordance with CDFW protocols, identification and buffering of ~~occupied~~ active burrows, ~~and~~ safe exclusion of owls through passive relocation during the non-breeding season, and excavation of unoccupied burrows to prevent future use. Identification of individuals and avoidance of active burrows would minimize disturbance. Passive exclusion of individuals from burrows would prevent entrapment during construction and avoid direct injury and mortality. Compensatory mitigation for burrowing owl shall include suitable habitat for the species at a minimum of 1:1 ratio, in coordination with CDFW. Compensation would offset loss of suitable habitat.

MM BIO-13 (Wildlife Protection and Relocation Plan) (Appendix R) directs the development of a Wildlife Protection and Relocation Plan to identify and describe species-specific procedures for burrowing owl, desert tortoise, desert kit fox, and American badger. The Plan would require pre-construction wildlife clearance surveys; construction monitoring; species-specific surveys; requirements for buffers, avoidance, and monitoring; exclusion and relocation methods; and procedures for handling and transporting individuals. The Plan identifies an adaptive management strategy to identify and remediate Project related impacts to special-status wildlife, such as increased surveying, monitoring, and buffer distances; seasonally restricting activities; or adding more artificial burrows. By performing protocol surveys, individuals and burrows would be buffered to avoid direct injury or mortality. Passive exclusion of individuals would prevent entrapment during construction, avoid the need for handling, and avoid direct injury and mortality. Collapsing inactive burrows prevents further use to avoid future risk to the species from construction in the Project area. Construction of artificial burrows would increase opportunities for successful relocation. ~~These measures are expected to effectively avoid lethal take of burrowing owls by excluding them from the Project area or if active nests are present, by avoiding disturbance in surrounding buffer areas.~~

In addition to the CMAs previously described for all special-status wildlife species, the following CMAs would be implemented on BLM land within the Project site to minimize impacts to western burrowing owl:

- **LUPA-BIO-IFS-12 to -14 (Burrowing Owl)** requires biological monitoring for occupied burrowing owl burrows and establishment of a setback to minimize disturbance during the nesting period. If burrows cannot be avoided, owls must be passively excluded or translocated and empty burrows collapsed by a designated biologist when empty using CDFW protocols. Passive exclusion of individuals from burrows would prevent entrapment during construction and avoid direct injury and mortality.

These measures are expected to effectively avoid lethal take of burrowing owls by avoiding disturbance of individuals and nests in surrounding buffer areas, protecting them from work site hazards, and passively excluding them from the Project area.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, i~~I~~mpacts to the species would be mitigated to less than significant.

Golden eagle. Golden eagles are protected under the federal BGEPA as well as the MBTA and California Fish and Game Code. The site does not provide suitable golden eagle nesting habitat. However, the site provides suitable foraging habitat, and is within potential foraging distance of known golden eagle nesting territories located in the Eagle Mountains, Coxcomb Mountains, and Chuckwalla Mountains. Golden eagles may be at risk of collision with gen-tie lines due to their large size.

In addition to MMs BIO-1 to BIO-6, previously detailed, ~~Loss of foraging habitat may affect golden eagles during nesting, winter, or migratory seasons. MMs BIO-1 through BIO-5, as previously described, would minimize adverse impacts to native vegetation. Additionally,~~ MM BIO-8 (Bird and Bat Conservation Strategy) requires a Bird and Bat Conservation Strategy (BBCS) (Appendix M) that would identify and manage potential Project related hazards to birds and bats during construction and O&M, and adaptively manage for bird mortality related to the Project. By implementing the requirements of the BBCS, instances of bird injury and mortality associated with solar facilities would be minimized. MM BIO-9 (Nesting Bird Management Plan) (Appendix O) requires performing pre-construction nest surveys and implementing buffers and monitoring around active nests, which would protect nesting golden eagles in the vicinity from disturbance due to increased noise, dust, vibration, and human presence, which may lead to nest abandonment.

In addition to the CMAs previously described for all special-status wildlife species, the following CMA would be implemented on BLM land within the Project site to minimize impacts to golden eagle:

- **LUPA-BIO-IFS-25 (Golden Eagle)** requires that cumulative loss of golden eagle foraging habitat within a 4-mile radius around nests must be less than 20% of available habitat. By restricting the loss of foraging habitat, disturbance to golden eagles would be minimized.

~~would require the Applicant to prepare and implement an overall strategy to avoid, minimize, or mitigate the Project's impacts to birds and bats, including golden eagles, through gen-tie design, and, if necessary, operations monitoring and implementation of adaptive measures, to further reduce effects.~~ These ~~proposed mitigation~~ measures are expected to effectively avoid and minimize ~~any~~ impacts and take of golden eagles ~~and to offset habitat loss~~.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, i~~I~~mpacts to the species would be mitigated to less than significant.

Other Special-Status Raptors. Several other special-status raptors have been reported on or near the Project site or are likely to occur in the area seasonally. Migratory raptors, including ferruginous hawk, Swainson's hawk (see Impact BIO-2), northern harrier, and short-eared owl migrate through the region during spring or fall migration or may spend winters in the vicinity but would not nest on or near the Project site due to absence of suitable habitat. American peregrine falcon and elf owl (see Impact BIO-2) may forage on the Project site, and marginal nesting habitat for elf owl is present. Prairie falcon would be expected to nest in the surrounding mountains and to forage over the site at any time of year. The Project's potential impacts to prairie falcon nesting and foraging habitat would be similar to those described for golden eagle.

~~MMs BIO-1 through BIO-5, as previously described, would minimize adverse impacts to native vegetation.~~ In addition to MMs BIO-1 to BIO-6, previously detailed, MM BIO-8 (Bird and Bat Conservation Strategy), as previously described, requires implementation of a BBCS (Appendix M) to identify, minimize, and avoid Project related hazards to birds and bats, provide procedures for handling and reporting dead and injured wildlife, and describe a strategy for post-construction adaptive management for bird and bat mortality associated with the Project. By implementing the requirements of the BBCS, instances of raptor injury and mortality associated with solar facilities would be adaptively managed and impacts would be minimized. MM BIO-9 (Nesting Bird Management Plan) (Appendix O) requires performing pre-construction nest surveys and implementing buffers and monitoring around active nests, which would protect nesting raptors from disturbance due to increased noise, dust, vibration, and human presence and from direct destruction of nests, eggs, and young. Impacts to these species would be mitigated to less than significant.

No additional species-specific CMAs are applicable to special-status raptors beyond those previously described for all special-status wildlife species.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to the species would be mitigated to less than significant.

Special-Status Passerine Birds. The desert vegetation and adjacent mountains provide foraging, cover, or breeding habitat for resident and migratory special-status birds, as described in Section 3.5.1. Potential impacts to these species would be the same as those previously described for ~~other nesting or migratory birds~~native birds.

~~MMs BIO-1 through BIO-5, as previously described, would minimize adverse impacts to native vegetation.~~ In addition to MMs BIO-1 to BIO-6, previously detailed, MM BIO-8 (Bird and Bat Conservation Strategy) requires a Bird and Bat Conservation Strategy (BBCS) (Appendix M) that would identify and manage potential Project related hazards to birds and bats during construction and O&M, and adaptively manage for bird mortality related to the Project. By implementing the requirements of the BBCS, instances of special-status bird injury and mortality associated with solar facilities would be minimized. MM BIO-9 (Nesting Bird Management Plan) (Appendix O), as previously described, requires performing pre-construction nest surveys and implementing buffers and monitoring around active nests, which would protect nesting special-status birds from disturbance due to increased noise, dust, vibration, and human presence and from direct destruction of nests, eggs, and young.~~Impacts to special-status birds would be further minimized with MM BIO-9 (Bird and Bat Conservation Strategy), which would require pre-construction nest surveys, and protection of active nests throughout the nesting season.~~

In addition to the CMAs previously described for all special-status wildlife species, the following CMAs would be implemented on BLM land in the Project site to minimize impacts to passerine birds:

- **LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs),** described in detail above, requires measures to avoid and minimize impacts to birds and bats and implementation of a BBCS to assess operational impacts to birds and bats. By implementing the requirements of the BBCS, bird injury and mortality from work site hazards and Project related risks during operation of the solar facilities (collision, electrocution) would be adaptively managed and reduced.

These measures are expected to effectively minimize ~~adverse~~ significant impacts to special-status birds on th<u>e Project site</u>~~e site and to offset habitat loss through the acquisition and management of off-site lands~~. With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, i~~I~~mpacts to these species would be mitigated to less than significant.

Desert kit fox and American badger. Active and inactive desert kit fox burrows and dig marks, tracks, and/or scat were observed within the Project site, and active and inactive American badger burrows and dig marks/tracks were identified (Figure 3.5-8).

Both species could use native habitats, wherever prey animals may be present, and soils are suitable for burrows. Potential ~~direct~~ impacts to American badger and desert kit fox include mechanical crushing of individuals or burrows by vehicles and construction equipment, eviction from burrows habitat loss, loss of burrows, and noise, vibration, and disturbance ~~to~~ in surrounding habitat. Exclusion or security fencing could entrap desert kit foxes or badgers in the construction area. Without mitigation, impacts to desert kit fox and American badger could be locally significant.

~~MM BIO-1 through MM BIO-5, listed above, would minimize adverse impacts to native vegetation.~~ In addition to MMs BIO-1 to BIO-6, previously detailed, ~~MM BIO-6 (Wildlife Protection) and~~ MM BIO-~~11~~ 12 (Desert Kit Fox and American Badger Relocation) specifies details for surveying for desert kit fox and

American badger; identifying, buffering, and monitoring active dens; and procedures for passively excluding individuals and collapsing inactive dens, in coordination with CDFW. Identification of individuals and avoidance of active dens would minimize disturbance of American badger and desert kit fox. Passive exclusion of individuals from dens would prevent entrapment during construction and avoid direct injury and mortality. ~~would prevent or minimize potential injury and mortality to desert kit fox and American badger.~~

MM BIO-13 (Wildlife Protection and Relocation Plan) (Appendix R), as previously described for burrowing owl, directs the development and implementation of a Wildlife Protection and Relocation Plan to identify and describe species-specific procedures for burrowing owl, desert tortoise, desert kit fox, and American badger. The Plan would require pre-construction wildlife clearance surveys; construction monitoring; and species-specific surveys; requirements for buffers, avoidance, and monitoring; exclusion and relocation methods; procedures for handling and transporting individuals; and adaptive management strategies to identify and remediate Project related impacts to special-status wildlife. By performing protocol surveys, individuals and burrows would be buffered to avoid direct injury or mortality. Passive exclusion of individuals would prevent entrapment during construction, avoid the need for handling, and avoid direct injury and mortality. Collapsing inactive burrows prevents further use to avoid future risk to the species from construction in the Project area. Construction of artificial burrows would increase opportunities for successful relocation.

No additional species-specific CMAs are applicable to desert kit fox and American badger beyond those previously described for all special-status wildlife species.

These measures are expected to effectively minimize significant impacts to desert kit fox and American badger on the Project site. With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to these species would be mitigated to less than significant.

~~MM BIO-6 identifies practices and requirements to prevent or minimize wildlife injury and mortality, and MM BIO-11 specifies details for desert kit fox and American badger relocation, including pre-construction surveys, exclusion of animals from dens, passive relocation from the site, and avoidance of natal dens, in coordination with CDFW.~~

Burro deer. Nearby active agricultural areas provide a dependable water source for burro deer. Additionally, desert dry wash woodland habitat may provide seasonal foraging or cover habitat for burro deer. Burro deer scat and tracks were observed throughout the Project site. Potential impacts of the Project could include loss of habitat and restriction of movement to water sources, which would be significant. Burro deer are expected to avoid Project-related disturbance during construction and O&M, and continue to use the desert dry wash woodland habitat that is avoided by the Project to access water sources. No special measures are necessary to exclude them from work areas. ~~Due to the Project's location on the valley floor near sites with comparable land uses and human activity patterns, the Project is not likely to impact bighorn sheep behavior or habitat use to any large extent.~~ MMs BIO-1 through BIO-5, ~~listed above~~described for Vegetation and Habitat, would minimize ~~adverse~~ significant impacts to native vegetation, including ~~burro deer~~ habitat used by burro deer for cover, shelter, and foraging, by restricting disturbance to work areas, promoting low impact development and preserving vegetation under solar panels, and improving post-construction habitat values. Impacts to this species would be mitigated to less than significant.

No additional species-specific CMAs are applicable to burro deer beyond those previously described for all special-status wildlife species.

Potential impacts to movement of burro deer are addressed under Impact BIO-3, below.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, i~~I~~mpacts to this species would be mitigated to a less than significant level.

Bighorn Sheep. Due to the Project's location on the valley floor near sites with comparable land uses and human activity patterns, the Project is not likely to significantly impact bighorn sheep behavior or habitat use. Impacts to the species would be less than significant.

Special-Status bats. Several special-status bats could use the Project site for foraging, but only minimal suitable roosting habitat is available, as described in Section 3.5.1.4. Common bats and special-status bats may roost in desert dry wash woodland habitat on the site. As mentioned for burro deer, after construction, bats may continue to use desert dry wash woodland habitat that is avoided by the Project.

The Project could cause direct and indirect impacts to special-status bats through permanent and temporary loss or degradation of suitable foraging habitat and roosting trees and disturbance of foraging, dispersal, and breeding activities. Special-status bats may be present during construction and may be impacted by visual disturbances, noise and vibration, lighting, and dust from construction activities. Most bats would be expected to fly away from disturbances. Day roosts located within project disturbance areas, if present, may be damaged or destroyed, and individuals may be injured or killed. Individual bats in the vicinity of construction activities may be disturbed or frightened away by human presence, noise, and activity.

~~Project construction could have a significant affect special-status bats through the elimination of desert shrubland foraging habitat. Common bats and special-status bats may roost in desert dry wash woodland habitat on the site.~~

Solar energy development is a relatively new anthropogenic feature for bats to encounter, and responses are not well studied. Thus far, ongoing studies have shown that bats are susceptible to collisions with moving structures such as wind turbines, but infrequently collide with stationary structures (WEST, 2020). Bat mortality could also occur if individuals became trapped in other infrastructure. Bat carcasses were rarely detected at utility-scale PV solar energy facilities that have been monitored thus far (WEST, 2020). It is anticipated very few bat fatalities would occur during the life of the Project based on the absent to Very low bat fatalities discovered at other ~~regional~~ projects in the region.

~~As mentioned for burro deer, after construction, bats may continue to use desert dry wash woodland habitat that is avoided by the Project.~~ MMs BIO-1 through BIO 5, described for Vegetation and Habitat, would minimize significant impacts to native vegetation, including habitat used by bats for roosting and foraging, by restricting disturbance to work areas, promoting low impact development and preserving vegetation under solar panels, and improving post-construction habitat values. ~~MM BIO-1 through MM BIO-5 would minimize adverse impacts to native vegetation and habitat and offset the permanent habitat loss through off-site habitat compensation.~~ MM BIO-6 (Wildlife Protection), previously described, includes a condition to inspect structures prior to demolition and remove wildlife or allow wildlife to escape, which would prevent direct mortality and injury of bats.

MM BIO-8 (Bird and Bat Conservation Strategy) (Appendix M), previously described, would require a project-specific risk assessment to address potential for take of birds and bats due to Project related threats including collision, electrocution, territory abandonment, nest and roost site disturbance, habitat loss and fragmentation, disturbance from human presence, and predator subsidies. The plan further ~~additional pre-construction surveys and wildlife exclusion or scheduling of tree removal outside the bat maternal roosting season.~~ Describes a strategy for post-construction adaptive management for bird and bat mortality associated with the Project. By implementing the requirements of the BBCS, instances of bat injury and mortality associated with solar facilities would be adaptively managed and impacts would be minimized.

In addition to the CMAs previously described for all special-status wildlife species, the following CMAs would be implemented on BLM-administered land within the Project site to minimize impacts to bats:

- **LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs),** described in detail above, requires measures to avoid and minimize impacts to birds and bats and implementation of a BBCS to assess operational impacts to birds and bats. By implementing the requirements of the BBCS, bird injury and mortality from work site hazards and Project related risks during operation of the solar facilities (collision, electrocution) would be adaptively managed and reduced.
- **LUPA-BIO-BAT-1 (Bat Species (BAT))** requires that Project activities not be sited within 500 feet of an occupied bat maternity roost. Impacts would be avoided as maternity roosts were not identified and suitable habitat is not available in the Project area.
- **LUPA-BIO-COMP-2 (Compensation [Birds and Bats])** requires that compensation for the mortality impacts to birds and bats from the Project be determined based on monitoring of bird and bat mortality and a fee reassessed every 5 years to fund compensatory mitigation. Monitoring must inform the amount and type of compensation required to offset the effects. Compensation will be satisfied by restoring, protecting, or otherwise improving habitat or non-restoration actions that reduce mortality risks, such as increased predator control and protection of roosting sites from human disturbance. By monitoring bird and bat mortality, the level of impact and associated compensation will be adequately identified.

~~These measures are expected to effectively minimize potential impacts on special-status bats, and to offset habitat loss.~~These measures would minimize and avoid disturbance, injury, and mortality of bats by identifying, monitoring, and managing project related risks. Impacts to these species would be mitigated to less than significant.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to special-status wildlife would be less than significant.

500 kV Gen-Tie, Collector, and Distribution Lines

Construction of the 500 kV gen-tie line would occur through the adjacent Oberon Renewable Energy Project site (RWQCB, 2021; BLM, 2022; Ironwood, 2021a), which is located on BLM-administered lands ~~and was previously analyzed in the Final EIR and Final EA for the Oberon Renewable Energy Project (RWQCB, 2021; BLM, 2022; Ironwood, 2021a)~~.

Medium voltage (34.5 kV) collection power lines would be located between inverters and the onsite substation. The Applicant anticipates undergrounding the Easley 34.5 kV collector lines except for short segments where overhead lines on wood poles may be required due to engineering or other feasibility constraints.

A new 12 kV electrical distribution line would supply electricity to the O&M building and substation, and may be installed overhead or underground from the existing SCE distribution system adjacent to the solar facility site. In addition, approximately 0.25 mile of existing SCE 12 kV distribution line would need to be relocated to accommodate development of solar panels. The relocated distribution line would be located on BLM-administered land east of SR-177/Rice Road and would follow existing linear infrastructure.

Impacts due to construction of the Easley distribution, collector, and gen-tie lines are described below.

Vegetation & Habitat

Impacts Discussion

Overhead gen-tie line construction would affect vegetation and habitat at discrete disturbance sites where towers or other work activities would be located. ~~If~~ In areas where the 34.5 kV or 12 kV lines ~~are~~ may be installed overhead, similar types of impacts would occur at the pole sites located outside of the solar facility fence line. Construction would not affect most of the vegetation and habitat within the overhead ~~gen-tie~~ ~~routes~~corridors. For portions of the distribution and/or collector lines that are buried underground, trenches would be dug through vegetated areas or desert pavement. Trenches would be backfilled with native soils and disturbance areas would be reseeded. The gen-tie line would cross desert dry wash woodland and desert tortoise critical habitat in the eastern portion of the Oberon Project site but impacts to habitat would be avoided except for minor incursion, consistent ~~in compliance~~ with DRECP CMAs.

Impacts to vegetation and habitat would be similar to those described for the solar facility. Vegetation would be cleared or trimmed, and soils would be disturbed. After construction, soils would be compacted due to use of heavy equipment, making vegetation difficult to regrow in those areas. Spread of invasive weeds may degrade habitat.

Mitigation of Project Impacts on Private Land

Impacts to natural habitat along the gen-tie line on the Oberon Project site can be avoided and minimized by implementing MMs BIO-1 through BIO-5, previously described for the Solar and BESS Facility.

MMs BIO-1 to MM BIO-5 require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive plant and wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan). These measures would avoid direct disturbance and removal of vegetation and soils outside of designated work areas. The IWMP (Appendix N) would improve habitat values by preventing and controlling spread of weeds in disturbed areas. The VRMP (Appendix S) directs methods for erosion control, re-vegetating temporary disturbance areas, and salvaging seed and cacti in the Project site. By implementing seeding and revegetation, soil decompaction, erosion control, and non-native control in disturbance areas, soils would be stabilized, native vegetation would be re-established, and post-construction habitat values would be improved in the Project area.

The Project has been designed to avoid impacts to desert dry wash woodland (except for minor incursions and where there is existing intervening infrastructure) on private lands and BLM land (Section 2.7.3), consistent with DRECP CMA LUPA-BIO-RIPWET-1 (see below and in Appendix CC). Consistent with DRECP CMA LUPA-BIO-COMP-1, compensatory mitigation for minor incursions into desert dry wash woodland shall be identified prior to disturbance of the features at a minimum 5:1 ratio, as required in MM BIO-14. Compensatory mitigation for impacts to desert pavement shall be identified at a minimum ratio of 1:1, as required in MM BIO-3. Compensatory mitigation for impacts to suitable desert tortoise habitat shall be identified prior to disturbance of features at a minimum 1:1 ratio and desert tortoise critical habitat at a ratio of 5:1, as required in MM BIO-7.

Mitigation of Project Impacts on BLM Land

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant.

Compliance with the following CMAs, which would be required on BLM lands, would mitigate impacts to less than significant, as described. These CMAs are described in detail for the *Solar and BESS Facility, Vegetation and Habitat* in Impact BIO-1.

- **LUPA-BIO-1 (Biological Resources)** requires assessments of habitat, identification of vegetation types, and protocol surveys for BLM Special Status Species where suitable habitat may be present in the Project area. Habitat assessments and protocol surveys would ensure that sensitive biological resources would be detected and identified for avoidance.
- **LUPA-BIO-2 (Biological Resources)** requires a designated biologist to conduct and oversee biological monitoring and reporting during pre-construction, construction, and decommissioning. Using a qualified biologist to oversee surveying, monitoring, and reporting will ensure that ground and vegetation disturbance would not be performed outside of approved work areas and that direct injury and mortality of wildlife species is avoided.
- **LUPA-BIO-5 (Worker Education)** requires that all activities implement a BLM-approved worker education program that describes biological resources and how to identify them, their legal protections, minimization and mitigation measures, and reporting requirements. Comprehensive training of on-site workers would ensure that they limit ground disturbance to work areas and that they avoid sensitive habitats and special-status species.
- **LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance)** requires that temporary impact areas be restored using site-specific seed and soils, planting methods and timing, and success criteria, monitoring, and contingency measures, and that cactus be salvaged from the site and re-planted to the maximum extent practicable. Seeding, revegetation, soil decompaction, and erosion control would stabilize soils post-construction and promote native habitat recovery, which would minimize long-term impacts to native habitats and soils in the Project area.
- **LUPA-BIO-10 (Standard Practices for Weed Management)** requires best management practices for weed management such as cleaning tires and equipment prior to entering the site, using certified weed free construction materials, re-vegetation of disturbed areas, and monitoring, identification, and eradication of weed infestations. Identification, suppression, and containment of non-native invasives and their sources would improve post-construction habitat values in the Project area by preventing introduction and spread of weeds that outcompete native species and increase risk of wildfire.
- **LUPA-BIO-11 (Nuisance Animals and Invasive Species)** requires the management and proper use and disposal of herbicides and pesticides, and restriction of herbicide use near streams, washes, and surface and subsurface waters. Proper use of herbicides, in compliance with BLM guidelines, would minimize herbicide drift and spills to avoid contamination and degradation of non-target vegetation and waterways.
- **LUPA-BIO-13 (General Siting and Design)** requires siting and design to avoid impacts to unique plant assemblages. The CMA requires projects along the edges of the biological linkages to maximize the retention of microphyllous woodlands, in order to maintain the function of the connectivity area. The CMA requires that Project boundaries be demarcated and that Project activities, equipment, and vehicles be restricted to marked areas and existing roads and utility corridors. Lighting is required to be limited and directed away from habitat areas to minimize disturbance. Avoidance of desert dry wash

woodland would prevent direct removal of functional corridor habitat. Flagging and staking work areas would avoid ground, soil, and vegetation disturbance outside of approved boundaries, minimizing impacts to habitat in the vicinity.

- **LUPA-BIO-SVF-1 (Special Vegetation Features)** requires that a habitat assessment be performed for special vegetation features such as yucca, creosote rings, microphyll woodland, and Crucifixion thorn stands, which would ensure that these resources are identified and demarcated for avoidance or salvage.
- **LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management)** requires that management and salvage of cacti and BLM sensitive plants adhere to BLM-policies, downed wood be promoted for habitat values, and plant material be collected for re-vegetation. These measures would ensure that habitat values are improved in the Project area after construction.
- CMAs for the protection of desert dry wash woodland include **LUPA-BIO-3 (Resource Setback Standards), LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species), LUPA-BIO-SVF-6 (Special Vegetation Features), LUPA-BIO-COMP-1 (Compensation),** and **DFA-VPL-BIO-COMP-1 (Biological Compensation).** These require avoidance of desert dry wash woodland (also described as Sonoran-Coloradan Semi-Desert Wash Woodland or microphyll woodland) with a 200-foot setback buffer, except for minor allowable incursions, and compensation for impacts to desert dry wash woodland at a 5:1 ratio. Avoidance of desert dry wash woodland with a setback buffer would prevent direct removal of sensitive habitat. A 200-foot setback would reduce degradation from disturbance in adjacent areas.

Similar to the requirements of the MMs that would be implemented on private land within the Project site, CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve sensitive habitat in the Project area and minimize impacts to vegetation.

Mitigation Conclusion

~~which require revegetation of short-term impact areas, pre-construction surveys and marking of sensitive resources, management plans, and construction crew training, thereby minimizing impacts to vegetation and habitat. Additionally, similar mitigation measures required to be implemented for the Oberon Project are included in its Final EIR (RWQCB, 2021) and Final EA (BLM, 2022).~~ With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site impacts to vegetation and habitat along the gen-tie line would be less than significant.~~Conservation Management Actions (CMAs) would also be implemented on BLM lands per the DRECP, as described in the Final EA for the Oberon Project.~~

Special-status Plants

Impacts Discussion

Construction activities may result in direct impacts to special-status plants, including loss of individuals.

Desert unicorn plant and spiny abrojo were observed on the Oberon Project site near the proposed gen-tie line. Desert unicorn plant was observed in 40 locations throughout the site, with several observations located in desert dry wash woodland in the eastern portion of the site. Desert dry wash woodland would be avoided by the Project and impacts along the gen-tie line would be occur in discrete areas, minimizing impacts to individuals. Spiny abrojo, a conspicuous shrub, was observed in one location to the south outside the gen-tie corridor and would not be impacted by the gen-tie line.

Emory's crucifixion thorn was observed on the Oberon Project site near Rice Road, in the vicinity of the Easley gen-tie line, but the gen-tie line would not cross near the plant and it would not be impacted by the Easley Project. Two creosote rings were observed on the Oberon Project site, north of the overhead lines, and would not be impacted by the Easley Project.

No other special-status plant species were observed; however, suitable habitat for glandular ditaxis, California ditaxis, and Utah milkvine is located on the Oberon Project site along the overhead lines. Protected desert native plants, as listed in Section 3.5.1.3, were observed in the Project area (Refer to the BRTR [EIR Appendix C] for a map of locations). ~~Mitigation measures for the Oberon Project would avoid and minimize impacts to Emory's crucifixion thorn (RWQCB, 2021; BLM, 2022).~~

~~Desert unicorn-plant and spiny abrojo were observed on the Oberon Project site; however, as a CRPR 4 (watch list) species without additional reasons for conservation concern (e.g., geographic range, unusual morphology, or unusual habitat/substrate), potential impacts to desert unicorn-plant and spiny abrojo are not significant (RWQCB, 2021; BLM, 2022). No other special-status plant species were observed or had a high potential to occur, but there is a possibility that several CRPR ranked 3 and 4 species could occur in a year of better rainfall. However, potential impacts to these plants would be less than significant due to their relatively low conservation status and regional occurrences outside the Project vicinity.~~

Impacts to special-status plants and protected native desert species would be similar to those previously described for Vegetation and Habitat. Potential direct impacts to special-status plants may include direct crushing, burial, or uprooting of individual plants; root damage; disturbance of seed banks, underground dormant plants, and plant nutrients; burial or scour of plants from altered runoff, sedimentation, and erosion; and disruption of photosynthesis from fugitive dust. These impacts would result from trimming, cutting, or removing vegetation, grading, earth-moving, and vehicle traffic.

Indirect impacts to special-status plants may occur from incidental introductions of invasive weeds that outcompete native species and reduce habitat quality. Although some impact areas may be temporarily disturbed, the effects to special-status plants may be long-term or permanent in that area due to changes in soil conditions and seed banks after construction.

Mitigation of Project Impacts on Private Land

As previously described, impacts to vegetation and special status plants for the Easley Project would also be avoided and minimized by implementing MMs BIO-1 through BIO-5, which would ensure that disturbance of vegetation and habitat is minimized and restricted to designated and demarcated work areas, that low impact site preparation would be implemented to preserve vegetation for recovery, that seeds of special-status plants would be salvaged for re-vegetation, and that post-construction habitat values would be improved. By avoiding desert dry wash woodland, constructing the gen-tie line in discrete areas, and salvaging seeds from impacted special-status plants, impacts would not be significant.

Avoidance of desert dry wash woodland (except for minor incursions), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve native habitat values and offset habitat loss.

Mitigation of Project Impacts on BLM Land

The Project is required to comply with DRECP CMAs for all Project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with these CMAs, which would be required on BLM lands, would mitigate impacts to less than significant, as described.

The following CMAs, previously detailed for Vegetation and Habitat, would also reduce impacts for special-status plants for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-SVF-1 (Special Vegetation Features).
- LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, these CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve sensitive habitat in the Project area and prevent degradation from disturbance in adjacent areas. Compensation would offset habitat loss.

Additionally, the following CMA would be implemented on BLM land within the Project site to minimize impacts to special-status plants:

- **LUPA-BIO-PLANT-1 (Plant Species [PLANT])**: Plant Focus and BLM Special Status Species CMAs) requires properly timed protocol surveys for BLM Special Status Plant Species, which would ensure identification of special-status plants in disturbance areas that require demarcation for avoidance or salvage.

By identifying individual special-status plants in the Project area, they could be avoided or salvaged for post-construction re-vegetation promoting recovery of habitat values.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site impacts to special-status plants along the gen-tie line would be less than significant.

Special-Status Wildlife

Impacts Discussion

Gen-tie construction activities could dissuade special-status wildlife from approaching construction areas due to noise and disturbance. Wildlife present in work areas could be impacted as described for the solar facility. Construction could result in direct mortality or injury from construction equipment and wildlife dispersing from work areas could be at increased risk of predation or vehicle strikes. In most cases, adult birds would fly away from the disturbance, but bird nests (including eggs or nestlings, if present) would be lost. Displaced wildlife may be unable to find suitable food or cover in new, unfamiliar areas. Gen-tie facilities could present electrocution and other pitfall hazards. Increased human presence, noise, and lighting during construction could affect wildlife in adjacent habitats by disrupting foraging, breeding, sheltering, and other activities; or may cause wildlife to avoid otherwise suitable habitat surrounding the site. These effects would be temporary (limited to construction phase) and would occur in discrete and dispersed work areas.

Once completed, the gen-tie lines would have minimal effects on terrestrial wildlife movement because no new barrier to movement would be constructed beneath the line. However, the gen-tie towers and conductors would present a collision hazard for birds, as described in detail below.

Mitigation of Project Impacts on Private Land

As previously described, impacts to wildlife habitat would be avoided and minimized by implementing MMs BIO-1 through BIO-5, which would ensure that disturbance of wildlife habitat is minimized and restricted to designated and demarcated work areas and that post-construction habitat values would be improved. The Project has been designed to avoid desert dry wash woodland (except for minor incursions), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values for wildlife and offset habitat loss.

~~These effects would be temporary (limited to construction phase) and would occur in discrete work areas.~~ MM BIO-6 (Wildlife Protection) –identifies numerous identifies numerous requirements to manage hazards to wildlife in work areas and report dead or injured wildlife. By performing site inspections; restricting vehicle speed limits; monitoring for wildlife entrapment and providing means of escape in trenches, holes, piping, or water tanks; managing food, trash, and water subsidies; and properly handling hazardous materials, predation, injury, and mortality of special-status wildlife would be reduced. These measures would increase detection of wildlife that require avoidance in Project areas and would prevent attraction to the Project site where there is increased likelihood of disturbance.~~requirements during construction to avoid, minimize, and mitigate wildlife injury and mortality, such as site inspections, ramps to ensure escape from excavations, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits.~~

~~Once completed, the gen-tie lines would have minimal effects on terrestrial wildlife movement because no new barrier to movement would be constructed beneath the line. However, the gen-tie towers and conductors would present a collision hazard for birds, as described in detail below.~~

MM BIO-8 (Bird and Bat Conservation Strategy) (Appendix M), as previously described, would identify Project related hazards and adaptively manage for Project related bird mortality detected on the Project site. By implementing adaptive management, instances of mortality associated with solar facilities would be identified and managed to reduce impacts from Project related hazards. MM BIO-9 (Nesting Bird Management Plan) (Appendix O), as previously described, requires performing pre-construction nest surveys and implementing buffers and monitoring around active nests, which would protect nesting birds from disturbance due to increased noise, dust, vibration, and human presence and from direct destruction of nests, eggs, and young.

~~BIO-8 (Bird and Bat Conservation Strategy) would require pre-construction surveys to identify active bird nests, and avoidance of disturbance or disruption nesting behavior, as well as implementation of an adaptive management framework for O&M monitoring of bird mortality, if mortality thresholds are exceeded, based on monitoring at other solar sites.~~

Transmission structures and fencing would provide increased perching opportunities for predatory birds, including raptors and ravens, which may prey on special-status species. MM BIO-7 (Desert Tortoise Protection) includes ~~preparing~~ preparation and ~~implementing~~ implementation of a Raven Management

Plan that would manage ~~raven~~ work site subsidies and attractants to minimize predation, as described in detail in Impact BIO-2. MM BIO-~~9~~10 (Gen-tie Lines) requires the gen-tie structures be designed in conformance with APLIC guidelines (2006, 2012) to discourage use by raptors for perching or nesting, as described in detail below.

Electrocution

After completion of construction and throughout the life of the Project, the gen-tie line may present an electrocution risk. Birds and bats may collide with the overhead lines, including the gen-tie transmission line. Underground gen-tie lines would not present an electrocution hazard.

While few nocturnal migrant passerines have been found in the solar arrays, more have been found underneath the gen-tie lines at the solar projects. Large birds can be electrocuted by transmission lines if the bird's wings simultaneously contact conductors, or a conductor and a ground. This happens most frequently when a bird attempts to perch or take off from a structure with insufficient clearance between these elements. Configurations less than 1 kV or greater than 69 kV, like the proposed 500 kV gen-tie line, typically do not present an electrocution potential, based on conductor placement and orientation (APLIC, 2006, 2012). Distribution lines that are less than 69 kilovolts (kV) but greater than 1 kV generally have less spacing than transmission lines, thus posing an electrocution hazard for perching raptors.

Based on studies of the gen-ties associated with other desert solar projects, it is estimated approximately 60 birds per km per year may collide with the lines. Seven detections of fatalities of special-status yellow warblers have been reported during surveys of the gen-tie lines at the neighboring desert solar sites. The predicted mortality value for the gen-tie line is 300 bird fatalities per year.

Based on information from other solar projects in the California desert, Project-related bird mortality is likely to range from a low of 0.4 birds per acre per year up to 1.7 birds per acre per year (BLM, 2018). Post-construction monitoring data was collected from regional Sonoran and Mojave Deserts (SMD) projects. The SMD projects annual fatality rates range from 0.08 to 2.99 birds per MW per year, with a mean of 1.31 birds per MW per year. Based on studies of the gen-ties associated with Blythe, McCoy, and Desert Sunlight Solar projects, it is estimated approximately 60 birds per km per year may collide with the lines (WEST, 2020).

Using these average values, approximately 655 (1.31 x 500 MW) bird fatalities are predicted annually in the solar arrays. An additional 432 bird fatalities (60 x 7.2 km (4.5 miles)) are predicted annually along the gen-tie in an average year (WEST, 2020).

Without implementation of mitigation measures, the proposed Project could cause significant impacts to native birds including mortality or injury in the Project area during construction, O&M, and decommissioning activities. For taller structures, such as the gen-tie line, the Project will would be designed to be raptor-safe in accordance with Avian Power Line Interaction Committee (APLIC) guidelines and best management practices (2006, 2012).

MM BIO-~~9~~ 10 (Gen-tie Lines) would require mechanisms in accordance with APLIC standards (APLIC 2006, 2012) to visually warn birds such as permanent markers or bird flight diverters; avoid or minimize use of guy wires; and maintain sufficient distance between all conductors and grounded components to prevent electrocution of large birds. By implementing these design features, injury and mortality from electrocution would be minimized. While the recommendations from APLIC are primarily focused on avoiding and minimizing impacts to birds, the recommendations and best practices would also benefit bats.

With implementation of mitigation measures, impacts due to electrocution during O&M would be reduced to less than significant.~~These measures would effectively minimize impacts near the proposed gen-tie routes to less than significant.~~

Mitigation of Project Impacts on BLM Land

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. The following CMAs, previously detailed for Vegetation and Habitat, would reduce impacts to wildlife habitat used by special-status species for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, these CMAs reduce impacts to wildlife and habitat by requiring qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot setback buffer would prevent direct removal of sensitive habitat used by many wildlife species for foraging, shelter, breeding, and movement through the Project vicinity. A 200-foot setback would reduce degradation from disturbance in adjacent areas.

The following CMAs, previously described, would be implemented to minimize impacts to special-status wildlife along the gen-tie line for the same reasons as described above in the discussion of impacts to special-status wildlife in the Solar and BESS facility:

- LUPA-BIO-4 (Seasonal Restrictions).
- LUPA-BIO-6 (Subsidized Predators Standards).
- LUPA-BIO-12 (Noise).
- LUPA-BIO-14 (Biology: General Standard Practices).
- LUPA-BIO-15 (Biology: General Standard Practices).
- DFA-BIO-IFS-1 to -3 (Biological Resources).
- LUPA-BIO-9 (Water and Wetland Dependent Species Resources)
- LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs)
- LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species)
- LUPA-BIO-COMP-2 (Compensation (Birds and Bats))
- LUPA-BIO-IFS-11 (Bendire's Thrasher)
- LUPA-BIO-IFS-12 to -14 (Burrowing Owl)
- LUPA-BIO-IFS-25 (Golden Eagle)
- DFA-BIO-IFS-2 (Biological Resources)

- LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs)
- LUPA-BIO-BAT-1 (Bat Species (BAT))
- LUPA-BIO-COMP-2 (Compensation (Birds and Bats))

Similar to the requirements of MMs that would be implemented on private land within the Project site, these CMAs reduce disturbance, injury, and mortality of wildlife species, by surveying and buffering for individuals, limiting work during species active seasons, and managing work site hazards and sources of disturbance such as predator subsidies, entrapment hazards, noise, and lighting. Species-specific survey, buffering, and exclusion and relocation requirements will ensure that special-status wildlife are avoided and that disturbances to foraging, sheltering, breeding, and movement are minimized.

Additionally, CMA LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources) requires that transmission lines be developed along roads, other previously disturbed areas, or designated utility corridors; reduce perching opportunities for common raven; and minimize collision risk for birds and bats. Flight diverters must be used on transmission lines within 1,000 feet of stream and wash channels and other bodies of water. Transmission lines must be sited to avoid rare vegetation alliances and sand dependent habitats that support BLM Special Status Species. By implementing these design features, habitat disturbance along the gen-tie line would be minimized, perching of predatory birds would be managed, and injury and mortality of birds and bats from electrocution from the gen-tie lines would be avoided and minimized.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site impacts to special-status wildlife along the gen-tie line would be less than significant.

Operations and Maintenance and Decommissioning

Proposed O&M and decommissioning activities would have similar direct and indirect impacts to vegetation and habitat, special-status plants, and special-status wildlife, as described above. However, the scale of impacts would be less than construction impacts because O&M and decommissioning activities would mostly occur in areas previously disturbed by construction.

During O&M, impacts would be limited to repairs and maintenance of solar panels, associated electrical components, O&M facilities, access roads, fencing, drainages, and culverts. Vegetation would be trimmed infrequently in discrete locations and no heavy equipment would be used for normal operation. Any ground disturbance may result in soil erosion. Herbicides used to manage weed infestations may degrade non-target vegetation in adjacent areas. Washing of solar panels would introduce additional water to the site, which would supplement natural sources and may affect vegetation composition or persistence. However, panel washing would be performed infrequently (up to four times each year) if natural rains do not sufficiently clear dust and debris. No chemical agents would be used for module washing. It is not expected that panel washing and the supplemental water would be enough to affect vegetation community composition or persistence. If the Proposed Project facility elevates ambient temperature within the site, surrounding vegetation and habitat may be indirectly impacted.

Facilities would be fenced, excluding larger wildlife, while small mammals and reptiles may pass through fencing to occupy the areas around O&M facilities, where they may be at risk of vehicle strike. Birds within the facility may be at risk of injury from collision with solar panels or electrocution from the gen-tie lines, as described for native birds. During O&M, herbicides used to treat invasive weeds may also pose risks to terrestrial or aquatic wildlife species. Herbicides that persist on site could injure wildlife that ingest target plants or come into contact with herbicides (e.g., by digging or rolling in treated soil).

O&M related ground disturbance may result in direct crushing or burial of wildlife where repairs or replacement are needed. Maintenance around facilities may temporarily increase human presence, opportunistic predators, noise, dust, and vehicle traffic, which may disrupt wildlife behavior or cause mortality.

Impacts during Project decommissioning would be similar to those during construction and would occur in previously disturbed areas. Decommissioning activities would require similar equipment and workforce as construction but would be substantially less intense, including removal of all equipment and cables, facilities, primary roads, and concrete pads. During decommissioning, habitat disturbance may result from disassembling and transporting facilities, or from site remediation. The Project would be dismantled as described in Section 2.6, per an agency-approved Closure and Decommissioning Plan, and a majority of components would be recycled or reused. Following decommissioning, the Proposed Project site would be revegetated with native plants and re-seeded as required by the Decommissioning Plan.

Direct and indirect impacts to habitat from O&M and decommissioning would be minimized and~~,~~ avoided~~, or offset~~ with measures such as biological monitoring by qualified biologists; worker training on sensitive biological resources; flagging, surveying, and monitoring of work areas; weed management; restoration of disturbed areas; protection of wildlife and special-status species; and protection of jurisdictional waters, as previously described for MMs BIO-1 through BIO-~~12~~14. CMAs, as previously outlined for construction, would be implemented to reduce impacts.

These measures would restrict impacts to designated work areas, ensure that native habitat values are improved post-construction, and reduce injury and mortality of special-status wildlife that may occur in the Project area.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to special-status species and their habitat during O&M and decommissioning would be reduced to less than significant.

Mitigation Measures for Impact BIO-1

The full text of the following mitigation measures is included in Section ~~3.5.9~~3.5.7 (Mitigation Measures).

MM BIO-1 Biological Monitoring.

MM BIO-2 Worker Environmental Awareness Training.

MM BIO-3 Minimization of Vegetation and Habitat Impacts.

MM BIO-4 Integrated Weed Management Plan.

MM BIO-5 Vegetation Resources Management Plan.

MM BIO-6 Wildlife Protection.

MM BIO-8 Bird and Bat Conservation Strategy.

MM BIO-9 Nesting Bird Management Plan.

MM BIO-10~~9~~ Gen-tie Lines.

MM BIO-11~~0~~ Burrowing Owl Avoidance and Relocation.

MM BIO-12~~1~~ Desert Kit Fox and American Badger Relocation.

MM BIO-13 Wildlife Protection and Relocation Plan.

MM BIO-14~~2~~ Streambed and Watershed Protection.

DRECP CMAs for Impact BIO-1

Applicable CMAs are detailed in Appendix CC, which provides a list of CMAs, an explanation of their applicability, and demonstration of compliance with the CMA.

LUPA-BIO-1 (Biological Resources).

LUPA-BIO-2 (Biological Resources).

LUPA-BIO-5 (Worker Education).

LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).

LUPA-BIO-10 (Standard Practices for Weed Management).

LUPA-BIO-11 (Nuisance Animals and Invasive Species).

LUPA-BIO-13 (General Siting and Design).

LUPA-BIO-SVF-1 (Special Vegetation Features).

LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).

LUPA-BIO-3 (Resource Setback Standards).

LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).

LUPA-BIO-SVF-6 (Special Vegetation Features).

LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

LUPA-BIO-PLANT-1 (Plant Species (PLANT): Plant Focus and BLM Special Status Species CMAs)

LUPA-BIO-4 (Seasonal Restrictions).

LUPA-BIO-6 (Subsidized Predators Standards).

LUPA-BIO-12 (Noise).

LUPA-BIO-14 (Biology: General Standard Practices).

LUPA-BIO-15 (Biology: General Standard Practices).

DFA-BIO-IFS-1 to -3 (Biological Resources).

LUPA-BIO-9 (Water and Wetland Dependent Species Resources)

LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs)

LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species)

LUPA-BIO-BAT-1 (Bat Species (BAT))

LUPA-BIO-COMP-2 (Compensation (Birds and Bats))

LUPA-BIO-IFS-11 (Bendire's Thrasher)

LUPA-BIO-IFS-12 to -14 (Burrowing Owl)

LUPA-BIO-IFS-25 (Golden Eagle)

LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources)

Significance After Mitigation

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, t~~T~~his impact would be less than significant~~ with implementation of mitigation measures identified above~~.

> **Impact BIO-2. The Project would have a substantial adverse effect, either directly or through habitat modifications, on any endangered, or threatened species, as listed in Title 14 of the California Code of Regulations (Sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (Sections 17.11 or 17.12).**

LESS THAN SIGNIFICANT WITH MITIGATION. Potential effects on threatened and endangered species could result from construction or operation and maintenance (O&M) of the proposed Project. Similar to the impacts to special-status species (Impact BIO-1), construction and O&M activities may result in direct and indirect impacts to threatened and endangered wildlife, including loss of individuals. No listed threatened or endangered plant species were observed or have the potential to occur on the Project site or in the vicinity. The gen-tie line overlaps with critical habitat for desert tortoise, located in the southern portion of the Oberon Project site.

Construction activities would minimize ground disturbance, grubbing, and grading using mowing and rolling methods for vegetation in the solar array areas. Specific facilities, including the substation, storage containers, O&M facilities, laydown yards, pre-fabrication areas, and roads would require ground disturbance in the form of mowing, grubbing, grading, and compaction. Construction would involve minor changes to on-site topography. The proposed layout of solar panels would avoid major existing hydrologic patterns with respect to runoff, avoiding washes, stream beds, stream banks, where feasible. The Project has been designed to avoid desert dry wash woodlands, except for minor incursions and where there is intervening infrastructure, consistent with DRECP CMAs, and impacts to jurisdictional drainages would be regulated with permits from CDFW and RWQCB and through implementation of mitigation measures and CMAs described below.

During O&M, impacts would be reduced compared to construction, and would be limited to repair and maintenance of facilities and fencing, requiring minimal staff on site. Vegetation under solar panels would continue to be trimmed, and panels would be washed infrequently if natural rains do not sufficiently remove dust and debris. Vehicles would be used to access Project facilities, which may create a hazard for wildlife in the vicinity of access roads.

Potential direct and indirect impacts on threatened and endangered wildlife are outlined below for the solar facilities and the gen-tie line. Direct and indirect impacts to threatened and endangered species and their habitat would be significant. Impacts on private land portions of the project would ~~can~~ be avoided, minimized, and mitigated with implementation of MMs specified in Section ~~3.5.9~~3.5.7 and listed below. Compliance with applicable DRECP CMAs (EIR Appendix CC) ~~on BLM lands~~ would ~~further~~ minimize impacts of the proposed Project on threatened and endangered species on BLM-administered land. Construction activities would minimize grubbing and grading, except for specific facilities.

- MM BIO-1 (Biological Monitoring)
- MM BIO-2 (Worker Environmental Awareness Training)
- MM BIO-3 (Minimization of Vegetation and Habitat Impacts)
- MM BIO-4 (Integrated Weed Management Plan)
- MM BIO-5 (Vegetation Resources Management Plan)
- MM BIO-6 (Wildlife Protection)
- MM BIO-7 (Desert Tortoise Protection)
- MM BIO-8 (Bird and Bat Conservation Strategy (BBCS))

- MM BIO-9 (Nesting Bird Management Plan (NBMP))
- MM BIO-10 (Gen-tie Lines)
- MM BIO-13 (Wildlife Protection and Relocation Plan)
- MM BIO-14 (Streambed and Watershed Protection)

A detailed discussion of impacts and mitigation is provided below for vegetation and habitat, threatened and endangered plants, and special-status wildlife. With (1) implementation of the identified mitigation measures on private land portions of the Project, and (2) implementation of the identified CMAs on BLM land portions of the Project, impacts to threatened and endangered species and associated habitat would be less than significant.

Solar and BESS Facility

Vegetation and Habitat

Impacts Discussion

The Project would permanently impact native habitats as shown in Figure 3.5-2 and Tables 3.5-1a and 3.51b. Impacts to desert dry wash woodland, a sensitive community, are detailed further in the discussion of Impact BIO-4 and would occur almost exclusively on public lands (BLM). All affected habitats may support endangered or threatened wildlife species (described below).

Vegetation, including native vegetation and habitat, would be cut or removed. Soils throughout the solar fields would be affected by some form of ground disturbance, which may result in erosion or compaction. Construction activities could accumulate dust on vegetation, which could diminish gas exchange or photosynthesis. Altered hydrology from site preparation could directly or indirectly affect native habitats by increasing stormwater runoff, increasing erosion, and degrading habitat conditions. Disturbance of native habitats may result in the spread of invasive weed species, which would degrade habitat quality, and use of herbicides for non-native control may impact non-target vegetation. Impacts to soils and vegetation, in turn, would affect threatened and endangered wildlife that may be present by collapsing burrows and removing vegetation used as cover, nesting, ~~and~~ foraging, and migratory stopover habitat.

During construction, the Project would temporarily affect surrounding habitat by introducing heavy equipment, vibrations, noise, lighting, dust, and increased human presence, resulting in disturbances that would affect wildlife behavior.

Washing of solar panels would introduce additional water to the site, which would supplement natural sources and may affect vegetation composition or persistence; however, panel washing would be performed infrequently (up to four times each year) and the amount of additional water is not expected to impact vegetation.

The PV heat island effect, as described in Impact BIO-1, may impact vegetation and habitat by raising air and soil temperatures in the vicinity of the Project. However, Project design includes low impact site preparation to increase vegetation retention and restoration, maintaining trimmed vegetation under PV panels, and storing panels at max tilt overnight to release stored heat, which has been recommended in existing studies to mitigate the heat island effect.

Mitigation of Project Impacts on Private Land

Without mitigation, loss of native vegetation and habitat on the Project site would significantly affect threatened and endangered species. MMs BIO-1 through BIO-5, would minimize adverse impacts to native vegetation, as previously described in Impact BIO-1. As described in detail for Vegetation and Habitat in Impact BIO-1, MMs BIO-1 to MM BIO-5 require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive plant and wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan). These measures would minimize direct disturbance and removal of vegetation by keeping work activities within designated work areas. By implementing seeding and revegetation, soil decompaction, erosion control, and non-native control in disturbance areas, as directed in the IWMP and VRMP, soils would be stabilized, native vegetation would be re-established, and post-construction habitat values would be improved in the Project area.

Impacts to desert dry wash woodland would be avoided (except for minor incursions) on private lands and BLM lands as part of the Project design (Section 2.7.3), consistent with DRECP CMA LUPA-BIO-RIPWET-1 (see below and in Appendix CC). Compensatory mitigation for minor incursions into desert dry wash woodland shall be identified prior to disturbance of the features at a minimum 5:1 ratio, as required in MM BIO-14 and consistent with DRECP CMA LUPA-BIO-COMP-1. Compensatory mitigation for impacts to desert pavement shall be identified at a minimum ratio of 1:1, as required in MM BIO-3 and consistent with DRECP CMA LUPA-BIO-COMP-1. Compensatory mitigation for impacts to suitable desert tortoise habitat (creosote bush scrub) shall be identified prior to disturbance of features at a minimum 1:1 ratio and desert tortoise critical habitat at a 5:1 ratio, as required in MM BIO-7 and consistent with DRECP CMA LUPA-BIO-COMP-1. The Project has been designed to avoid desert dry wash woodland, which would preserve habitat values on the Project site and minimize impacts to vegetation. Compensation for impacts to vegetation would offset habitat loss.

Mitigation of Project Impacts on BLM Land

The Project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with the following CMAs, which would be required on BLM lands, would mitigate impacts to less than significant, as described.

- **LUPA-BIO-1 (Biological Resources)** requires assessments of habitat, identification of vegetation types, and protocol surveys for BLM Special Status Species where suitable habitat may be present in the Project area. Habitat assessments and protocol surveys would ensure that sensitive biological resources would be detected and identified for avoidance.
- **LUPA-BIO-2 (Biological Resources)** requires a designated biologist to conduct and oversee biological monitoring and reporting during pre-construction, construction, and decommissioning. Using a qualified biologist to oversee surveying, monitoring, and reporting will ensure that ground and vegetation disturbance would not be performed outside of approved work areas and that direct injury and mortality of wildlife species is avoided.
- **LUPA-BIO-5 (Worker Education)** requires that all activities implement a BLM-approved worker education program that describes biological resources and how to identify them, their legal protections, minimization and mitigation measures, and reporting requirements. Comprehensive training of on-site workers would ensure that they limit ground disturbance to work areas and that they avoid sensitive habitats and special-status species.
- **LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance)** requires that temporary impact areas be restored using site-specific seed and soils, planting methods and timing, and success criteria, monitoring, and contingency measures, and that cactus be salvaged from the site and re-planted to the maximum extent practicable. Seeding, revegetation, soil decompaction, and erosion control would stabilize soils post-construction and promote

native habitat recovery, which would minimize long-term impacts to native habitats and soils in the Project area.

- **LUPA-BIO-10 (Standard Practices for Weed Management)** requires best management practices for weed management such as cleaning tires and equipment prior to entering the site, using certified weed free construction materials, re-vegetation of disturbed areas, and monitoring, identification, and eradication of weed infestations. Identification, suppression, and containment of non-native invasives and their sources would improve post-construction habitat values for threatened and endangered species in the Project area by preventing introduction and spread of weeds that outcompete native species and increase risk of wildfire.
- **LUPA-BIO-11 (Nuisance Animals and Invasive Species)** requires the management and proper use and disposal of herbicides and pesticides, and restriction of herbicide use near streams, washes, and surface and subsurface waters. Proper use of herbicides, in compliance with BLM guidelines, would minimize herbicide drift and spills to avoid contamination and degradation of non-target vegetation and waterways.
- **LUPA-BIO-13 (General Siting and Design)** requires siting and design to avoid impacts to unique plant assemblages. The CMA requires projects along the edges of the biological linkages to maximize the retention of microphyllous woodlands, in order to maintain the function of the connectivity area. The CMA requires that Project boundaries be demarcated and that Project activities, equipment, and vehicles be restricted to marked areas and existing roads and utility corridors. Lighting is required to be limited and directed away from habitat areas to minimize disturbance. Avoidance of desert dry wash woodland would prevent direct removal of functional corridor habitat. Flagging and staking work areas would avoid ground, soil, and vegetation disturbance outside of approved boundaries, minimizing impacts to habitat for threatened and endangered species in the vicinity.
- **LUPA-BIO-SVF-1 (Special Vegetation Features)** requires that a habitat assessment be performed for special vegetation features such as yucca, creosote rings, microphyll woodland, and Crucifixion thorn stands, which would ensure that these resources are identified and demarcated for avoidance or salvage.
- **LUPA-BIO-VEG-1 to -3** and **LUPA-BIO-VEG-5 to -6 (General Vegetation Management)** requires that management and salvage of cacti and BLM sensitive plants adhere to BLM-policies, downed wood be promoted for habitat values, and plant material be collected for re-vegetation. These measures would ensure that habitat values are improved in the Project area after construction.

The following CMAs describe protection for desert dry wash woodland. The Project design would avoid desert dry wash woodland with a 200-foot setback buffer, except for minor incursions, consistent with the CMAs (2.7.3).

- **LUPA-BIO-3 (Resource Setback Standards)** requires setbacks from specific biological habitats with allowable minor incursions as specified in applicable CMAs. Setback requirements are described in the species-specific CMA. The Project would avoid the desert dry wash woodland vegetation type with the required 200-foot buffer per LUPA-BIO-RIPWET-1 (See LUPA-BIO-RIPWET-1).
- **LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species)** requires that certain vegetation types be avoided with a specified setback, except for allowable minor incursions. Sonoran-Coloradan Semi-Desert Wash Woodland (desert dry wash woodland, microphyll woodland) is required to be avoided with a 200-foot setback.
- **LUPA-BIO-SVF-6 (Special Vegetation Features)** requires that impacts to microphyll woodland be avoided except for minor incursions.

- **LUPA-BIO-COMP-1 (Compensation)** and **DFA-VPL-BIO-COMP-1 (Biological Compensation)** require compensation for loss of desert riparian woodland vegetation (5:1), through non-acquisition (i.e., restoration and enhancement), land acquisition (i.e., preserve), or a combination of these options. Compensation would offset habitat loss resulting from direct vegetation removal in work areas. Impacts to desert dry wash woodland would be avoided, except for minor incursions; compensation for minor incursions would be mitigated at a 5:1 ratio.

Similar to the requirements of the MMs that would be implemented on private land within the Project site, CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve sensitive habitat in the Project area for threatened and endangered species and prevent degradation from disturbance in adjacent areas.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site impacts to vegetation and habitat for threatened and endangered species would be less than significant.~~Impacts to native habitat would be mitigated in accordance with regulatory permits from the CDFW and RWQCB. Impacts to desert dry wash woodland would be avoided on private lands, as on BLM-administered lands in accordance with the DRECP CMAs. Mitigation for habitat impacts on BLM lands would be implemented in accordance with the DRECP and mitigation measures in the final NEPA document.~~

Threatened and Endangered Plants

No listed threatened or endangered plant species were observed or have the potential to occur on the Project site or in the vicinity. There would be no impacts to threatened and endangered plants and no mitigation is required.

Threatened and Endangered Wildlife

Impacts Discussion

Construction may result in direct impacts to ~~special-status~~threatened and endangered wildlife including injury or mortality. Construction activities would cause most mobile vertebrate wildlife to leave or attempt to leave the site. Wildlife dispersing from the site could be at increased risk of predation and possible vehicle collisions as they flush from cover during site clearing. After leaving their home territories, displaced wildlife may be unable to find suitable food or cover in new, unfamiliar areas.

Construction could cause mortality of desert tortoise which may be crushed by construction equipment or crushed in burrows. In most cases, adult birds would fly away from the disturbance, but bird nests (including eggs or nestlings, if present) would be lost. Land use conversion could exclude threatened and endangered wildlife from portions of their territories. Facilities could present hazards to wildlife. For example, vertical structures can be collision hazards for birds or bats in flight; trenches can be pitfall hazards for terrestrial wildlife; and construction materials such as open pipes or tubing can attract birds or terrestrial species, which can become trapped inside. Open, uncovered water tanks may attract wildlife that subsequently drown without a means of exit.

Introduction of new roads fragments and degrades habitats in the vicinity, interrupts surface hydrology, disrupts wildlife movement patterns and behaviors, divides wildlife populations, and may result in increased wildlife mortality from vehicle strikes. Increased roadkill becomes an attractant for opportunistic predators that prey on special-status wildlife. Wildlife populations may decline with cumulative mortality and loss of larger reproductive animals (Nafus et al., 2013).

Noise and lighting during construction could affect wildlife in adjacent habitats by disrupting foraging, breeding, sheltering, and other activities; or may cause wildlife to avoid otherwise suitable habitat surrounding the site. Lighting during construction may affect nocturnal wildlife species, by causing alterations to forage or movement behavior, possibly attracting some species to the site (e.g., bats may be attracted to insects at light sources) or dissuading other species from approaching the site. Various other human activities (e.g., vehicle traffic, accumulated waste, or nuisance water sources) can be injurious to wildlife, either as direct hazards (vehicle strikes) or as attractants such as food or water that may put wildlife in harm's way. Fencing, ~~F~~facilities, and equipment may become nest or perch sites for certain birds (common raven, loggerhead shrike) which may prey on threatened or endangered species (desert tortoise).

Herbicides used to treat invasive weeds may also pose risks to threatened and endangered species. Herbicides that persist on site could injure wildlife that ingest target plants or come into contact with herbicides (e.g., by digging or rolling in treated soil).

Mitigation of Project Impacts on Private Land

Without mitigation, the loss and modification of native habitat and direct disturbance, mortality, or injury of special-status wildlife as a result of project construction could significantly affect species on the project site or in the vicinity.

Impacts to threatened and endangered wildlife would be minimized and avoided with implementation of mitigation measures. MMs BIO-1 to MM BIO-5, as discussed in detail for Vegetation and Habitat in Impact BIO-1, require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive plant and wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing herbicide use and the introduction and spread of non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan) (Appendix N), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan)(Appendix S).

These measures would minimize direct disturbance, loss, degradation, and contamination of nesting, sheltering, and foraging habitat for threatened and endangered wildlife by keeping work activities within designated work areas. By implementing seeding and revegetation, soil decompaction, erosion control, and non-native control in disturbance areas, as directed in the IWMP and VRMP, soils would be stabilized, native vegetation would be re-established, and post-construction habitat values would be improved in the Project area. Management of herbicides in accordance with established protocols will prevent wildlife encounters with treated vegetation.

The Project has been designed to avoid desert dry wash woodland (except for minor incursions), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values for threatened and endangered wildlife and offset habitat loss.

MM BIO-6 (Wildlife Protection) identifies numerous requirements to manage hazards to wildlife in work areas and report dead or injured wildlife. By performing site inspections; restricting vehicle speed limits; monitoring for wildlife entrapment and providing means of escape in trenches, holes, piping, or water tanks; managing food, trash, and water subsidies; and properly handling hazardous materials, predation, injury, and mortality of threatened and endangered wildlife would be reduced. These measures would increase detection of wildlife that require avoidance in Project areas and would prevent attraction to the

Project site where there is increased likelihood of disturbance. Use of directed night lighting would minimize disturbance of wildlife in the Project vicinity and adjacent habitat.

Mitigation of Project Impacts on BLM Land

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with these CMAs, which would be required on BLM lands, would mitigate impacts to less than significant, as described.

The following CMAs, previously detailed for Vegetation and Habitat, would also reduce impacts to wildlife habitat used by threatened and endangered species for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, these CMAs reduce impacts to wildlife and habitat by requiring qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values for wildlife. Avoidance of desert dry wash woodland with a 200-foot setback buffer would prevent direct removal of sensitive habitat used by many wildlife species for foraging, shelter, breeding, and movement through the Project vicinity. A 200-foot setback would reduce degradation from disturbance in adjacent areas.

In addition to CMAs that protect wildlife habitat, the following CMAs would be implemented to minimize impacts to threatened and endangered wildlife that may be present:

- **LUPA-BIO-4 (Seasonal Restrictions)** requires species-specific seasonal restrictions on Project activities as specified in the applicable CMAs. Seasonal restrictions and requirements are described in the species-specific CMA. Seasonal restrictions would ensure that construction activities do not disturb sensitive wildlife species during vulnerable periods in their life cycle.

- **LUPA-BIO-6 (Subsidized Predators Standards)** requires management of predator subsidies including food, water, trash, breeding and roosting sites for common raven. By reducing predator attractants and managing subsidies injury or mortality of special-status wildlife due to predation would be minimized.

- **LUPA-BIO-12 (Noise)** requires that noise from stationary sources that exceed background ambient levels and that may impact BLM Special Status Species be managed, and that equipment be fitted with mufflers to reduce noise. By reducing noise in the Project area, indirect disturbance to wildlife in adjacent habitats and foraging, breeding, and movement behaviors would be minimized.

- **LUPA-BIO-14 (Biology: General Standard Practices)** requires that BMPs be implemented to protect BLM Special Status Wildlife Species, such as prohibiting harassment or feeding wildlife; prohibiting domestic pets on the Project site; inspection of construction materials that may provide shelter for wildlife; covering and inspection of trenches and excavations that may be an entrapment hazard to wildlife; providing a means of escape from excavations; and minimizing vegetation removal using crushing or mowing techniques. These measures would increase detection of wildlife that require avoidance in Project areas and would prevent attraction of predators and special-status species to the Project site, where there is increased likelihood of disturbance, mortality, and injury. Using crushing and mowing techniques would minimize impacts to vegetation and promote recovery of native wildlife habitat.
- **LUPA-BIO-15 (Biology: General Standard Practices)** requires use of BLM-approved "state-of-the-art" construction techniques that minimize site disturbance, soil erosion and compaction, and removal of vegetation. Using current BLM-approved methods would minimize impacts to vegetation and promote recovery of native wildlife habitat.
- **DFA-BIO-IFS-1 to -3 (Biological Resources)** requires that species-specific protocol surveys be implemented in DFAs for desert tortoise, Bendire's thrasher, and burrowing owl and that species-specific setbacks be implemented in DFAs for Bendire's thrasher, burrowing owl, and Swainson's hawk. Surveys and setback buffers would ensure that target species are detected on the Project site and avoided at a distance that is sufficient to prevent disturbance of target species.

These DRECP CMAs reduce disturbance, injury, and mortality of wildlife species, by surveying and buffering for individuals, limiting work during species active seasons, and managing work site hazards and sources of disturbance.

Species-Specific Measures

The following paragraphs summarize species-specific impacts and mitigation measures in addition to the MMs and CMAs previously described, which provide improvement and avoidance of habitat and protection of wildlife from work site hazards for all threatened and endangered species on the Project site.

Species-specific mitigation measures, as discussed in detail below, ensure that work areas on private land in the Project site would be surveyed, and that threatened and endangered wildlife would be identified, monitored, buffered and avoided, or properly excluded or relocated. These measures are expected to reduce the need for handling, the likelihood and severity of injury, and the likelihood of mortality of special-status wildlife with potential to occur in the Project areas. CMAs described below would likewise minimize impacts on special status wildlife on BLM land within the Project site.~~Descriptions of impacts to specific threatened and endangered species that have potential to occur in the Project area are provided, as follows.~~

Insects

Crotch bumble bee (*Bombus crotchii*); SC. The Project site supports potentially suitable habitat for Crotch bumble bee; however, no bees have been observed and the Project site is located east of the current range. The easternmost portion of the gen-tie line on the Oberon Project site overlaps with the historic range. The nearest historic records to the Project site include near Corn Springs and Palm Springs (Ironwood, 2023a). More recent records are documented on the western side of Riverside County, west of Palm Springs (Ironwood, 2023a).

During construction and O&M, if present, Crotch bumble bee may be deterred from foraging on the Project site due to land use conversion and loss of forage plants. Burrows may be destroyed by ground disturbing activities. In most cases, insects would fly away from disturbance, but bees in nests would be at risk of mortality. Noise during construction could disrupt foraging activities or may cause the bee to avoid otherwise suitable habitat surrounding the site.

Significant impacts to vegetation used for foraging habitat would be avoided and minimized with implementation of MMs BIO-1 to BIO-5, as previously described,~~.~~ which provide improvement and avoidance of habitat by using qualified staff, demarcating work areas, and performing re-vegetation and weed control, and would provide protection of wildlife using inspections and BMPs for work site hazards.

Avoidance of desert dry wash woodland (except for minor incursions), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values for Crotch bumble bee and offset habitat loss.

MM BIO-6 (Wildlife Protection) includes specific measures to protect Crotch bumble bee including worker training on identifying individuals, and adaptive management in coordination with CDFW if individuals or nests are detected during pre-construction surveys. Any nests detected would be buffered by the Lead Biologist and avoided until coordination with CDFW is completed. These measures would identify potential instances of Crotch bumble bee in the Project area and protect individuals from disturbance. ~~Implementation of MMs BIO-1 through BIO-5 would minimize adverse impacts to native vegetation, thereby minimizing impacts to Crotch bumble bee habitat. Additionally, MM BIO-6 (Wildlife Protection) identifies numerous requirements to minimize or avoid wildlife injury such as site inspections, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits.~~

No additional species-specific CMAs are applicable to Crotch bumble bee beyond those previously described for all special-status wildlife species~~.~~.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to Crotch bumble bee would be mitigated to less than significant.

Reptiles

Desert tortoise (*Gopherus agassizii*); ST, FT. No live desert tortoises or active sign were documented. Nine locations of tortoise carcasses were observed, most of which were characterized by shell bones falling apart and growth rings on scutes peeling (class 4) or disarticulated bones or scutes more than 4 years old (class 5). Desert tortoise sign observed during field surveys were consistent with the predicted occupancy model, with all the observed sign occurring in areas with occupancy values of 0.3 or higher. Most of the desert tortoise sign was concentrated within the southwest portion of the Project site.

During construction and O&M, if present, a desert tortoise would be vulnerable to impacts such as mortality or injury due to vehicle collision, crushing by site preparation equipment, or increased predation by opportunistic predators such as common ravens that may be attracted to food and water subsidies at the Project site. Desert tortoises, eggs, or burrows could be harmed during clearing or grading activities, or tortoises could become entrapped within open trenches and pipes. Construction or O&M activities could also result in direct mortality, injury, or harassment of tortoises or loss of eggs due to vehicle strikes. Other direct effects could include individual tortoises or eggs being crushed or entombed in their burrows, disruption of tortoise behavior during construction or operation of facilities, and disturbance by noise or vibrations from heavy equipment.

Desert tortoises may also be attracted to the construction area by shade beneath vehicles, equipment, or staged construction materials, or the application of water to control dust, placing them at higher risk of injury or mortality. Construction and operation could create "subsidies~~,~~" ~~such as food, water, or nest sites or perch sites,~~ for common ravens or other opportunistic predators~~.~~ in the form of water, food sources from trash, nesting materials from cleared brush and debris, and prey flushed from shelter. This could indirectly lead to an increase in predation on the desert tortoise and other species. New structures such as fencing, solar panels, and the gen-tie line could introduce nest or perch sites for opportunistic predators that could prey on desert tortoises. Ravens prey on juvenile desert tortoises, contributing to an overall decline in tortoise recruitment.

Construction will directly impact suitable habitat for desert tortoise by permanent removal of habitat and temporary loss or degradation of habitat. Construction activities could degrade desert tortoise habitat by compacting the soil, making it unsuitable for burrowing, and reducing the amount and quality of forage and cover vegetation. Construction could result in erosion of suitable soils and nutrients, and reduced water absorption. Other effects could include the introduction and spread of invasive weeds that degrade habitat quality and increased human presence and disturbance. Relocation of tortoises from the Project site may result in competition for resources and mates in new habitat areas, which could result in mortality of the relocated individual or reductions in reproduction.

During O&M, desert tortoises would be more restricted from moving through the area, which could impact local populations and gene flow. However, as described below in Impact BIO-3, the proposed Project would avoid development on approximately ~~446~~530 acres of the Pinto Wash linkage within the Project area. The avoided portion of the linkage is primarily DDWW habitat adjacent to Big Wash, which would maintain east-west connectivity through the northern portion of the Project site that overlaps the linkage. The Easley Project site does not occur within high-quality habitat in the Pinto Wash linkage or within modelled linkage areas, and the best modelled habitat for connectivity in the Pinto Wash linkage is within the northern and western portions of the linkage where it does not overlap with the Easley Project site or the DFA (see Impact BIO-3). Additionally, desert tortoise surveys did not result in observations of active desert tortoise sign or live individuals within the Project footprint. Implementation of the proposed Project will have minimal impact to the local desert tortoise population.

As a state and federally listed threatened species, take (such as injury or mortality, as well as handling of a desert tortoise) may only be authorized through consultation with the USFWS and CDFW. If the site is a part of a desert tortoise's home range, land use conversion could reduce local habitat availability, possibly reducing access to food, water, or other resources, and impact population density. Land use conversion also could affect habitat connectivity in the area, addressed below in Impact BIO-3 regarding wildlife movement.

Without implementation of MMs, the proposed Project could cause significant impacts including mortality or injury to desert tortoises if present in the Project area during construction, O&M, and decommissioning activities. Mitigation would prevent injury or mortality of desert tortoise, as described below. Impacts to desert tortoise habitat and movement may be further minimized with use of desert tortoise passage fencing as part of Project design during O&M (Section 2.7.4).

Implementation of several MMs would avoid, minimize, and mitigate impacts on desert tortoise on private land within the Project site. MMs BIO-1 through BIO-5, would minimize adverse impacts to native vegetation, as previously described in Impact BIO-1. These measures guide improvement and avoidance of habitat by using qualified staff, demarcating work areas, and performing re-vegetation and weed control, and would provide protection of wildlife using inspections and BMPs for work site hazards. ~~Additionally, MMs BIO-6 (Wildlife Protection) and BIO-7 (Desert Tortoise Protection) would ensure no take of desert tortoise during Project construction or O&M.~~ MM BIO-6, as previously detailed, identifies numerous requirements to minimize or avoid wildlife injury. By performing site inspections; restricting vehicle speed limits; monitoring for wildlife entrapment and providing means of escape in trenches, holes, piping, or water tanks; managing food, trash, and water subsidies; and properly handling hazardous materials, predation, injury, and mortality of special-status wildlife would be reduced. These measures would increase detection of wildlife in Project areas and would prevent attraction to the Project site where there is increased likelihood of disturbance. Use of directed night lighting would minimize disturbance of wildlife in the Project vicinity and adjacent habitat. ~~such as site inspections, ramps to ensure escape from excavations, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits.~~

MM BIO-7 (Desert Tortoise Protection) would require vehicle inspections for tortoise and vehicle speed limits, which would increase detection of desert tortoise that require avoidance to prevent injury or mortality. If a tortoise is observed within or near a work site, Project work activities will proceed only within a suitable buffer area after the tortoise has either moved away of its own accord, or if it has been translocated off the site under authorization by the USFWS and CDFW, which would avoid tortoise injury and mortality.

Compensatory mitigation for desert tortoise shall include a minimum of 1:1 ratio for impacts to desert tortoise suitable habitat (creosote bush scrub) and a ratio of 5:1 for impacts to desert tortoise critical habitat, in coordination with USFWS, CDFW, and in compliance with any ITPs.

The Desert Tortoise Protection and Relocation Plan (MM BIO-7) (Appendix P) would require the use of qualified and agency approved biological staff for surveying and monitoring; use of construction personnel that are trained to identify, report, and avoid desert tortoise; pre-construction clearance surveys, monitoring or exclusion of desert tortoises from active work areas ~~to prevent injury~~;~~,~~ and agency protocols for passively excluding, handling, and relocating of desert tortoise found in work areas. The Plan requires that results of surveys and monitoring be regularly reported to resource agencies and that an adaptive management framework be developed to address Project related impacts.

The measure ~~and a Raven Management Plan to minimize opportunistic predation. It~~ requires a USFWS Authorized Biologist during construction to conduct or direct pre-construction clearance surveys for each work area and direct Biological Monitors to watch for tortoises wandering into the construction areas, check under vehicles, and examine excavations and other potential pitfalls for entrapped animals. The Authorized Biologist shall have the authority to halt all Project activities that are in violation of these measures or that may result in take of a desert tortoise.

Desert t~~T~~ortoises would not be handled or moved without incidental take authorization from the USFWS and CDFW. Any desert tortoise handling or translocation would be performed according to the permits and the ~~a~~ Desert Tortoise Relocation Plan ~~(IP Easley, 2023)~~, pending approval by both agencies ~~(MM BIO-7). The Applicant may seek this authorization or may opt to avoid any potential desert tortoise take as specified in MM BIO-6 (Wildlife Protection) and MM BIO-7 (Desert Tortoise Protection).~~

These measures would ensure that desert tortoise are identified and avoided in work areas prior to construction, and safely excluded from burrows and relocated out of harm's way. By following agency protocols for tortoise surveying, handling, and relocating, and by using qualified and permitted biological staff, individual desert tortoise would be detected for avoidance and monitoring, and mortality and injury during construction and relocation would be reduced.

MM BIO-7 further requires a Raven Management Plan (Appendix Q), which would be developed to minimize opportunistic predation related to Project subsidies. Implementation of the plan would manage work site subsidies such as trash, food, water, perches, and roadkill, which would reduce the attractants to the site and desert tortoise predation.

MM BIO-13 (Wildlife Protection Plan) (Appendix R), as previously described for burrowing owl, desert kit fox, and American badger, directs the development of a Wildlife Protection and Relocation Plan to identify and describe species-specific procedures for burrowing owl, desert tortoise, desert kit fox, and American badger. The Plan would require pre-construction wildlife clearance surveys; construction monitoring; and species-specific surveys; requirements for buffers, avoidance, and monitoring; exclusion and relocation methods; procedures for handling and transporting individuals; and adaptive management strategies to identify and remediate Project related impacts to special-status wildlife. The requirements of MM BIO-7 are incorporated in the Wildlife Protection Plan to describe the protocols and procedures related to desert tortoise translocation and relocation.

By performing protocol surveys, individuals and burrows would be buffered to avoid direct injury or mortality. Passive exclusion of individuals would prevent entrapment during construction, avoid the need for handling, and avoid direct injury and mortality. Collapsing inactive burrows prevents further use to avoid future risk to the species from construction in the Project area.

DRECP CMAs. In addition to CMAs previously detailed for all special-status wildlife species, the following CMAs would be implemented on BLM lands within the Project site to minimize impacts to desert tortoise:

- **LUPA-BIO-IFS-1 to -9 (Individual Focus Species (IFS): Desert Tortoise)** require specific measures to protect desert tortoise. Activities within desert tortoise linkages must be evaluated to determine the effect of the Project on the maintenance of long-term viable desert tortoise populations within the linkage (LUPA-BIO-IFS-1). Construction of new roads must be avoided to the maximum extent practicable within desert tortoise habitat in tortoise conservation areas (LUPA-BIO-IFS-2) and culverts for roads must allow unrestricted access by desert tortoise (LUPA-BIO-IFS-3). Exclusion fencing must be installed around the perimeter of long-term activities in accordance with the Desert Tortoise Field Manual (USFWS, 2009) and clearance surveys, fence monitoring, and construction monitoring must be performed by a designated biologist (LUPA-BIO-IFS-4, -5). Any geotechnical borings would be monitored for desert tortoise (LUPA-BIO-IFS-6, -7). Construction materials must be inspected and capped to prevent entrapment and under vehicles would be inspected to prevent crushing (LUPA-BIO-IFS-8). Vehicle speed limits must be maintained to detect and avoid desert tortoise (LUPA-BIO-IFS-9). These measures would ensure that desert tortoise are identified, avoided, and protected in work areas, safely excluded from work areas and burrows, and safely relocated out of harm's way. By following agency protocols for tortoise surveying, handling, and relocating, and by using qualified and permitted biological staff, individual desert tortoise would be detected for avoidance and monitoring, and mortality and injury during construction and relocation would be reduced. Inspections of work sites and vehicles and speed limit requirements would ensure detection and avoidance of individuals.
- **LUPA-BIO-COMP-1 (Compensation)** and **DFA-VPL-BIO-COMP-1 (Biological Compensation)** require compensation for loss of suitable desert tortoise habitat (1:1) (same recovery unit), desert tortoise critical habitat (5:1) (same critical habitat unit), wetlands (2:1), and desert riparian woodland vegetation (5:1), through non-acquisition (i.e., restoration and enhancement), land acquisition (i.e., preserve), or a combination of these options. Compensation would offset desert tortoise habitat loss resulting from direct vegetation removal in work areas.
- **DFA-VPL-BIO-IFS-1 (Individual Focus Species (IFS): Desert Tortoise)** requires that activities be sited in previously disturbed areas, areas of low-quality habitat, and areas with low habitat intactness within desert tortoise linkages, which would reduce disturbance and degradation of desert tortoise habitat.

Measures are expected to effectively avoid lethal take of desert tortoise by avoiding disturbance of individuals, protecting them from work site hazards, identifying and collapsing empty burrows, and passively excluding them from the Project area.

On BLM-administered lands, USFWS acknowledged that approximately 11,290 acres of modeled desert tortoise habitat within the DRECP DFAs would eventually be developed for renewable energy (USFWS, 2016; 2017). USFWS concluded that the DRECP LUPA was not likely to jeopardize the continued existence of the desert tortoise and would benefit its recovery. The proposed solar plants were primarily located outside of critical habitat and areas of critical environmental concern, which contain most of the land base required for recovery of the species, and the projects included numerous measures intended to protect desert tortoise, consistent with the recommendations in the USFWS desert tortoise recovery plan (USFWS, 2016; 2017).

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to desert tortoise would be mitigated to less than significant~~With implementation of mitigation, impacts to desert tortoise would be less than significant~~.

~~On BLM-administered lands, USFWS acknowledged that approximately 11,290 acres of modeled desert tortoise habitat within the DRECP DFAs would eventually be developed for renewable energy (USFWS, 2016; 2017). USFWS concluded that the DRECP LUPA was not likely to jeopardize the continued existence of the desert tortoise and would benefit its recovery. The proposed solar plants were primarily located outside of critical habitat and areas of critical environmental concern, which contain most of the land base required for recovery of the species, and the projects included numerous measures intended to protect desert tortoise, consistent with the recommendations in the USFWS desert tortoise recovery plan (USFWS, 2016; 2017).~~

Birds

Threatened and endangered birds with potential to occur on the Project site are discussed in the species-specific paragraphs below. The Project site and surrounding area provides suitable foraging, cover, and nesting habitat for numerous resident and migratory bird species. Direct removal of vegetation and habitat on the Project site would reduce availability of foraging, cover, and nesting habitat for threatened and endangered birds and their prey.

During construction, if present, threatened and endangered birds may be deterred from occupying the Project site due to vegetation disturbance; loss of foraging, cover, and nesting habitat; and increased human presence, noise, vibrations, and lighting. In most cases, adult birds would fly away from the disturbance, but bird nests (including eggs or nestlings, if present) could be destroyed, resulting in injury or mortality of individuals. Land use conversion could exclude threatened and endangered birds from portions of their territories, and establishing new territories in other areas may result in increased competition for resources and mates, resulting in mortality or reduced reproduction. Noise, vibrations, and lighting during construction could disrupt foraging, breeding, and sheltering activities or may cause birds to avoid otherwise suitable habitat surrounding the site. Increased human presence and activity could increase incidents of vehicle strikes and entrapment, or endanger individuals by attracting them and predators to work sites with trash, food, and water.

After completion of construction and throughout the life of the Project, the solar facilities and other Project components may present a collision and electrocution risk to birds. Collisions typically occur when the structures are not visible (e.g., power lines or guy wires at night), or are deceptive (e.g., glazing and reflective glare) or confusing (e.g., light refraction or reflection from mist). In the case of solar panels, birds may collide with the panels that reflect the sky and clouds and are misconstrued as safe passage (USGS, 2016), and some have hypothesized that the collision risk may be linked to a “false-lake effect,” where birds are attracted to PV panels as water bodies, resulting in collision or stranding. This effect may be the cause of water-associated and water-obligate species mortalities at desert solar sites, including federally listed Yuma Ridgway’s rail, which has been found at another solar facility in the area. Lake effect is discussed in more detail above. Impacts due to electrocution are detailed under 500 kV Gen-Tie, Collector, and Distribution Lines.

Without mitigation, impacts to threatened and endangered birds would be significant.

Implementation of several mitigation measures would avoid, minimize, and mitigate impacts to threatened and endangered bird species on private land within the Project site. Impacts to habitat for threatened and endangered birds would be avoided and minimized by implementing MMs BIO-1 through BIO-5. As described in detail for Vegetation and Habitat in Impact BIO-1, these require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing herbicide use and the introduction and spread of non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan) (Appendix N), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan) (Appendix S). By keeping work activities within designated work areas, direct disturbance of birds and their nesting, sheltering, and foraging habitat would be minimized. By implementing seeding and revegetation, soil decompaction, erosion control, and non-native control in disturbance areas, as directed in the IWMP and VRMP, soils would be stabilized, native vegetation would be re-established, and post-construction habitat values for birds and other wildlife would be improved in the Project area. Management of herbicides in accordance with established protocols will prevent wildlife encounters with treated vegetation.

As described for all threatened and endangered wildlife, avoidance of desert dry wash woodland (except for minor incursions), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values for threatened and endangered birds on the Project site and offset habitat loss.

Per MM BIO-6 (Wildlife Protection), performing site inspections; restricting vehicle speed limits; monitoring for wildlife entrapment and providing means of escape in trenches, holes, piping, or water tanks; managing food, trash, and water subsidies; and properly handling hazardous materials would increase detection and avoidance of threatened and endangered birds on the Project site and prevent attraction to the site where there is increased likelihood of disturbance, predation, injury, and mortality.

MM BIO-8 (Bird and Bat Conservation Strategy) would direct the development of a BBCS Plan (Appendix M), which would identify Project related risks to birds and bats and adaptively manage for Project related mortality detected on the Project site. By implementing adaptive management, instances of bird collisions, stranding, and mortality associated with solar facilities would be identified and managed to reduce impacts from Project related risks. MM BIO-9 (Nesting Bird Management Plan) (Appendix O), as previously described, requires performing pre-construction nest surveys and implementing buffers and monitoring around active nests, which would protect nesting threatened and endangered birds from disturbance due to increased noise, dust, vibration, and human presence and from direct destruction of nests, eggs, and young.

MMs BIO-1 to -6 and MM BIO-8 and -9 apply to all threatened and endangered bird species on the Project site. They outline requirements for improvement and avoidance of habitat, protection from work site hazards, adaptive management based on known risks to birds and bird mortality from Project features, and identification and avoidance of nesting birds.

DRECP CMAs: In addition to CMAs previously detailed for all threatened and endangered wildlife species, the following CMAs would be implemented on BLM land within the Project site to minimize impacts to threatened and endangered birds:

- **LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs)** requires measures to avoid and minimize impacts to birds and bats, such as managing lighting that will not attract birds and bats and monitoring for birds and bat mortality on the Project site. The CMA requires that a Bird and Bat Conservation Strategy (BBCS) be developed to assess operational impacts to birds and bats, incorporating a bird and bat use and mortality monitoring program during operations, using current protocols and best procedures available at time of monitoring. By implementing the requirements of the BBCS, bird injury and mortality from work site hazards and Project related risks during operation of the solar facilities (collision, electrocution) would be adaptively managed and reduced.
- **LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species)** requires that activities within 0.25 mile of a riparian or wetland vegetation type that may impact riparian and wetland birds would be surveyed with pre-construction/activity nesting bird surveys. Surveys and monitoring would identify nesting birds, nests, eggs, and young that require protection from direct mortality, injury, and destruction and would minimize disturbance from construction noise, vibrations, dust, lighting, and increased human presence, which could otherwise result in nest abandonment.
- **LUPA-BIO-COMP-2 (Compensation (Birds and Bats))** requires that compensation for the mortality impacts to birds and bats from the Project be determined based on monitoring of bird and bat mortality and a fee reassessed every 5 years to fund compensatory mitigation. Monitoring must inform the amount and type of compensation required to offset the effects. Compensation will be satisfied by restoring, protecting, or otherwise improving habitat or non-restoration actions that reduce mortality risks, such as increased predator control and protection of roosting sites from human disturbance. By monitoring bird and bat mortality, the level of impact and associated compensation will be adequately identified.

By identifying potential hazards to birds and bats during construction and O&M, and monitoring for injury and mortality from work site and Project related hazards, impacts would be adaptively managed and reduced. Protecting nesting birds would avoid direct mortality or injury, destruction of nests, eggs, and young, and disturbance of nesting behaviors from construction.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to threatened and endangered birds would be mitigated to less than significant.

The following paragraphs further summarize impacts for specific threatened and endangered birds, and briefly describe the mitigation measures and CMAs needed to reduce significant impacts. These measures are expected to reduce the loss of habitat, the likelihood and severity of injury, and the likelihood of mortality of threatened and endangered birds with potential to occur in the Project areas.

Swainson's hawk *(Buteo swainsoni)*; ST, BBC. The Project site provides potential migration season foraging habitat for Swainson's hawk but is well outside the nesting range. No Swainson's hawks were observed during surveys.

During construction and O&M, if present, Swainson's hawk may be deterred from foraging on the Project site due to land use conversion. In most cases, adult birds would fly away from the disturbance. Facilities including vertical structures could present a collision hazard. Noise and lighting during construction could disrupt foraging activities or may cause wildlife to avoid otherwise suitable habitat surrounding the site. Increased human presence and activity could increase incidents of vehicle strikes or endanger individuals by attracting them to work sites with trash, food, and water.

~~Significant impacts to vegetation used for cover and foraging habitat would be avoided and minimized with implementation of MMs, as previously described.~~Loss of foraging and cover habitat may affect Swainson's hawk during migratory seasons, which would be minimized by implementing BIO-1 through BIO-5. These measures ensure improvement and avoidance of habitat by using qualified staff, demarcating work areas, and performing re-vegetation and weed control. Protective measures for wildlife in MM BIO-6 and the requirements of protective plans for birds in MM BIO-8 and -9 would ensure that injury and mortality of birds associated with work site hazards and risks would be managed and avoided and that bird nests are protected from destruction.

In addition to the CMAs previously described for all threatened and endangered wildlife species, the following CMA would be implemented on BLM land within the Project site to minimize impacts to Swainson's hawk:

- **DFA-BIO-IFS-2 (Biological Resources)** requires that species-specific setbacks be implemented in DFAs for Bendire's thrasher, burrowing owl, and Swainson's hawk. A setback buffer of 0.5 mile is required from active nests. Suitable nesting habitat is not present near the Project area. Setback buffers would ensure that species are detected on the Project site and avoided at a distance that is sufficient to prevent disturbance of target species.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to this species would be mitigated to less than significant.

~~Implementation of MMs BIO-1 through BIO-5 would minimize adverse impacts to native vegetation, thereby minimizing impacts to threatened and endangered bird habitat.~~

~~MM BIO-6 (Wildlife Protection) would minimize impacts to birds through site inspections, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits. MM BIO-8 (Bird and Bat Conservation Strategy) requires a BBCS that will identify potential hazards to birds, implement a Nesting Bird Management Plan (NBMP), include monitoring and avoidance of nesting seasons, and develop adaptive management for bird and bat mortality during O&M.~~ Impacts due to potential ~~collision and~~ electrocution and associated mitigation measures are discussed below for Gen-Tie Lines ~~and would be minimized with implementation of MM BIO-8 (BBCS) and MM BIO-9 (Gen-tie Lines)~~.

Gila Woodpecker *(Melanerpes uropygialis)*; CE, BLMS, BCC. Potentially suitable habitat within the Project site is found in desert washes in palo verde or ironwood trees large enough for cavity nests. Potential for nesting is low as only a few palo verde trees on the site are large enough for tree cavities, and the site is near the western margin of the Gila woodpecker's range. Two suitable tree cavities were observed in surveys, but no Gila woodpeckers were observed (Figure 3.5-6).

During construction and O&M, if present, Gila woodpecker may be deterred from occupying the Project site due to vegetation disturbance, and increased human presence, noise, and lighting. In most cases, adult birds would fly away from the disturbance, but bird nests (including eggs or nestlings, if present) could be lost. Land use conversion could exclude Gila woodpecker from portions of their territories. Noise and lighting during construction could disrupt foraging, breeding, and sheltering activities or may cause wildlife to avoid otherwise suitable habitat surrounding the site. Increased human presence and activity could increase incidents of vehicle strikes or endanger individuals by attracting them to work sites with trash, food, and water.

Loss of ironwood trees suitable for cavity nests and vegetation suitable for cover and forage habitat would impact Gila woodpecker.

Impacts to bird habitat would be minimized by implementing BIO-1 through BIO-5, as previously described, which ensure improvement and avoidance of habitat by using qualified staff, demarcating work areas, and performing re-vegetation and weed control for post-construction vegetation recovery. As described for all threatened and endangered wildlife, the Project has been designed to avoid desert dry wash woodland (except for minor incursions), per the Project Description (see EIR Chapter 2), which would avoid and minimize loss of ironwood trees used for nesting and preserve habitat values. Compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14) would offset habitat loss.

Protective measures for wildlife in MM BIO-6 and the requirements of protective plans for birds in MM BIO-8 and -9 would ensure that bird injury and mortality associated with work site hazards and risks would be managed and avoided and that bird nests are protected from destruction.~~Mitigation measures would be implemented, as previously described for Swainson's hawk, to minimize impacts to threatened and endangered birds and their habitat. Implementation of MMs BIO-1 through BIO-5 would minimize significant impacts to native vegetation, thereby minimizing impacts to foraging and nesting habitat. MM BIO-6 (Wildlife Protection) and MM BIO-8 (BBCS) would minimize direct impacts to birds with site inspections, monitoring and avoidance of nesting seasons, and adaptive management for bird mortality during O&M.~~

No additional species-specific CMAs are applicable to Gila woodpecker beyond those previously described for all threatened and endangered wildlife species.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to this species would be mitigated to less than significant.

Elf owl *(Micrathene whitneyi)*; CE, BLMS, BCC. Trees within the desert dry wash woodland habitat could provide suitable marginal habitat for elf owl nesting. Its nesting habitat is closely correlated with nesting habitat of woodpeckers, including Gila woodpecker. Two tree cavities were observed during surveys and could be potential nesting cavities. No elf owls were observed during the survey.

The Project's potential impacts to elf owl nesting and foraging habitat would be similar to those described for Gila woodpecker and other native birds and threatened and endangered birds. Loss of ironwood trees suitable for cavity nests and vegetation suitable for cover and forage habitat would impact elf owl.

Impacts to bird habitat would be minimized by implementing BIO-1 through BIO-5, as previously described, which ensure improvement and avoidance of habitat by using qualified staff, demarcating work areas, and performing re-vegetation and weed control for post-construction vegetation recovery. As described for all threatened and endangered wildlife, the Project has been designed to avoid desert dry wash woodland (except for minor incursions), per the Project Description, would avoid and minimize loss of ironwood trees used for nesting and preserve habitat values. Compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14) would offset habitat loss.

Protective measures for wildlife in MM BIO-6 and the requirements of protective plans for birds in MM BIO-8 and -9 would ensure that bird injury and mortality associated with work site hazards and risks would be managed and avoided and that bird nests are protected from destruction.~~Impacts would be avoided and minimized with implementation of MMs, as previously described. Implementation of MMs BIO-1 through BIO-5 would minimize significant impacts to native vegetation, thereby minimizing impacts to foraging and nesting habitat. MM BIO-6 (Wildlife Protection) and MM BIO-8~~

~~(BBCS) would minimize direct impacts to birds with site inspections, monitoring and avoidance of nesting seasons, and adaptive management for bird mortality during O&M.~~

No additional species-specific CMAs are applicable to elf owl beyond those previously described for all threatened and endangered wildlife species.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to this species would be mitigated to less than significant.

Riparian Birds. Four federally listed riparian bird species known from the vicinity (western yellow-billed cuckoo, southwestern willow flycatcher, least Bell's vireo, and Yuma Ridgway's rail) have a moderate potential to occur in the Project area during migration periods, but there is no suitable nesting or foraging habitat on the site for these species. None were observed during field surveys. There would be no direct or indirect effects to nests, nest success, or nesting habitat.

The Project's impacts to ~~nesting and foraging and~~ stopover habitat and direct impacts to individuals would be similar to those described in Impact BIO-1 for native birds and for other threatened and endangered birds.

If birds use the Project site, they may be subject to direct mortality or injury from vegetation removal and work site hazards, such as equipment, vehicles, hazardous fuels and herbicides, entrapment in project materials, and attractants for opportunistic predators. Indirect impacts, such as increased noise, dust, light, and activity, may affect migratory behavior.

While these birds would not forage or nest on the site, they may encounter the site during migratory flight, where the solar facilities and other Project components may present a collision risk to birds, as previously described. Collisions may occur when the structures are not visible (e.g., power lines or guy wires at night), or are deceptive (e.g., glazing and reflective glare) or confusing (e.g., light refraction or reflection from mist). In the case of solar panels, birds may collide with the panels that are misconstrued as the sky or as a "false-lake", resulting in collision or stranding. This effect may be the cause of water-associated and water-obligate species mortalities at desert solar sites, including federally listed Yuma Ridgway's rail, one individual of was found at the Desert Sunlight solar facility in the area in 2013 (Kosciuch et. Al., 2021; Kagan, 2014).

Impacts to habitat that may be used by threatened and endangered migratory birds would be minimized by implementing BIO-1 through BIO-5, as previously described, which ensure improvement and avoidance of habitat by using qualified staff, demarcating work areas, and performing re-vegetation and weed control for post-construction vegetation recovery. As described for all threatened and endangered wildlife, the Project has been designed to avoid desert dry wash woodland (except for minor incursions), per the Project Description, would avoid and minimize loss of migratory stopover habitat and preserve habitat values. Compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14) would offset habitat loss.

Protective measures for wildlife in MM BIO-6 manage work site hazards, which would increase detection and avoidance of threatened and endangered birds on the Project site and prevent attraction to the site where there is increased likelihood of disturbance, predation, injury, and mortality.

MM BIO-8 (Bird and Bat Conservation Strategy) (Appendix M) identify Project related risks to birds and bats and adaptively manage for Project related mortality detected on the Project site. By implementing adaptive management, instances of bird collisions, stranding, and mortality associated with solar facilities would be identified and managed to reduce impacts from Project related risks.

~~Significant impacts to riparian birds would be avoided and minimized with implementation of MMs, as previously described for Swainson's hawk. Implementation of MMs BIO-1 through BIO-5 would~~

~~minimize significant impacts to native vegetation, thereby minimizing impacts to foraging and nesting habitat. MM BIO-6 (Wildlife Protection) and MM BIO-8 (Bird and Bat Conservation Strategy) would minimize direct impacts to birds with site inspections, monitoring and avoidance of nesting seasons, and adaptive management for bird mortality during O&M.~~In addition to CMAs previously detailed for all threatened and endangered wildlife species, the following CMAs would be implemented on BLM land within the Project site to minimize impacts to threatened and endangered riparian birds:

- **LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species)** requires that activities within 0.25 mile of a riparian or wetland vegetation type that may impact riparian and wetland birds would be surveyed with pre-construction/activity nesting bird surveys. Surveys and monitoring would identify nesting birds, nests, eggs, and young that require protection from direct mortality, injury, and destruction and would minimize disturbance from construction noise, vibrations, dust, lighting, and increased human presence, which could otherwise result in nest abandonment.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to these species would be mitigated to less than significant.~~With implementation of mitigation, impacts to threatened and endangered riparian birds would be less than significant.~~

500 kV Gen-Tie, Collector, and Distribution Lines

Construction of the gen-tie line would primarily occur through the adjacent Oberon Renewable Energy Project site (RWQCB, 2021; BLM, 2022), on BLM-administered lands~~, which was previously analyzed in the Final EIR and Final EA for the Oberon Renewable Energy Project (RWQCB, 2021; BLM, 2022)~~. Impacts due to construction of the Easley gen-tie line are described below.

Vegetation & Habitat

Impacts Discussion

Gen-tie line construction through the Oberon Project site would affect vegetation and habitat at discrete disturbance sites where towers or other work activities would be located. If the 34.5 kV or 12 kV lines are installed overhead, similar types of impacts would occur at the pole sites located outside of the solar facility fence line. For portions of the collector lines that are buried underground, trenches would be dug through vegetated areas or desert pavement. Trenches would be backfilled with native soils and disturbance areas would be reseeded. Impacts to vegetation and habitat at the sites would be similar to those described in Impact BIO-1. Vegetation would be cleared or trimmed and soils would be disturbed. Spread of invasive weeds may degrade habitat. Construction would not affect most of the vegetation and habitat within the gen-tie routes.

Mitigation of Project Impacts on Private Land

Impacts to natural habitat would be avoided or minimized by implementing MMs BIO-1 through BIO-5, previously described for the Solar and BESS Facility and detailed in Impact BIO-1.

MMs BIO-1 to MM BIO-5 require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive plant and wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan). These measures would avoid direct disturbance and removal of vegetation and soils outside of designated work areas. The IWMP (Appendix N) would improve habitat values by preventing and controlling spread of weeds in disturbed areas. The VRMP (Appendix S) directs methods for erosion control, re-vegetating temporary disturbance areas, and salvaging seed and cacti in the Project site. By implementing seeding and revegetation, soil decompaction, erosion control, and non-native control in disturbance areas, soils would be stabilized, native vegetation would be re-established, and post-construction habitat values would be improved in the Project area.

Impacts to desert dry wash woodland have been avoided (except for minor incursions) on private lands and BLM-administered land as part of the Project design (Section 2.7.3), consistent with DRECP CMA LUPA-BIO-RIPWET-1 (see below and in Appendix CC). Consistent with DRECP CMA LUPA-BIO-COMP-1, compensatory mitigation for minor incursions into desert dry wash woodland shall be identified prior to disturbance of the features at a minimum 5:1 ratio, as required in MM BIO-14. Compensatory mitigation for impacts to desert pavement shall be identified at a minimum ratio of 1:1, as required in MM BIO-3. Compensatory mitigation for impacts to suitable desert tortoise habitat shall be identified prior to disturbance of features at a minimum 1:1 ratio and desert tortoise critical habitat at a 5:1 ratio, as required in MM BIO-7.

Mitigation of Project Impacts on BLM Land

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with the following CMAs, which would be required on BLM lands, would mitigate impacts to less than significant, as described. These CMAs are described in detail for the *Solar and BESS Facility, Vegetation and Habitat* in Impact BIO-1.

- **LUPA-BIO-1 (Biological Resources)** requires assessments of habitat, identification of vegetation types, and protocol surveys for BLM Special Status Species where suitable habitat may be present in the Project area. Habitat assessments and protocol surveys would ensure that sensitive biological resources would be detected and identified for avoidance.
- **LUPA-BIO-2 (Biological Resources)** requires a designated biologist to conduct and oversee biological monitoring and reporting during pre-construction, construction, and decommissioning. Using a qualified biologist to oversee surveying, monitoring, and reporting will ensure that ground and vegetation disturbance would not be performed outside of approved work areas and that direct injury and mortality of wildlife species is avoided.
- **LUPA-BIO-5 (Worker Education)** requires that all activities implement a BLM-approved worker education program that describes biological resources and how to identify them, their legal protections, minimization and mitigation measures, and reporting requirements. Comprehensive training of on-site workers would ensure that they limit ground disturbance to work areas and that they avoid sensitive habitats and threatened and endangered species.
- **LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance)** requires that temporary impact areas be restored using site-specific seed and soils, planting methods and timing, and success criteria, monitoring, and contingency measures, and that cactus be salvaged from the site and re-planted to the maximum extent practicable. Seeding, revegetation, soil decompaction, and erosion control would stabilize soils post-construction and promote native habitat recovery, which would minimize long-term impacts to native habitats and soils in the Project area.
- **LUPA-BIO-10 (Standard Practices for Weed Management)** requires best management practices for weed management such as cleaning tires and equipment prior to entering the site, using certified weed free construction materials, re-vegetation of disturbed areas, and monitoring, identification, and eradication of weed infestations. Identification, suppression, and containment of non-native invasives and

their sources would improve post-construction habitat values in the Project area by preventing introduction and spread of weeds that outcompete native species and increase risk of wildfire.

- **LUPA-BIO-11 (Nuisance Animals and Invasive Species)** requires the management and proper use and disposal of herbicides and pesticides, and restriction of herbicide use near streams, washes, and surface and subsurface waters. Proper use of herbicides, in compliance with BLM guidelines, would minimize herbicide drift and spills to avoid contamination and degradation of non-target vegetation and waterways.
- **LUPA-BIO-13 (General Siting and Design)** requires siting and design to avoid impacts to unique plant assemblages. The CMA requires projects along the edges of the biological linkages to maximize the retention of microphyllous woodlands, in order to maintain the function of the connectivity area. The CMA requires that Project boundaries be demarcated and that Project activities, equipment, and vehicles be restricted to marked areas and existing roads and utility corridors. Lighting is required to be limited and directed away from habitat areas to minimize disturbance. Avoidance of desert dry wash woodland would prevent direct removal of functional corridor habitat. Flagging and staking work areas would avoid ground, soil, and vegetation disturbance outside of approved boundaries, minimizing impacts to habitat in the vicinity.
- **LUPA-BIO-SVF-1 (Special Vegetation Features)** requires that a habitat assessment be performed for special vegetation features such as yucca, creosote rings, microphyll woodland, and Crucifixion thorn stands, which would ensure that these resources are identified and demarcated for avoidance or salvage.
- **LUPA-BIO-VEG-1 to -3** and **LUPA-BIO-VEG-5 to -6 (General Vegetation Management)** requires that management and salvage of cacti and BLM sensitive plants adhere to BLM-policies, downed wood be promoted for habitat values, and plant material be collected for re-vegetation. These measures would ensure that habitat values are improved in the Project area after construction.
- CMAs for the protection of desert dry wash woodland include **LUPA-BIO-3 (Resource Setback Standards), LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species), LUPA-BIO-SVF-6 (Special Vegetation Features), LUPA-BIO-COMP-1 (Compensation), and DFA-VPL-BIO-COMP-1 (Biological Compensation).** These require avoidance of desert dry wash woodland (also described as Sonoran-Coloradan Semi-Desert Wash Woodland or microphyll woodland) with a 200-foot setback buffer, except for minor allowable incursions, and compensation for impacts to desert dry wash woodland at a 5:1 ratio. Avoidance of desert dry wash woodland with a setback buffer would prevent direct removal of wildlife habitat. A 200-foot setback would reduce degradation from disturbance in adjacent areas.

Similar to the requirements of the MMs that would be implemented on private land within the Project site, CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve habitat in the Project area for threatened and endangered species and minimize impacts to vegetation.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to vegetation and habitat for threatened and endangered species would be less than significant.~~which require revegetation of short-term impact areas, pre-construction surveys and marking of sensitive resources, management plans, and construction crew training, would minimize and offset adverse impacts to native vegetation, thereby minimizing impacts to vegetation and habitat. Additionally, similar~~

~~mitigation measures required to be implemented for the Oberon Project are included in its Final EIR (RWQCB, 2021) and Final EA (BLM, 2022). Conservation Management Actions (CMAs) would also be implemented on BLM lands per the DRECP, as described in the Final EA for the Oberon Project.~~

Threatened and Endangered Plants

No listed threatened or endangered plant species were observed or have the potential to occur along the gen-tie route through the Oberon Project site. There would be no impacts to threatened and endangered plants and no mitigation is required.

Threatened and Endangered Wildlife

Impacts Discussion

Species affected along the gen-tie line would be the same as those described for the solar facility. Desert tortoise sign was observed along the eastern portion of the gen-tie route through the Oberon Project site in desert dry wash woodland. The gen-tie route 175-foot ROW overlaps with approximately 28.2 acres of critical habitat for desert tortoise in the southern portion of the Oberon Project site. Up to 7 gen-tie structures (approximately 15 acres) would be installed within critical habitat for the desert tortoise.

As described for Impact BIO-1, gen-tie construction activities could dissuade threatened and endangered wildlife from approaching construction areas due to disturbance, vegetation removal, increased human presence, noise, and lighting. Construction could result in direct mortality or injury. In most cases, adult birds would fly away from the disturbance, but bird nests (including eggs or nestlings, if present) would be lost. Displaced wildlife may be unable to find suitable food or cover in new, unfamiliar areas. Construction of transmission facilities could present pitfall hazards. Increased human presence, noise, and lighting during construction could affect wildlife in adjacent habitats. These effects would be temporary (limited to construction phase) and would occur in discrete work areas.

Once completed, the gen-tie lines would have minimal effects on terrestrial wildlife movement because no new barrier to movement would be constructed beneath the line. However, the gen-tie towers and conductors would present a collision and electrocution hazard, as described in detail in Impact BIO-1.

Birds and bats may collide with the overhead lines, including the gen-tie transmission line. While few nocturnal migrant passerines have been found in the solar arrays, more have been found underneath the gen-tie lines at the solar projects. Large birds can be electrocuted by transmission lines if the bird's wings simultaneously contact conductors, or a conductor and a ground. This happens most frequently when a bird attempts to perch or take off from a structure with insufficient clearance between these elements. Configurations less than 1 kV or greater than 69 kV, like the proposed 500 kV gen-tie line, typically do not present an electrocution potential, based on conductor placement and orientation (APLIC, 2006; 2012).

Mitigation of Project Impacts on Private Land

As previously described, impacts to habitat would be avoided and minimized by implementing MMs BIO-1 through BIO-5, which would ensure that disturbance of wildlife habitat is minimized and restricted to designated and demarcated work areas and that post-construction habitat values would be improved with re-vegetation. The Project has been designed to avoid desert dry wash woodland (except for minor incursions), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values for threatened and endangered wildlife and offset habitat loss.

MM BIO-6 (Wildlife Protection) identifies numerous identifies numerous requirements to manage hazards to wildlife in work areas and report dead or injured wildlife. By performing site inspections; restricting vehicle speed limits; monitoring for wildlife entrapment and providing means of escape in trenches, holes, piping, or water tanks; managing food, trash, and water subsidies; and properly handling hazardous materials, predation, injury, and mortality of special-status wildlife would be reduced. These measures would increase detection of wildlife that require avoidance in Project areas and would prevent attraction to and entry into to the Project site where there is increased likelihood of disturbance.

~~MMs BIO-1 through BIO-5, would minimize significant impacts to wildlife habitat, including critical habitat. Mitigation for habitat impacts on BLM lands would be implemented in accordance with the DRECP and mitigation measures in the final NEPA document.~~

~~MM BIO-6 (Wildlife Protection) identifies numerous requirements during construction to avoid, minimize, and mitigate wildlife injury and mortality, such as site inspections, ramps to ensure escape from excavations, prevention of attractants such as trash or water, hazardous material avoidance, and vehicle speed limits.~~

MM BIO-7 (Desert Tortoise Protection) would require vehicle inspections for tortoise and vehicle speed limits, which would increase detection of desert tortoise that require avoidance to prevent injury or mortality. If a tortoise is observed within or near a work site, Project work activities will proceed only within a suitable buffer area after the tortoise has either moved away of its own accord, or if it has been translocated off the site under authorization by the USFWS and CDFW, which would avoid tortoise injury and mortality. Compensatory mitigation for desert tortoise shall include a minimum of 1:1 ratio for impacts to desert tortoise suitable habitat (creosote bush scrub) and a ratio of 5:1 for impacts to desert tortoise critical habitat, in coordination with USFWS, CDFW, and in compliance with any ITPs. Compensatory mitigation would offset loss of desert tortoise habitat.

The Desert Tortoise Protection and Relocation Plan (MM BIO-7) (Appendix P) would requires a USFWS Authorized Biologist during construction to conduct or direct pre-construction clearance surveys for each work area and direct Biological Monitors to watch for tortoises wandering into the construction areas, check under vehicles, and examine excavations and other potential pitfalls for entrapped animals. The Authorized Biologist shall have the authority to halt all Project activities that are in violation of these measures or that may result in take of a desert tortoise. Desert tortoises would not be handled or moved without incidental take authorization from the USFWS and CDFW. Any desert tortoise handling or translocation would be performed according to the permits and the Desert Tortoise Relocation Plan, pending approval by both agencies. These measures would ensure that desert tortoise are identified and avoided in work areas prior to construction, and safely excluded from burrows and relocated out of harm's way. By following agency protocols for tortoise surveying, handling, and relocating, and by using qualified and permitted biological staff, individual desert tortoise would be detected for avoidance and monitoring, and mortality and injury during construction and relocation would be reduced. MM BIO-7 further requires a Raven Management Plan (EIR Appendix Q), which would be developed to minimize opportunistic predation related to Project subsidies such as trash, food, water, perches, and roadkill. By reducing attractants to the site, desert tortoise predation would be minimized.~~MM BIO-7 (Desert Tortoise Protection) would require pre-construction clearance surveys, monitoring or exclusion of desert tortoises from active work areas to prevent injury, and a Raven Management Plan to minimize opportunistic predation. It requires a USFWS Authorized Biologist during construction to conduct or direct pre-construction clearance surveys for each work area and direct Biological Monitors to watch for tortoises wandering into the construction areas, check under vehicles, and examine excavations and other potential pitfalls for entrapped animals. The Authorized Biologist shall have the authority to halt all Project activities that are in violation of these measures or that may result in take of a desert tortoise.~~

~~Tortoises would not be handled or moved without incidental take authorization from the USFWS and CDFW. Any desert tortoise handling or translocation would be performed according to a Desert Tortoise Relocation Plan (IP Easley, 2023), pending approval by both agencies (MM BIO-7). The Applicant may seek~~

~~this authorization or may opt to avoid any potential desert tortoise take as specified in MM BIO-6 (Wildlife Protection) and MM BIO-7 (Desert Tortoise Protection).~~

MM BIO-13 (Wildlife Protection Plan) (EIR Appendix R) directs the development of a Wildlife Protection and Relocation Plan to identify and describe species-specific procedures for burrowing owl, desert tortoise, desert kit fox, and American badger. The Plan would require pre-construction wildlife clearance surveys, construction monitoring, buffers, exclusion and relocation methods, handling and transporting procedures, and adaptive management strategies to identify and remediate Project related impacts to threatened and endangered wildlife. These measures would identify, locate, and protect species, including desert tortoise, and remediate Project related impacts to threatened and endangered wildlife. The requirements of MM BIO-7 (Desert Tortoise Protection) are incorporated in the Wildlife Protection Plan to describe the protocols and procedures related to desert tortoise translocation and relocation. By performing protocol surveys, individuals and burrows would be buffered to avoid direct injury or mortality. Passive exclusion of individuals would prevent entrapment during construction, avoid the need for handling, and avoid direct injury and mortality. Collapsing inactive burrows prevents further use to avoid future risk to the species from construction in the Project area.

MM BIO-8 (Bird and Bat Conservation Strategy) (EIR Appendix M), as previously described, would identify Project related hazards and adaptively manage for Project related bird and bat mortality detected on the Project site. By implementing adaptive management, instances of bird mortality associated with solar facilities would be identified and managed to reduce impacts from Project related hazards. MM BIO-9 (Nesting Bird Management Plan) (EIR Appendix O), as previously described, requires performing pre-construction nest surveys and implementing buffers and monitoring around active nests, which would protect nesting birds from disturbance due to increased noise, dust, vibration, and human presence and from direct destruction of nests, eggs, and young.

~~MM BIO-8 (Bird and Bat Conservation Strategy) would require pre-construction surveys to identify active bird nests in work areas and avoidance of disturbance or disruption nesting behavior.~~

~~Once completed, the gen-tie lines would have minimal effects on terrestrial wildlife movement because no new barrier to movement would be constructed beneath the line. However, the gen-tie towers and conductors would present a collision and electrocution hazard, as described in detail in Impact BIO-1. Birds and bats may collide with the overhead lines, including the gen-tie transmission line. While few nocturnal migrant passerines have been found in the solar arrays, more have been found underneath the gen-tie lines at the solar projects. Large birds can be electrocuted by transmission lines if the bird's wings simultaneously contact conductors, or a conductor and a ground. This happens most frequently when a bird attempts to perch or take off from a structure with insufficient clearance between these elements. Configurations less than 1 kV or greater than 69 kV, like the proposed 500 kV gen-tie line, typically do not present an electrocution potential, based on conductor placement and orientation (APLIC, 2006; 2012).~~

Impacts from electrocution due to contact with the gen-tie line would be minimized with implementation of MM BIO-~~9~~ 10 (Gen-tie Lines) which requires mechanisms in accordance with APLIC standards to visually warn birds such as permanent markers or bird flight diverters; avoid or minimize use of guy wires; and maintain sufficient distance between all conductors and grounded components to prevent electrocution. By implementing these design features, injury and mortality from electrocution would be minimized.

~~These measures would effectively minimize impacts near the proposed gen-tie routes. MM BIO-8 (Bird and Bat Conservation Strategy) would require O&M adaptive management for bird mortality if mortality thresholds are exceeded.~~

Construction of towers and fencing would provide increased perching opportunities for predatory birds including raptors and ravens that prey on desert tortoise and other wildlife. MM BIO-6 (Wildlife Protection) includes measures to manage food, trash, and water that may attract ravens. MM BIO-7 (Desert

Tortoise Protection) includes preparing and implementing a Raven Management Plan that would manage raven subsidies and attractants. MM BIO-~~9~~ 10 (Gen-tie Lines) requires the gen-tie structures be designed to discourage use by raptors for perching or nesting. These measures would reduce opportunities for predation in the Project area and reduce desert tortoise mortality from Project features.

Mitigation of Project Impacts on BLM Land

Compliance with applicable CMAs, which would be required on BLM lands would mitigate impacts to less than significant, as described. The following CMAs, previously detailed for Vegetation and Habitat, would also reduce impacts to wildlife habitat used by threatened and endangered species along the gen-tie line for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

These CMAs reduce impacts to wildlife and habitat by requiring qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot setback buffer would prevent direct removal of sensitive habitat used by many wildlife species for foraging, shelter, breeding, and movement through the Project vicinity. A 200-foot setback would reduce degradation from disturbance in adjacent areas.

Implementation of the following CMAs, as previously described for threatened and endangered wildlife in the Solar and BESS Facility, would minimize impacts to wildlife habitat used by threatened and endangered species along the gen-tie line for the same reasons as described above in the discussion of impacts related to the Solar and Bess Facility:

- LUPA-BIO-4 (Seasonal Restrictions).
- LUPA-BIO-6 (Subsidized Predators Standards).
- LUPA-BIO-12 (Noise).
- LUPA-BIO-14 (Biology: General Standard Practices).
- LUPA-BIO-15 (Biology: General Standard Practices).
- DFA-BIO-IFS-1 to -3 (Biological Resources).
- LUPA-BIO-9 (Water and Wetland Dependent Species Resources)
- LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs)
- LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species)
- LUPA-BIO-COMP-2 (Compensation (Birds and Bats))
- DFA-BIO-IFS-2 (Biological Resources)
- LUPA-BIO-IFS-1 to -9 (Individual Focus Species (IFS): Desert Tortoise)
- DFA-VPL-BIO-IFS-1 (Individual Focus Species (IFS): Desert Tortoise)

These CMAs reduce disturbance, injury, and mortality of wildlife species, by surveying and buffering for individuals, limiting work during species active seasons, and managing work site hazards and sources of disturbance such as predator subsidies, entrapment hazards, noise, and lighting. Species-specific survey, buffering, and exclusion and relocation requirements will ensure that special-status wildlife are avoided and that disturbances to foraging, sheltering, breeding, and movement are minimized.

Additionally, LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources) requires that transmission lines be developed along roads, other previously disturbed areas, or designated utility corridors; reduce perching opportunities for common raven; and minimize collision risk for birds and bats. Flight diverters must be used on transmission lines within 1,000 feet of stream and wash channels and other bodies of water. Transmission lines must be sited to avoid rare vegetation alliances and sand dependent habitats that support BLM Special Status Species. By implementing these design features, habitat disturbance along the gen-tie line would be minimized, perching of predatory birds would be managed, and injury and mortality of threatened and endangered birds from electrocution from the gen-tie lines would be avoided and minimized.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to threatened and endangered wildlife during construction of the gen-tie lines would be reduced to less than significant.

Operations and Maintenance and Decommissioning

Proposed O&M and decommissioning activities would have similar direct and indirect impacts to vegetation and habitat and threatened and endangered wildlife, as described above. However, the scale of impacts would be less than construction impacts because O&M and decommissioning activities would mostly occur in areas previously disturbed by construction.

During O&M, impacts would be limited to repairs and maintenance of solar panels, associated electrical components, O&M facilities, access roads, fencing, drainages, and culverts. Vegetation would be trimmed infrequently in discrete locations and no heavy equipment would be used for normal operation. Any ground disturbance may result in soil erosion. Herbicides used to manage weed infestations may degrade non-target vegetation in adjacent areas. Washing of solar panels would introduce additional water to the site, which would supplement natural sources and may affect vegetation composition or persistence. However, panel washing would be performed infrequently (up to four times each year) if natural rains do not sufficiently clear dust and debris. No chemical agents would be used for module washing. It is not expected that panel washing and the supplemental water would be enough to affect vegetation community composition or persistence. If the proposed Project facility elevates ambient temperature within the site, surrounding vegetation and habitat may be indirectly impacted.

Facilities would be fenced, excluding larger wildlife, while small mammals and reptiles may pass through fencing to occupy the areas around O&M facilities, where they may be at risk of vehicle strike from maintenance vehicles. Birds within the facility may be at risk of injury from collision with solar panels or electrocution from the gen-tie lines, as described for native birds. During O&M, herbicides used to treat invasive weeds may also pose risks to terrestrial or aquatic wildlife species. Herbicides that persist on site could injure wildlife that ingest target plants or come into contact with herbicides (e.g., by digging or rolling in treated soil). O&M related ground disturbance may result in direct crushing or burial of wildlife where repairs or replacement are needed. Maintenance around facilities may temporarily increase human presence, opportunistic predators, noise, dust, and vehicle traffic, which may disrupt wildlife behavior or cause mortality.

Impacts during Project decommissioning would be similar to those during construction and would occur in previously disturbed areas. Decommissioning activities would require similar equipment and workforce as construction but would be substantially less intense, including removal of all equipment and cables, facilities, primary roads, and concrete pads. During decommissioning, habitat disturbance may result from disassembling and transporting facilities, or from site remediation. The Project would be dismantled as described in Section 2.6, per an agency-approved Closure and Decommissioning Plan, and a majority of components would be recycled or reused. Following decommissioning, the Proposed Project site would be revegetated with native plants and re-seeded as required by the Decommissioning Plan.

Direct and indirect impacts from O&M and decommissioning would be minimized and~~,~~ avoided~~, or offset~~ with measures such as biological monitoring by qualified biologists; worker training on sensitive biological resources; flagging, surveying, and monitoring of work areas; weed management; restoration of disturbed areas; and protection of wildlife and special-status species, as previously described for MMs BIO-1 through BIO-~~9~~10 and MM BIO-14. CMAs, as previously outlined for construction, would be implemented to reduce impacts. These measures would restrict impacts to designated work areas, ensure that native habitat values are improved post-construction, and reduce injury and mortality of threatened and endangered wildlife that may occur in the Project area.

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to threatened and endangered species and their habitat during O&M and decommissioning would be reduced to less than significant.

Mitigation Measures for Impact BIO-2

The full text of the following mitigation measures is included in Section ~~3.5.9~~3.5.7 (Mitigation Measures).

MM BIO-1 Biological Monitoring.

MM BIO-2 Worker Environmental Awareness Training.

MM BIO-3 Minimization of Vegetation and Habitat Impacts.

MM BIO-4 Integrated Weed Management Plan.

MM BIO-5 Vegetation Resources Management Plan.

MM BIO-6 Wildlife Protection.

MM BIO-7 Desert Tortoise Protection.

MM BIO-8 Bird and Bat Conservation Strategy.

MM BIO-9 Nesting Bird Management Plan.

MM BIO-10~~9~~ Gen-tie lines.

MM BIO-13 Wildlife Protection Plan.

DRECP CMAs for Impact BIO-2

Applicable CMAs are detailed in Appendix CC, which provides a list of CMAs, an explanation of their applicability, and demonstration of compliance with the CMA.

LUPA-BIO-1 (Biological Resources).

LUPA-BIO-2 (Biological Resources).

LUPA-BIO-5 (Worker Education).

LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).

LUPA-BIO-10 (Standard Practices for Weed Management).

LUPA-BIO-11 (Nuisance Animals and Invasive Species).

LUPA-BIO-13 (General Siting and Design).

LUPA-BIO-SVF-1 (Special Vegetation Features).

LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).

LUPA-BIO-3 (Resource Setback Standards).

LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).

LUPA-BIO-SVF-6 (Special Vegetation Features).

LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

LUPA-BIO-4 (Seasonal Restrictions).

LUPA-BIO-6 (Subsidized Predators Standards).

LUPA-BIO-12 (Noise).

LUPA-BIO-14 (Biology: General Standard Practices).

LUPA-BIO-15 (Biology: General Standard Practices).

DFA-BIO-IFS-1 to -3 (Biological Resources).

LUPA-BIO-IFS-1 to -9 (Individual Focus Species (IFS): Desert Tortoise)

DFA-VPL-BIO-IFS-1 (Individual Focus Species (IFS): Desert Tortoise)

LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs)

LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species)

LUPA-BIO-COMP-2 (Compensation (Birds and Bats))

DFA-BIO-IFS-2 (Biological Resources)

LUPA-BIO-9 (Water and Wetland Dependent Species Resources)

LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources)

Significance After Mitigation

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, this impact would be less than significant.~~This impact would be less than significant with implementation of mitigation measures identified abo~~

Impact BIO-3. The Project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Solar and BESS Facility

***LESS THAN SIGNIFICANT WITH MITIGATION*.**

Impacts Discussion

Wildlife movement through the area is compromised by the existing pattern of land use, including solar projects either planned, in-construction, or operational. The Desert Harvest and Desert Sunlight Solar Projects are adjacent to the north, and the Athos and Oberon Solar Projects are adjacent to the east and south. The proposed solar facility would further interrupt potential wildlife movement routes through the area, primarily for movement across undisturbed desert scrub and desert dry wash woodland habitat and anthropogenically disturbed land (agriculture).

Desert dry wash woodland serves as an important movement corridor for wildlife. This habitat provides greater food, nesting, and cover, and its wildlife diversity is generally greater than in the surrounding desert. Approximately ~~9.1~~13.3 acres of desert dry wash woodland would be impacted in the solar facility development area and from exterior components (roads & MVAC) (Table 3.5-1a). These impacts would primarily occur on public lands (BLM); approximately ~~0~~1.2 acres of desert dry wash woodland would be impacted on private lands. Approximately ~~732~~ 728 acres of desert dry wash woodland would be avoided in the solar facility development area (Table 3.5-1b).

The northern portion of the Project area overlaps with a BLM DRECP wildlife linkage (Pinto Wash linkage) (BLM, 2015); however, since the Project site is within a BLM DRECP DFA (Figure 2-4), development for renewable energy was targeted for this area and solar development already existed within this linkage area prior to development of the DRECP (Desert Sunlight) (Figure 3.5-10). Under the DRECP, the Pinto Wash linkage occupies a vast area over 32,500 acres. The DRECP FEIS notes that up to 6,000 acres of desert linkage network could be impacted by solar development in the Cadiz Valley and Chocolate Mountains area (BLM, 2015). Additionally, this portion of the linkage is categorized by the DRECP as non-habitat or low-quality habitat (Ironwood, 2023a). The boundaries of the area serving a linkage function in this area have changed over time and the Pinto Wash linkage boundary, as codified in the DRECP, includes approximately 10,000 acres that lack potential for desert tortoise connectivity due to low quality habitat and existing obstacles to movement.

The predicted occupancy model (Nussear et al. 2009), as discussed in Section 3.5.1, identifies where tortoises are likely to occur and which portions of the Pinto Wash linkage are important to tortoise connectivity. Notably, the portion of the linkage that overlaps with the DFA and the Easley Project site does not have high predicted occupancy and is not critical to tortoise connectivity. The habitat west of Kaiser Road and north of the adjacent Desert Sunlight Solar Farm (DSSF) is depicted as high quality and connected to critical habitat and Joshua Tree National Park to maintain a functional corridor.

Several sources including the Biological Opinion for the DSSF (USFWS, 2011b) and the Desert Harvest Solar Project (USFWS, 2013), Hagerty and Tracy (2010), Penrod et. al (2012), and Averill-Murray et. al (2021) indicate that the critical linkage areas and least cost pathways are located west of Kaiser Road and northwest of the DSSF, where higher quality habitat is present (Ironwood, 2023a).

Within the development footprint, the Project would have a long-term impact on approximately ~~594~~510 acres of low-quality or non-habitat in the southernmost portion of the Pinto Wash linkage. Further conversion of the linkage area to solar development would exacerbate fragmentation of habitat and largely prevent movement across it for many species, including desert tortoise and burro deer. However, the proposed Project would avoid development on approximately ~~446~~530 acres of the linkage within the Project area. The avoided portion of the linkage is primarily DDWW habitat adjacent to Big Wash, which would maintain east-west connectivity through the northern portion of the Project site that overlaps the linkage. The Easley Project site does not occur within high-quality habitat in the Pinto Wash linkage or within modelled linkage areas, and the best modelled habitat for connectivity in the Pinto Wash linkage is within the northern and western portions of the linkage where it does not overlap with the Easley

Project site or the DFA. Based on the lack of high-quality habitat and the location of modelled linkages, the portion of the Project overlapping with the Pinto Wash linkage will not impact its functionality.

Table 3.5-2 Impacts to Pinto Wash Linkage

Habitat Quality Categories	Acres overlap with Project Boundary	Acres of Impact in Project Boundary	Acres Avoided in Project Boundary
Non-habitat	~~771.5~~730.8	~~391.2~~341.2	~~380.3~~389.6
Low quality habitat	~~268.5~~309.8	~~202.5~~169.0	~~66.0~~140.8
High quality habitat	0	0	0
Total (all within DFA)	**~~1040.0~~ 1,040.5**	**~~593.7~~ 510.2**	**~~446.3~~ 530.4**

Construction activities could temporarily discourage wildlife from approaching the Project site due to noise and disturbance. Night lighting and increased human presence could discourage wildlife from moving around the Project. After construction, the proposed solar facilities would interfere with local-scale wildlife movement by any species unable to cross the facilities due to Project fencing.

Mitigation of Project Impacts on Private Land

Without mitigation, impacts to wildlife movement would be significant.

Due to ~~implementation of the Project features described below~~the avoidance of desert dry wash woodland during project design, the desert dry wash woodland and the multi-species linkage would continue to allow wildlife passage for many species across or around the Easley Project.

~~*Connectivity Corridors*.~~ As described above, the Project has been designed to avoid impacts to desert dry wash woodland (except for minor incursions) on private lands and BLM lands as part of the Project design (Section 2.7.3), consistent with DRECP CMA LUPA-BIO-RIPWET-1 (see below and in EIR Appendix CC). The avoidance of ~~446~~530 acres of the Pinto Wash linkage overlapping the Project area, comprised primarily of desert dry wash woodlands, would preserve connectivity to the larger, more functional woodland areas along the adjacent Big Wash. Avoiding this portion of the linkage is consistent with preserving the value of the desert dry wash woodland resource, as required by the DRECP CMA LUPA-BIO-13. Avoidance of ~~732~~ 728 acres of desert dry wash woodland in the solar facility development area would preserve movement opportunities in and through the solar facility site.

~~*Wildlife Friendly Fencing*. The Applicant may elect to use wildlife-friendly fencing on portions of the proposed facility based on its success at the adjacent Oberon Renewable Energy Project (see Section 2.7.4). If wildlife-friendly fencing is implemented, after vegetation is substantially reestablished, temporary desert tortoise exclusion fencing may be removed after construction. Wildlife friendly fencing would provide movement opportunities for small wildlife between revegetated habitats in the development footprint and any adjacent undeveloped habitats, including desert dry wash woodland. This fencing would maintain a level of habitat functionality and minimize fragmentation for small terrestrial wildlife in the Project area. O&M safety practices, including worker training and biological monitoring of nesting, burrowing, or denning wildlife, would be implemented to maximize long-term safety of wildlife present at the site.~~

~~*Night Lighting*. With implementation of MM VIS-1 (see EIR Section 3.2, Aesthetics), long-term night lighting that could affect nocturnal and other wildlife and wildlife movement would be minimized to the maximum extent feasible and coordinated with the BLM.~~

~~These Project design elements~~The avoidance of desert dry wash woodland within the Pinto Wash Linkage would avoid and minimize impacts to wildlife movement in the Project area, as described. ~~The Project would not threaten the long-term viability and function of the corridor (per DRECP CMA LUPA-BIO-IFS-1).~~

~~Impacts to native habitat would be mitigated in accordance with regulatory permits from the CDFW and RWQCB. Impacts to desert dry wash woodland would be avoided on private lands, as on BLM lands in accordance with the DREPC CMAs. Mitigation for habitat impacts on BLM lands would be implemented in accordance with the DRECP and mitigation measures in the final NEPA document.~~

Wildlife "nursery sites" such as bird nests or suitable breeding habitat for other species may be found throughout the Project site, particularly in native habitat areas. MMs BIO-1 through BIO-5 would minimize habitat impacts for common wildlife and special-status species. MMs BIO-1 to MM BIO-5, as discussed in detail for Vegetation and Habitat, require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive plant and wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing herbicide use and the introduction and spread of non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan). These measures would ensure that loss, degradation, contamination, and disturbance of nesting, breeding, and corridor habitat is minimized and restricted to designated work areas and that native habitat values for wildlife are improved in disturbance areas post-construction.

MM BIO-6 (Wildlife Protection) identifies numerous requirements to manage hazards to wildlife in work areas and report dead or injured wildlife, as described in detail in Impact BIO-1 for special-status wildlife. These measures would increase detection of wildlife in Project areas that require avoidance and would prevent attraction to the Project site where there is increased likelihood of disturbance.

~~by implementing biological monitoring during construction, WEAP training for construction personnel, and post-construction vegetation and weed management.~~ MMs BIO-~~6~~ 7 through BIO-~~11~~ 13 would prevent significant impacts to specific special-status wildlife species and nesting or breeding sites by requiring specific pre-construction surveys, species protection plans, passive exclusion of wildlife from work areas or relocation or translocation of certain species away from the area, and avoidance of buffer areas while bird nests and occupied burrows and dens are active~~, and other related requirements~~.

MM BIO-9 (Nesting Bird Management Plan) (EIR Appendix O), as previously described, requires performing pre-construction nest surveys and implementing buffers and monitoring around active nests, which would protect nesting birds from disturbance due to increased noise, dust, vibration, and human presence and from direct destruction of nests, eggs, and young.

These measures ensure that work areas would be inspected and surveyed, and that special-status wildlife would be identified, monitored, buffered and avoided, or properly excluded or relocated, which is expected to reduce the likelihood and severity of injury, and the likelihood of mortality of wildlife with potential to move through the Project areas or use the site for breeding or rearing of young.

The Project has been designed to avoid desert dry wash woodland (except for minor incursions), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values and corridors for wildlife movement and would offset habitat loss.

With implementation of MM VIS-1 (see EIR Section 3.2, Aesthetics), long-term night lighting that could affect nocturnal and other wildlife and wildlife movement would be minimized to the maximum extent feasible and coordinated with the BLM.

Mitigation of Project Impacts on BLM Land

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with these CMAs, which would be required on BLM lands, would mitigate impacts to less than significant, as described.

The following CMAs, previously detailed for Vegetation and Habitat in Impact BIO-1, would also reduce impacts to habitat in movement corridors for the same reasons as described above in the discussion of impacts to Vegetation and Habitat in Impact BIO-1:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-SVF-1 (Special Vegetation Features).
- LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, these CMAs reduce impacts to wildlife and habitat by requiring qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot setback buffer would prevent direct removal of sensitive habitat.

Additionally, LUPA-BIO-13 (General Siting and Design) requires projects along the edges of the biological linkages to maximize the retention of microphyllous woodlands, in order to maintain the function of the connectivity area. By avoiding desert dry wash woodland with a setback buffer, Project areas would be left open to wildlife movement and the Project would not threaten the long-term viability and function of the corridor.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to wildlife movement, breeding, and rearing of young would be mitigated to less than significant.

500 kV Gen-Tie, Collector, and Distribution Lines

LESS THAN SIGNIFICANT WITH MITIGATION.

Impacts Discussion

Many wildlife species are expected to move through the area, across the gen-tie and medium voltage collector and distribution line routes. Construction activities could dissuade wildlife from approaching construction areas due to noise and disturbance. This effect would be temporary (limited to construction phase) and, for above ground lines, would occur at discrete sites in the adjacent Oberon Project site. If the 34.5 kV or 12 kV lines are installed overhead, similar types of impacts would occur at the pole sites located outside of the solar facility fence line. An underground collector line would require trenching, which may create a temporary barrier to movement for wildlife that cannot effectively cross the trench and a temporary hazard for wildlife that may get trapped in it.

~~Impacts to habitat used for wildlife movement would be avoided and minimized with implementation of MMs BIO-1 to BIO-5, as previously described. MM BIO-6 (Wildlife Protection) identifies numerous requirements during construction to avoid, minimize, and mitigate wildlife injury and mortality, including checking the Project site for entrapped wildlife. MM BIO-8 (Bird and Bat Conservation Strategy) would require pre-construction surveys to identify active bird nests and avoidance of disturbance or disruption nesting behavior.~~

Once completed, the transmission lines would have minimal effects on terrestrial wildlife movement because no new barrier to movement would be constructed. However, the gen-tie towers and conductors would present a collision and electrocution hazard for birds and bats, disrupting their movement through the Project vicinity (see Impact BIO-1). The tallest gen-tie structures would be lit with infrared safety lights at crossing locations to alert low-level military flights of the gen-tie line. Generally, few wildlife species, including some snakes, fish, bullfrogs, and potentially insects, can sense infrared light (Tali, 2018). While species that can detect infrared light are primarily cold-blooded, specifically vampire bats also have the ability to detect it. Bats can detect heat (infrared radiation) through thermoreception. However, bats sensitivity to infrared light is generally much lower compared to their sensitivity to other wavelengths of light. While bird and bat species that occur near the Project area are not expected to be attracted to the infrared lighting, they could be attracted to gathering insects, whereby the new lighting could indirectly disrupt nighttime bird flight in the area.

Attraction of birds and bats due to increased insect activity could put them at risk of collision and electrocution in the vicinity of Project components. However, recent studies suggest insects are not attracted to infrared light, meaning it is unlikely that infrared lighting atop gen-tie structures would attract significant swarms of insects. (Fabian et al., 2024) Because there are only up to six towers at one crossing location that may require infrared lighting in the broad region, any resulting increase in risk of collision with the gen-tie structures due to any increased presence of insects attracted to the infrared lights would be minor and less than significant.

Mitigation of Project Impacts on Private Land

Impacts to habitat used for wildlife movement would be avoided and minimized with implementation of MMs BIO-1 to BIO-5, as previously described. The Project has been designed to avoid desert dry wash woodland (except for minor incursions), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values for wildlife movement and offset habitat loss.

MM BIO-6 (Wildlife Protection) identifies numerous requirements during construction to avoid, minimize, and mitigate wildlife injury and mortality, including checking the Project site for entrapped wildlife. MM BIO-8 (Bird and Bat Conservation Strategy) would require pre-construction surveys to identify active bird nests and avoidance of disturbance or disruption nesting behavior.

MM BIO-~~9~~ 10 (Gen-tie Lines) would require mechanisms in accordance with APLIC standards to visually warn birds such as permanent markers or bird flight diverters, avoid or minimize use of guy wires, and maintain sufficient distance between all conductors and grounded components to prevent electrocution. By implementing these design features, injury and mortality from electrocution while moving across the proposed gen-tie lines would be minimized. ~~These measures would effectively minimize impacts to~~

~~wildlife movement across the proposed transmission line routes.~~ MM BIO-8 (Bird and Bat Conservation Strategy) would require ~~an~~ implementation of an adaptive management framework for O&M monitoring of bird mortality, based on monitoring at other solar sites, which would identify and manage Project related hazards, and reduce instances of mortality associated with solar facilities. Some of these mechanisms to reduce the risk of collision are identified in MM BIO-10 (Gen-tie Lines) and could include marking the shield wires, reducing use of guy wires, and meeting other APLIC standards. ~~Additionally, similar mitigation measures required to be implemented for the Oberon Project are included in its Final EIR (RWQCB, 2021) and Final EA (BLM, 2022). Conservation Management Actions (CMAs) would also be implemented on BLM lands per the DRECP, as described in the Final EA for the Oberon Project.~~

Mitigation of Project Impacts on BLM Land

The Project is required to comply with DRECP CMAs for all Project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations in any ROW Grant issued for the Project. Compliance with these CMAs, which would be required on BLM lands, would mitigate impacts on BLM land to less than significant, as described.

The following CMAs, previously detailed for Vegetation and Habitat in Impact BIO-1, would reduce impacts on wildlife movement for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-SVF-1 (Special Vegetation Features).
- LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, these CMAs reduce impacts to wildlife and habitat by requiring qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot setback buffer would prevent direct removal of sensitive habitat.

LUPA-BIO-13 (General Siting and Design) requires projects along the edges of the biological linkages to maximize the retention of microphyllous woodlands, in order to maintain the function of the connectivity area. By avoiding desert dry wash woodland with a setback buffer, Project areas would be left open to wildlife movement and the Project would not threaten the long-term viability and function of the corridor.

LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources) requires that transmission lines be developed along roads, other previously disturbed areas, or designated utility corridors; reduce perching opportunities for common raven; and minimize collision risk for birds and bats. Flight diverters must be used on transmission lines within 1,000 feet of stream and wash channels and other bodies of water. Transmission lines must be sited to avoid rare vegetation alliances and sand dependent habitats that support BLM Special

Status Species. By implementing these design features, habitat disturbance along the gen-tie line would be minimized, perching of predatory birds would be managed, and injury and mortality of birds and bats from electrocution while moving across the proposed gen-tie lines would be avoided and minimized.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to wildlife movement, breeding, and rearing of young would be mitigated to less than significant.

Operations and Maintenance and Decommissioning

Proposed O&M and decommissioning activities would have similar direct and indirect impacts on wildlife movement as described above. However, the scale of impacts would be less than construction impacts.

During O&M, impacts would be limited to repairs and maintenance of solar panels, associated electrical components, O&M facilities, access roads, fencing, drainages, and culverts. Vegetation would be trimmed infrequently in discrete locations and no heavy equipment would be used for normal operation. Any ground disturbance may result in soil erosion. Infrequent panel washing is not expected to impact habitat persistence or composition. Facilities would be fenced, excluding movement through the Project site for larger wildlife. Small mammals and reptiles may pass through fencing to occupy the areas around O&M facilities, where they may be at risk of vehicle strike. Birds within the facility may be at risk of injury from collision with solar panels or electrocution from the gen-tie lines, as described for native birds. If the Project facility elevates ambient temperature within the site, wildlife movement patterns in and around the site may be disrupted.

O&M related vegetation or ground disturbance where repairs or replacement are needed may result in disruption of wildlife movement patterns or behaviors. Maintenance around facilities may temporarily increase human presence, opportunistic predators, noise, dust, night lighting, and vehicle traffic, which may disrupt wildlife movement and temporarily discourage wildlife from approaching the Project site.

Impacts during Project decommissioning would be similar to those during construction and would occur in previously disturbed areas. Decommissioning activities would require similar equipment and workforce as construction but would be substantially less intense, including removal of all equipment and cables, facilities, primary roads, and concrete pads. During decommissioning, habitat disturbance may result from disassembling and transporting facilities, or from site remediation. The Project would be dismantled as described in Section 2.6, per an agency-approved Closure and Decommissioning Plan, and a majority of components would be recycled or reused. Following decommissioning, the Proposed Project site would be revegetated with native plants and re-seeded as required by the Decommissioning Plan.

Direct and indirect impacts from O&M and decommissioning would be minimized or~~,~~ avoided~~, or offset~~ with measures such as biological monitoring by qualified biologists; worker training on sensitive biological resources; flagging, surveying, and monitoring of work areas; weed management; ~~restoration~~ re-vegetation of disturbed areas; and protection and avoidance of wildlife and special-status species, as previously described for MMs BIO-1 through BIO-~~11~~14. CMAs, as previously outlined for construction, would be implemented to reduce impacts. These measures would restrict impacts to designated work areas, ensure that native habitat values are improved post-construction, and reduce injury and mortality of special-status wildlife that may occur in the Project area. With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, O&M and decommissioning-related impacts would be less than significant.

Mitigation Measures for Impact BIO-3

The full text of the following mitigation measures is in Section ~~3.5.9~~3.5.7 (Mitigation Measures).

MM BIO-1 Biological Monitoring.

MM BIO-2 Worker Environmental Awareness Training.

MM BIO-3 Minimization of Vegetation and Habitat Impacts.

MM BIO-4 Integrated Weed Management Plan.

MM BIO-5 Vegetation Resources Management Plan.

MM BIO-6 Wildlife Protection.

MM BIO-7 Desert Tortoise Protection.

MM BIO-8 Bird and Bat Conservation Strategy (BBCS).

MM BIO-9 Nesting Bird Management Plan (NBMP).

MM BIO-10~~9~~ Gen-tie Lines.

MM BIO-11~~0~~ Burrowing Owl Avoidance and Relocation.

MM BIO-12~~1~~ Desert Kit Fox and American Badger Relocation.

MM BIO-13 Wildlife Protection and Relocation Plan.

DRECP CMAs for Impact BIO-3

Applicable CMAs are detailed in Appendix CC, which provides a list of CMAs, an explanation of their applicability, and demonstration of compliance with the CMA.

LUPA-BIO-1 (Biological Resources).

LUPA-BIO-2 (Biological Resources).

LUPA-BIO-5 (Worker Education).

LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).

LUPA-BIO-10 (Standard Practices for Weed Management).

LUPA-BIO-11 (Nuisance Animals and Invasive Species).

LUPA-BIO-13 (General Siting and Design)

LUPA-BIO-SVF-1 (Special Vegetation Features).

LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).

LUPA-BIO-3 (Resource Setback Standards).

LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).

LUPA-BIO-SVF-6 (Special Vegetation Features).

LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources)

Significance After Mitigation

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, this impact would be less than significant. ~~This impact would be less than significant with implementation of mitigation measures identified above.~~

Impact BIO-4. The Project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service.

LESS THAN SIGNIFICANT WITH MITIGATION. Natural communities with ranks of S1-S3 are considered sensitive and rare by CDFW (CDFW, 2023a). S4 communities are defined as sensitive and apparently secure; uncommon, but not rare in the state, with some cause for long-term concern due to declines or other factors. Desert dry wash woodland is a sensitive habitat type as identified in the NECO Plan and DRECP and has a State rarity rank of S4 (CDFW, 2023a). ~~-~~It is a riparian community characteristic of regional episodic hydrologic systems of the regional desert.

Desert pavement, while not a sensitive vegetation type, is a unique geomorphic condition resulting in tightly interlocking gravel substrates with cryptogamic crusts. Within the Colorado desert, stands are common in the valleys, often found within creosote bush scrub and associated with the sensitive, but not rare vegetation alliance described as rigid spineflower (*Chorizanthe rigida*)-hairy desert sunflower (*Geraea caenscens*) sparsely vegetated alliance. On the Project site, rigid spineflower does not occur, so the vegetation alliance is not fully met, but will still be treated as a sensitive community in this EIR. ~~, a unique habitat type with a State rarity rank of S4, was identified on the Project site; however, it is not considered a sensitive natural community by CDFW (CDFW, 2023a).~~ No other sensitive natural communities are found on the Project site.

Solar and BESS Facility

Impacts Discussion

Desert dry wash woodland is located throughout the Project site ~~primarily~~ almost exclusively on BLM-administered lands. Acres of impact to desert dry wash woodland from minor incursions, as defined by BLM, and acres of impact to desert pavement are shown in Tables 3.5-1a and 3.5-1b. Of the approximately ~~31.6~~13.3 acres of desert dry wash woodland that would be impacted through minor incursions at the solar and BESS facility, approximately 1.2 acres are located on private land. ~~Approximately 0.2 acres of desert dry wash woodland would be impacted on private lands. Impacts to vegetation and habitat, including desert dry wash woodland, would be similar to those described in Impact BIO-1. Construction of the solar facility would avoid impacts to desert dry wash woodland with a 200-foot buffer in compliance with the BLM DRECP.~~

Desert dry wash woodland provides greater food, nesting, and cover, and its wildlife diversity is generally greater than in the surrounding desert. Examples of special-status species that depend in part on desert microphyll woodlands include black-tailed gnatcatcher and burro deer. In addition, many of the species occupying the surrounding upland desert shrublands are found in greater numbers in microphyll woodlands.

Approximately 38.9 acres of desert pavement would be disturbed in the western portion of the Project area on BLM-administered lands, primarily underlying solar arrays. The remaining mapped desert pavement in the Project site is within or near areas of dry desert wash woodland avoidance and would not be disturbed by Project construction. No desert pavement would be impacted on private lands.

Desert pavement is comprised of unique geomorphic conditions comprised of tightly packed gravel and sparse vegetation that armors the ground surface, prohibits fine soil particles from being entrained by wind (Potter, 2016), and protects the finer grained underlying sediment from further erosion (see Section 3.8). If left undisturbed, this desert pavement restricts the infiltration of water into the underlying soils and allows desert runoff to playas near Desert Center. Disturbed soils and desert pavement can cause or accelerate erosion, the generation of fugitive dust, and increase sediment in stormwater runoff to ephemeral streams and playa lakes, causing increased turbidity and sedimentation. Some of the surface soils in the area have been disturbed by past activities, including agricultural uses, grading of roads, and use as a World War II maneuver area (see Section 3.10, Hazards and Hazardous Materials), that have likely disrupted and significantly reduced the amount of desert pavement in the area.

Without mitigation, impacts to ~~desert dry wash woodland~~sensitive communities could include the removal of vegetation and loss of habitat and unique habitat features for plant and wildlife species, as described in Impact BIO-1. Construction activities would expose soil and increase the potential for wind and water erosion, resulting in the ecological loss of unique soil characteristics. Ground disturbance undermines the stability of soil and biotic crusts, leading to greater potential for erosion; affects soil density, compaction, and water infiltration, cutting off water supplies to plant roots; and promotes invasion by exotic plant species. These factors contribute to degradation of habitat quality for native wildlife and plant species, and disturbance can affect the ability of an area to support these species.

Mitigation of Project Impacts on Private Land

~~Impacts to native habitats on the Easley site, including desert dry wash woodland, would be minimized by implementing MMs BIO-1 through BIO-5.~~Impacts to sensitive communities on the Project site, including desert dry wash woodland and desert pavement, would be further minimized with implementation of MMs BIO-1 through BIO-5, as previously described in Impact BIO-1. MMs BIO-1 to MM BIO-5 require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive plant and wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing herbicide use and non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan). These measures would ensure that loss, degradation, contamination, and disturbance of vegetation and habitat is minimized and restricted to designated work areas, and that native habitat values are improved and soils are stabilized in disturbance areas post-construction. ~~Impacts to native habitat would be mitigated in accordance with regulatory permits from the CDFW and RWQCB. Mitigation for habitat impacts on BLM lands would be implemented in accordance with the DRECP and mitigation measures in the final NEPA document.~~

Per MM BIO-3, erosion control shall be implemented as described in the Drainage Erosion and Sedimentation Control Plan (DESCP) (MM HWQ-1), which requires identification of erosion treatments for exposed soil, such as chemical-based dust pallatives, soil bonding, and weighting agents suitable for use around vegetation. Additional BMPs to minimize erosion, as committed to by the Applicant and incorporated into the Project Description, are described in Section 2.7 and include designation of primary travel routes, limiting grading to specific areas, building racking material in laydown areas to minimize use of roads, using equipment with smaller rubber-wheeled vehicles, maintaining hydrologic flow patterns, and preserving propagule islands to support vegetation recovery.

MM BIO-14 (Streambed and Watershed Protection) would require Best Management Practices (BMPs) to protect stream channels and water resources and prevent erosion on the Project site, which would protect against degradation of desert dry was woodland and desert pavement communities. BMPs limit operation of vehicles and equipment in flowing or ponded water and construction in ephemeral drainages, and require containment and cleanup of fuels and construction debris to prevent contamination and pollution of waterways. Impacts to jurisdictional features (see Impact BIO-5) would require coordination with CDFW regarding a Lake and Streambed Alteration Agreement (LSAA) and with RWQCB regarding Waste Discharge Requirements (WDR), which would have permit requirements to protect stream channels, wetlands, and waters, including desert dry wash woodlands.

Avoidance of desert dry wash woodland (except for minor incursions and where there is exiting intervening infrastructure), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14) and desert pavement at a ratio of 1:1 (MM BIO-3) would preserve and offset loss of sensitive habitats.

Mitigation of Project Impacts on BLM Land

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with these CMAs, which would be required on BLM lands, would mitigate impacts on BLM land to less than significant, as described.

The following CMAs, previously detailed for Vegetation and Habitat in Impact BIO-1, would also reduce impacts to sensitive natural communities and riparian habitats for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, these CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve sensitive habitat in the Project area and prevent degradation from disturbance in adjacent areas. Compensation would offset habitat loss.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to sensitive communities and riparian habitats would be mitigated to less than significant.~~Implementation of MMs would minimize and avoid significant impacts to desert dry wash woodland.~~

500 kV Gen-Tie, Collector, and Distribution Lines

Impacts Discussion

The proposed gen-tie line ~~primarily~~ crosses through the existing Oberon Renewable Energy Project site (RWQCB, 2021; BLM, 2022), on BLM lands. Construction and O&M of the Project's gen-tie line component would not impact sensitive vegetation communities on private lands (Table 3.5-1b). On BLM-lands, approximately 4.4 acres of desert dry wash woodland and 1.1 acres of desert pavement would be impacted along the gen-tie line.

Any i~~I~~mpacts to desert dry wash woodland and desert pavement would be similar to those described for the solar and BESS facility; however, above ground gen-tie construction would affect vegetation and habitat at discrete disturbance sites where towers or other work activities would be located. If the 34.5 kV or 12 kV lines are installed overhead, similar types of impacts would occur at the pole sites located outside of the solar facility fence line. Underground collector lines would require trenching and disturbance of habitats as described in Impact BIO-1. ~~Impacts on the Oberon Project site were evaluated as part of the Final EIR and Final EA (RWQCB, 2021; BLM, 2022).~~

Mitigation of Project Impacts on Private Land

~~Construction and O&M of the Project's gen-tie line component would not impact sensitive natural communities.~~ Implementation of MMs BIO-1 through BIO-5 would avoid and minimize impacts to native habitat, including minor incursions to desert dry wash woodland on the Easley Project site~~.~~, as discussed for the solar and BESS facility. These measures would ensure that loss, degradation, and disturbance of vegetation and habitat is minimized and restricted to designated work areas, and that native habitat values are improved and soils are stabilized in disturbance areas post-construction. Impacts would be mitigated to less than significant.

MM BIO-14 (Streambed and Watershed Protection) would require BMPs to protect stream channels, including desert dry wash woodlands. BMPs limit operation of vehicles and equipment in flowing or ponded water and construction in ephemeral drainages, and require containment and cleanup of fuels and construction debris to prevent contamination and pollution of waterways. Impacts to jurisdictional features (see Impact BIO-5) would require coordination with CDFW and with RWQCB regarding permitting, which would include requirements to protect stream channels and desert dry wash woodlands.

The Project has been designed to avoid desert dry wash woodland (except for minor incursions and where there is existing intervening infrastructure), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14) and desert pavement at a ratio of 1:1 (MM BIO-3) would preserve and offset loss of sensitive habitats.

~~Additionally, similar mitigation measures required to be implemented for the Oberon Project are included in its Final EIR (RWQCB, 2021) and Final EA (BLM, 2022). Conservation Management Actions (CMAs) would also be implemented on BLM lands per the DRECP, as described in the Final EA for the Oberon Project.~~

Mitigation of Project Impacts on BLM Land

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with these CMAs, which would be required on BLM lands, would mitigate impacts to less than significant, as described.

The following CMAs, previously detailed for Vegetation and Habitat in Impact BIO-1, would also reduce impacts to sensitive natural communities and riparian habitats for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-3 (Resource Setback Standards).

- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, these CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve sensitive habitat in the Project area and prevent degradation from disturbance in adjacent areas. Compensation would offset loss of sensitive and riparian communities.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, i~~I~~mpacts to sensitive natural communities and riparian habitats would be mitigated to less than significant.

Operations and Maintenance and Decommissioning

Proposed O&M and decommissioning activities would have similar direct and indirect impacts on desert dry wash woodland, as described above. However, the scale of impacts would be less than construction impacts.

During O&M, impacts would be limited to repairs and maintenance of solar panels, associated electrical components, O&M facilities, access roads, fencing, drainages, and culverts. Vegetation would be trimmed infrequently in discrete locations and no heavy equipment would be used for normal operation. Any ground disturbance may result in soil erosion. Herbicides used to manage weed infestations may degrade non-target vegetation in adjacent areas. Infrequent panel washing is not expected to impact habitat persistence or composition and no chemical agents would be used for module washing. If the Proposed Project facility elevates ambient temperature within the site, surrounding vegetation and habitat may be indirectly impacted.

Impacts during Project decommissioning would be similar to those during construction and would occur in previously disturbed areas. Decommissioning activities would require similar equipment and workforce as construction but would be substantially less intense, including removal of all equipment and cables, facilities, primary roads, and concrete pads. During decommissioning, habitat disturbance may result from disassembling and transporting facilities, or from site remediation. The Project would be dismantled as described in Section 2.6, per an agency-approved Closure and Decommissioning Plan, and a majority of components would be recycled or reused. Following decommissioning, the Proposed Project site would be revegetated with native plants and re-seeded as required by the Decommissioning Plan.

Direct and indirect impacts to riparian habitats and sensitive communities from O&M and decommissioning on private land within the Project site would be minimized and~~,~~ avoided~~, or offset~~ with measures such as biological monitoring by qualified biologists; worker training on sensitive biological resources; flagging, surveying, and monitoring of work areas; weed management; ~~and restoration~~ re-vegetation of disturbed areas; and BMPs to protect stream channels, as previously described for MMs BIO-1 through BIO-5 and MM BIO-14. The Project has been designed to avoid desert dry wash woodland (except for minor incursions for linear features and where is existing intervening infrastructure on private land) and compensatory mitigation for desert dry wash woodland (MM BIO-14) and desert pavement (MM BIO-3) would preserve and offset loss of sensitive habitats. CMAs, as previously outlined for construction, would be implemented to reduce impacts on BLM land. These measures would restrict impacts to designated work areas and ensure that native habitat values are improved post-construction.

Mitigation Measures for Impact BIO-4

The full text of the following mitigation measures is in Section ~~3.5.9~~3.5.7 (Mitigation Measures).

MM BIO-1 Biological Monitoring.

MM BIO-2 Worker Environmental Awareness Training.

MM BIO-3 Minimization of Vegetation and Habitat Impacts.

MM BIO-4 Integrated Weed Management Plan.

MM BIO-5 Vegetation Resources Management Plan.

DRECP CMAs for Impact BIO-4

Applicable CMAs are detailed in Appendix CC, which provides a list of CMAs, an explanation of their applicability, and demonstration of compliance with the CMA.

LUPA-BIO-1 (Biological Resources).

LUPA-BIO-2 (Biological Resources).

LUPA-BIO-5 (Worker Education).

LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).

LUPA-BIO-10 (Standard Practices for Weed Management).

LUPA-BIO-11 (Nuisance Animals and Invasive Species).

LUPA-BIO-13 (General Siting and Design).

LUPA-BIO-3 (Resource Setback Standards).

LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).

LUPA-BIO-SVF-6 (Special Vegetation Features).

LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Significance After Mitigation

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, this impact would be less than significant.~~This impact would be less than significant with implementation of mitigation measures identified above~~

Impact BIO-5. The Project would have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

LESS THAN SIGNIFICANT WITH MITIGATION. Two palustrine, emergent wetland areas in the Project area were identified as anthropogenic wetlands created by adjacent agricultural activities, from artificial water sources and berms. Jurisdictional waters are found along unvegetated ephemeral washes and desert dry wash woodlands (see Impact BIO-4) throughout the Project site and along the gen-tie line. Project construction and O&M would affect these wetlands and State-protected jurisdictional waters. Construction would involve minor changes to on-site topography. The proposed layout of solar panels would avoid major existing hydrologic patterns with respect to runoff, avoiding washes, stream beds, stream banks, where feasible. The Easley Project will fully comply with all applicable DRECP CMAs on BLM-administered land and private land, which includes avoidance of desert dry wash woodland habitat with a 200-foot buffer, except for minor incursions for linear features or where there is existing intervening infrastructure on private lands (CMA LUPA-BIO-RIPWET-1).

The aquatic resources in the Project site are subject to State jurisdiction under RWQCB and CDFW (see Section 3.5.1 on Jurisdictional Waters). Given the absence of a nexus to a federal waters of the U.S., the aquatic resources in the Project site likely are not subject to federal jurisdiction under CWA Section 404 and Section 401 (see Section 3.5.1).

With implementation of mitigation measures on private land within the Project site and implementation of CMAs on BLM land within the Project site, described below, impacts to jurisdictional waters would be less than significant. Construction would require a Stormwater Pollution Prevention Plan (SWPPP) approved by the State Water Resources Control Board, LSAA from CDFW, and WDR from RWQCB, which may include additional permit requirements and BMPs to further protect jurisdictional waters.

Solar and BESS Facility

Impacts Discussion

The two emergent wetland areas are located in the northern and central portions of the Project area. The Project site is intersected by numerous unvegetated ephemeral drainages that flow northeast toward Big Wash, near the confluence with Pinto Wash. Desert dry wash woodland is interspersed with creosote bush scrub, which overlap with ephemeral jurisdictional drainages on the Project site. Active channels within the lower alluvial fan, where the Project is situated, showed signs of frequent avulsion (changes in flow direction following surface water flow events) due to patterns of brief, intense surface water flow, resulting in a network of active and inactive (abandoned) channels.

Acres of impact to jurisdictional wetlands, waters, and desert dry wash woodland are shown in Table 3.5-3. Approximately ~~732~~ 728 acres of desert dry wash woodland would be avoided in the solar facility development area.

Table 3.5-3. Impacts to Jurisdictional Waters

	Impact Acres (full project design, including 500k V gen-tie line across Oberon Project)		
Habitat Type	**BLM**	**Private**	**Total**
Colorado River RWQCB Jurisdictional Waters			
Easley Project Boundary			
Wetlands	---	---	---
Unvegetated Ephemeral Dry wash (OHWM width)	~~98.8~~88.3	~~19.8~~16.2	~~118.7~~104.5
Desert Dry Wash Woodland	~~9.0~~1.3	~~0.2~~0.1	~~9.2~~1.5
Oberon Project Boundary			
Unvegetated Ephemeral Dry wash (OHWM width)	~~2.0~~0.5	---	~~2.0~~0.5
Desert Dry Wash Woodland	~~22.2~~0.1	---	~~22.2~~.01
TOTAL	**~~132.1~~90.2 acres**	**~~20.1~~16.4 acres**	**~~152.2~~106.6 acres**
CDFW Jurisdictional Waters			
Easley Project Boundary			
Wetlands (Easley Boundary)	---	---	---
Unvegetated Ephemeral Dry wash (Bank-to-Bank)	~~147.6~~131.2	~~26.4~~23.6	~~174.0~~154.7
Desert Dry Wash Woodland	~~9.0~~1.9	~~0.2~~0.2	~~9.2~~2.1
Oberon Project Boundary			

Habitat Type	Impact Acres (full project design, including 500k V gen-tie line across Oberon Project) BLM	Private	Total
Unvegetated Ephemeral Dry wash (Bank-to-Bank)	~~2.5~~0.6	---	~~2.5~~0.6
Desert Dry Wash Woodland	~~22.2~~0.2	---	~~22.2~~0.2
TOTAL	**~~181.3~~133.8**	**~~26.7~~23.8**	**~~207.9~~157.6**

Notes
No wetlands would be impacted.
Within the Oberon Project boundary, impact acres include the entire 175-foot-wide gen-tie line ROW. Final gen-tie line impact acreages will be less than shown in the table, as impacts would occur only at structures and spur roads. Disturbance assumptions at each structure location are included in EIR Section 2.4.6. Furthermore, structures would be micro-sited to minimize impacts to sensitive habitats and resources to the maximum extent feasible.

Jurisdictional waters on the Project site would be directly impacted by site preparation and Project construction. After construction, water and sediment on the Project site would be conveyed downslope, across the site, by sheet flow or within channels. However, surface flow patterns, velocities, and sediment loads may be altered throughout the site by solar panel foundations and piles, access roads, fencing, BESS, substation yards, O&M building, and other Project features.

Potential significant indirect impacts to jurisdictional waters from Project activities could include decoupling of flows due to installation of Project facilities or components, increased siltation, fluvial transport of silts or pollutants, and altered flows resulting in erosion or elimination of natural sediment transport to downstream habitat areas. The decoupling of flows due to installed barriers was found to have a direct effect on the vegetation closest to the zone of decoupling (Devitt, 2022). Since the health of a desert ecosystem is linked to the integrity of surface drainage systems, maintaining wash connectivity would benefit down gradient plant communities. In a study performed by Devitt (2022), during high rainfall significant runoff and erosion undercut structural supports of the panel arrays, suggesting that maintaining wash connectivity would benefit the solar facility as well.

The Project may include diversions at security fencing and require detention basins, but no other substantial alteration to the existing surface hydrology would occur. Alteration of the existing drainage pattern should be minimal because of the minimal grading proposed. The Project plans to maintain natural drainage to the maximum extent feasible.

Additionally, the preservation of vegetation under the solar panels would mitigate impacts of erosion and increased runoff. Cook and McCuen (2013) studied water runoff of solar modules and found that runoff volumes increased with graveled or compacted ground underneath the panels. With well-maintained grass, solar modules did not have an effect on total volumes of runoff or peak discharge rates (Cook and McCuen, 2013).

Mitigation of Project Impacts on Private Land

Impacts to wetlands and ~~habitat on the Project site, including jurisdictional waters~~jurisdictional waters on private land in the Project site~~,~~ would be minimized with implementation of MMs BIO-1 through BIO-5, as previously described or Vegetation and Habitat in Impact BIO-1. MMs BIO-1 to MM BIO-5 require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive plant and wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing herbicide use and non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan). These measures would ensure that loss, degradation, contamination, and disturbance of vegetation and habitat is minimized and restricted to designated work areas, and that native habitat values are improved and soils are stabilized in disturbance areas post-construction.

In addition, MM BIO-~~12~~ 14 (Streambed and Watershed Protection) would require Best Management Practices (BMPs) to protect stream channels and jurisdictional waters on the Project site, including desert dry wash woodlands. BMPs limit operation of vehicles and equipment in flowing or ponded water and construction in ephemeral drainages, and require containment and cleanup of fuels and construction debris to prevent contamination and pollution of waterways. Impacts to jurisdictional features would require coordination with CDFW regarding a Lake and Streambed Alteration Agreement (LSAA) and with RWQCB regarding Waste Discharge Requirements (WDR), which would have permit requirements to protect jurisdictional stream channels, wetlands, and waters, including desert dry wash woodlands. ~~would require a series of BMPs to prevent or minimize significant effects to jurisdictional waters and streambed function. BMPs include measures that require cleanup of petroleum spills and buffers around equipment maintenance, spoil sites, and storage or use of hazardous materials. Equipment will not operate in ponding or flowing water, silt and pollutants will be prevented from entering ephemeral drainages, no equipment will be maintained within 150 feet of streambeds, and equipment will be placed over drip pans.~~ These measures would prevent sedimentation, contamination, and pollution of jurisdictional waters from erosion of soils and use of hazardous fuels and herbicides. Maintaining natural drainage and vegetation under solar panels would further minimize impacts to jurisdictional waters from runoff and erosion.

Avoidance of desert dry wash woodland (except for minor incursions or where there is existing intervening infrastructure), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14) would preserve and offset loss of jurisdictional habitats.

Mitigation of Project Impacts on BLM Land

The Project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with these CMAs, which would be required on BLM lands, would mitigate impacts to less than significant, as described.

The following CMAs, previously detailed for Vegetation and Habitat in Impact BIO-1, would also reduce impacts to jurisdictional waters, stream channels, and habitats for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

These CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve jurisdictional stream channels in the Project area and prevent degradation from disturbance in adjacent areas. Compensation would offset loss of jurisdictional waters.

LUPA-BIO-9 (Water and Wetland Dependent Species Resources) requires that BMPs be implemented to prevent toxic and hazardous materials from entering streams and washes, such as proper maintenance and fueling of vehicles and equipment, and prompt clean-up of spills. The CMA requires erosion and sedimentation control, including maintaining natural drainages, reducing impervious surfaces, stabilizing disturbed areas, and performing regular inspections and maintenance of erosion control. The CMA also requires that means of escape be provided for wildlife from ponds or other Project related water infrastructure. By properly handling and containing hazardous fuels and managing erosion in work areas, contamination, pollution, and sedimentation of waters would be minimized and avoided. Protection of waters would reduce impacts to jurisdictional waters.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, impacts to jurisdictional waters would be mitigated to less than significant.

500 kV Gen-Tie, Collector, and Distribution Lines

Impacts Discussion

The proposed gen-tie line crosses through the existing Oberon Renewable Energy Project site (RWQCB, 2021; BLM, 2022), on BLM lands. ~~The gen-tie line primarily crosses the adjacent Oberon Project site.~~ The gen-tie line is intersected by numerous unvegetated ephemeral drainages that flow northeast toward Big Wash. Desert dry wash woodland is interspersed with creosote bush scrub and desert pavement, which overlap with these ephemeral jurisdictional drainages on the Project site. Construction and O&M of the Project's gen-tie line component would not impact jurisdictional waters on private lands (Table 3.5-3). On BLM-lands, less than 1 acre of jurisdictional waters would be impacted by the gen-tie line component (Table 3.5-3).

Impacts to jurisdictional waters would be similar to those described for the solar facility; however, above-ground gen-tie construction would have impacts at discrete disturbance sites where towers or other work activities would be located. If the 34.5 kV or 12 kV lines are installed overhead, similar types of impacts would occur at the pole sites located outside of the solar facility fence line. Underground collector lines would require trenching and disturbance of habitats as described in Impact BIO-1. ~~Impacts on the Oberon Project site were evaluated as part of the Final EIR and Final EA (RWQCB, 2021; BLM, 2022).~~

Construction and O&M of the Project's gen-tie line component would not impact jurisdictional wetlands.

Mitigation of Project Impacts on Private Land

MMs BIO-1 through BIO-5 would minimize impacts to native habitat on private land in the Project site, including ephemeral washes, as discussed for the solar and BESS facility. These measures would ensure that loss, degradation, and disturbance of vegetation and habitat is minimized and restricted to designated work areas, and that native habitat values are improved and soils are stabilized in disturbance areas post-construction.

MM BIO-1~~2~~4 (Streambed and Watershed Protection) ~~would~~ requires a series of BMPs to protect water resources and prevent sedimentation, contamination, and pollution of ~~or minimize significant effects to~~ jurisdictional waters ~~and streambed function~~. Impacts to jurisdictional features would require coordination with CDFW regarding a Lake and Streambed Alteration Agreement (LSAA) and with RWQCB regarding Waste Discharge Requirements (WDR), which would have permit requirements to protect jurisdictional stream channels, wetlands, and waters. ~~Additionally, similar mitigation measures required to be implemented for the Oberon Project are included in its Final EIR (RWQCB, 2021) and Final EA (BLM, 2022). Conservation Management Actions (CMAs) would also be implemented on BLM lands per the DRECP, as described in the Final EA for the Oberon Project.~~

Avoidance of desert dry wash woodland (except for minor incursions and where there is existing intervening infrastructure), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14) would preserve and offset loss of jurisdictional habitats.

Mitigation of Project Impacts on BLM Land

The Project is required to comply with DRECP CMAs for all Project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with these CMAs, which would be required on BLM lands, would mitigate impacts to less than significant, as described.

The following CMAs, previously detailed for Vegetation and Habitat in Impact BIO-1, would also reduce impacts to jurisdictional waters, stream channels, and habitats for the same reasons as described above in the discussion of impacts to Vegetation and Habitat:

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, these CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve jurisdictional stream channels in the Project area and prevent degradation from disturbance in adjacent areas. Compensation would offset loss of jurisdictional waters.

LUPA-BIO-9 (Water and Wetland Dependent Species Resources), as previously described, requires implementation of BMPs related to toxic and hazardous materials and erosion and sedimentation into waterways. By properly handling and containing hazardous fuels and managing erosion in work areas, contamination, pollution, and sedimentation of waters would be minimized and avoided. Protection of waters would reduce impacts to jurisdictional waters.

Mitigation Conclusion

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, i~~I~~mpacts to jurisdictional waters would be mitigated to less than significant.

Operations and Maintenance and Decommissioning

Proposed O&M and decommissioning activities would have similar direct and indirect impacts on jurisdictional waters, as described above. However, the scale of impacts would be less than construction impacts and impacts would occur in previously disturbed areas. No jurisdictional wetlands would be impacted during O&M.

After construction, surface flow patterns, velocities, and sediment loads may be altered throughout the site by solar panel foundations and piles, access roads, fencing, BESS, substation yards, O&M building, and other Project features. Alteration of the existing drainage pattern is expected to be minimal because of the minimal grading and diversions required, and the Project plans to maintain natural drainage to the maximum extent feasible. The preservation of vegetation under the solar panels would further mitigate impacts of erosion and increased runoff.

During O&M, impacts would be limited to repairs and maintenance of solar panels, associated electrical components, O&M facilities, access roads, fencing, drainages, and culverts. Vegetation would be trimmed infrequently in discrete locations and no heavy equipment would be used for normal operation. Any ground disturbance may result in soil erosion that could runoff into jurisdictional waters. Herbicides used to manage weed infestations may degrade jurisdictional waters or associated vegetation on the Project site. Infrequent panel washing is not expected to impact persistence or composition of jurisdictional waters and no chemical washing agents would be used that may degrade waters.

Impacts during Project decommissioning would be similar to those during construction and would occur in previously disturbed areas. Decommissioning activities would require similar equipment and workforce as construction but would be substantially less intense, including removal of all equipment and cables, facilities, primary roads, and concrete pads. During decommissioning, disturbance to jurisdictional waters may result from disassembling and transporting facilities, or from site remediation. The Project would be dismantled as described in Section 2.6, per an agency-approved Closure and Decommissioning Plan, and a majority of components would be recycled or reused. Following decommissioning, the Proposed Project site would be revegetated with native plants and re-seeded as required by the Decommissioning Plan.

Direct and indirect impacts to jurisdictional waters from O&M and decommissioning on private lands within the Project site would be minimized and~~,~~ avoided~~, or offset~~ with measures such as biological monitoring by qualified biologists; worker training on sensitive biological resources; flagging, surveying, and monitoring of work areas; weed management; ~~restoration~~ re-vegetation of disturbed areas; and implementation of BMPs to protect jurisdictional stream channels from contamination and pollution with fuels, herbicides, and sedimentation~~protection of jurisdictional waters~~, as previously described for MMs BIO-1 through BIO-5 -and MM BIO-~~12~~14. Avoidance of desert dry wash woodland (except for minor incursions for linear feature and where there is existing intervening infrastructure on private land) and compensatory mitigation for desert dry wash woodland (MM BIO-14) would preserve and offset loss of jurisdictional habitats. CMAs, as previously outlined for construction, would be implemented on BLM land in the Project site to reduce impacts. As described in more detail above, t~~T~~hese measures would restrict impacts to designated work areas, ensure that native habitat values are improved post-construction, and protect jurisdictional waters from sedimentation, contamination, and pollution.

Mitigation Measures for Impact BIO-5

The full text of the following mitigation measures is in Section ~~3.5.9~~3.5.7 (Mitigation Measures).

MM BIO-1 Biological Monitoring.

MM BIO-2 Worker Environmental Awareness Training.

MM BIO-3 Minimization of Vegetation and Habitat Impacts.

MM BIO-4 Integrated Weed Management Plan.

MM BIO-5 Vegetation Resources Management Plan.

MM BIO-~~12~~14 Streambed and Watershed Protection.

DRECP CMAs for Impact BIO-5

Applicable CMAs are detailed in Appendix CC, which provides a list of CMAs, an explanation of their applicability, and demonstration of compliance with the CMA.

LUPA-BIO-1 (Biological Resources).

LUPA-BIO-2 (Biological Resources).

LUPA-BIO-5 (Worker Education).

LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).

LUPA-BIO-10 (Standard Practices for Weed Management).

LUPA-BIO-11 (Nuisance Animals and Invasive Species).

LUPA-BIO-13 (General Siting and Design).

LUPA-BIO-3 (Resource Setback Standards).

LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).

LUPA-BIO-SVF-6 (Special Vegetation Features).

LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

LUPA-BIO-9 (Water and Wetland Dependent Species Resources)

Significance After Mitigation

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, this impact would be less than significant.~~This impact would be less than significant with implementation of mitigation measures and permitting identified above~~.

Impact BIO-6. The Project would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

LESS THAN SIGNIFICANT WITH MITIGATION. Construction, operations and maintenance, and decommissioning of the Project would be subject to policies in the Riverside County General Plan. Table 3.5-4, Consistency with Local Policies and Ordinances describes how the Project would be consistent with the County General Plan.

Table 3.5-4. Consistency with Local Policies and Ordinances

Policy/Regulations/ Goals	Description	Consistency Analysis
Riverside County General Plan Land Use Element (LU)		
LU 9.1	Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, watercourses including arroyos and canyons, and scenic and recreational values (AI 102).	**Consistent.** Mitigation measures provide protection of species, habitats, and waters in coordination with CDFW, USFWS, and RWQCB on private land in the Project site, as described throughout this section 3.5. Mitigation for species, habitats, and waters on BLM lands would be implemented in accordance with the DRECP CMAs as described throughout this section 3.5.
LU 9.2	Require that development protect environmental resources by compliance with the Multipurpose Open Space Element of the General Plan and federal and state regulations such as CEQA, NEPA, the Clean Air Act, and the Clean Water Act.	**Consistent.** The Project would comply with federal and state regulations.
LU 24.1	Cooperate with the CDFW, USFWS, and any other appropriate agencies in establishing programs for the voluntary protection, and where feasible, voluntary restoration of significant environmental habitats (AI 10).	**Consistent.** Mitigation measures provide protection of species and restoration of habitats on private land in the Project site, as described throughout this section 3.5, in coordination with CDFW, USFWS, and RWQCB. Mitigation providing protection of species and restoration of habitats on BLM lands would be implemented in accordance with the DRECP CMAs as described throughout this section 3.5.
Riverside County General Plan Multi-Purpose Open Space Element (OS)		
OS 18.1	Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCPs and through implementing related Riverside County policies.	**Consistent.** The Project site is not within an MSHCP area.
Desert Center Area Plan (DCAP)		
DCAP 9.1	Encourage clustering of development for the preservation of contiguous open space.	**Consistent.** The Project site is located adjacent to other solar projects within a DRECP designated DFA.
DCAP 9.3	Require new development to conform with Desert Tortoise Critical Habitat designation requirements.	**Consistent.** The solar facilities on the Easley Project site do not overlap with critical habitat for desert tortoise. Critical habitat within the Chuckwalla Desert Tortoise CHU, which is encompassed under Tortoise Conservation Areas (TCAs), is located near the Project site across Kaiser Road to the west. The gen-tie line would cross desert tortoise critical habitat in the southeastern portion of the adjacent Oberon Project site. Mitigation measures provide for restoration of habitats in coordination with CDFW, USFWS, and RWQCB.

Riverside County General Plan. The solar and BESS facilities, gen-tie line, and associated components would potentially impact biological resources protected by the General Plan provisions, including special-status plants and animals, sensitive habitats, and jurisdictional waters, as previously described. Without mitigation, the Project could result in significant impacts to these biological resources; however, implementation of MMs BIO-1 through MM BIO-~~12~~14 on private land within the Project site, as previously described, would ensure consistency with the local policies listed above.

Impacts to native habitat would be mitigated in accordance with regulatory permits from the CDFW and RWQCB. Impacts to desert dry wash woodland would be avoided on private lands, as on BLM lands in accordance with the DREPC CMAs. Mitigation for habitat impacts on BLM lands would be implemented in accordance with the DRECP CMAs as described throughout this section 3.5~~and mitigation measures in the final NEPA document~~.

The Project would be in compliance with the Riverside County General Plan.

Desert Center Area Plan. The Project would not conflict policies protecting biological resources in the Desert Center Area Plan, including open space and critical habitat. Without mitigation, the Project could result in significant impacts to biological resources; however, implementation of MMs BIO-1 through MM BIO-~~12~~14 on private land within the Project site, as previously described, would minimize impacts and ensure consistency with the Plan. Impacts to native habitat and USFWS designated critical habitat would be mitigated in accordance with regulatory permits from the USFWS, CDFW, and RWQCB. Mitigation for habitat impacts on BLM lands would be implemented in accordance with the DRECP CMAs, as described throughout this section 3.5~~and mitigation measures in the final NEPA document~~.

The Project would be in compliance with the Desert Center Area Plan.

Desert Renewable Energy Conservation Project (DRECP). The solar and BESS facility would be largely located on federally administered land and would be subject to federal policies, regulations, and goals. Some BLM-administered lands in Southern California are designated in the DRECP Land Use Plan Amendment (LUPA) as Development Focus Areas (DFA). The purpose of the DRECP is to conserve and manage plant and wildlife communities in the desert regions of California, over 10 million acres of BLM land, while facilitating the timely permitting of compatible renewable energy projects (BLM, 2015). The DRECP LUPA identifies the Project area as within a Development Focus Area (DFA), where renewable energy generation is an allowable use, incentivized, and could be streamlined under the DRECP LUPA.

The DRECP LUPA includes Conservation and Management Actions (CMAs) designed to reduce the effects of development on sensitive resources and highlight other types of mitigation that might be required to further reduce impacts. The Project would comply with ~~all~~ applicable DRECP CMAs (Appendix CC) as described throughout this Section 3.5. The Project is an allowable use on DRECP DFA lands.

The Project would be in compliance with the BLM management actions of the DRECP LUPA.

Mitigation Measures for Impact BIO-6

The full text of the following mitigation measures is in Section ~~3.5.9~~3.5.7 (Mitigation Measures).

MM BIO-1 Biological Monitoring

MM BIO-2 Worker Environmental Awareness Training

MM BIO-3 Minimization of Vegetation and Habitat Impacts

MM BIO-4 Integrated Weed Management Plan

MM BIO-5 Vegetation Resources Management Plan

MM BIO-6 Wildlife Protection

MM BIO-7 Desert Tortoise Protection

MM BIO-8 Bird and Bat Conservation Strategy

MM BIO-9 Nesting Bird Management Plan

MM BIO-10~~9~~ Gen-tie Lines

MM BIO-11~~0~~ Burrowing Owl Avoidance and Relocation

MM BIO-12~~1~~ Desert Kit Fox and American Badger Relocation

MM BIO-13 Wildlife Protection and Relocation Plan

MM BIO-14~~2~~ Streambed and Watershed Protection

DRECP CMAs for Impact BIO-6

Applicable CMAs are detailed in Appendix CC, which provides a list of CMAs, an explanation of their applicability, and demonstration of compliance with the CMA.

LUPA-BIO-1 (Biological Resources)

LUPA-BIO-2 (Biological Resources)

LUPA-BIO-5 (Worker Education)

LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance)

LUPA-BIO-10 (Standard Practices for Weed Management)

LUPA-BIO-11 (Nuisance Animals and Invasive Species)

LUPA-BIO-13 (General Siting and Design)

LUPA-BIO-SVF-1 (Special Vegetation Features)

LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management)

LUPA-BIO-3 (Resource Setback Standards).

LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species)

LUPA-BIO-SVF-6 (Special Vegetation Features)

LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation)

LUPA-BIO-PLANT-1 (Plant Species (PLANT): Plant Focus and BLM Special Status Species CMAs)

LUPA-BIO-4 (Seasonal Restrictions)

LUPA-BIO-6 (Subsidized Predators Standards)

LUPA-BIO-12 (Noise)

LUPA-BIO-14 (Biology: General Standard Practices)

LUPA-BIO-15 (Biology: General Standard Practices)

DFA-BIO-IFS-1 to -3 (Biological Resources)

LUPA-BIO-9 (Water and Wetland Dependent Species Resources)

LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs)

LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species)

LUPA-BIO-BAT-1 (Bat Species (BAT))

LUPA-BIO-COMP-2 (Compensation (Birds and Bats))

LUPA-BIO-IFS-11 (Bendire's Thrasher)

LUPA-BIO-IFS-12 to -14 (Burrowing Owl)

LUPA-BIO-IFS-25 (Golden Eagle)

LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources)

LUPA-BIO-IFS-1 to -9 (Individual Focus Species (IFS): Desert Tortoise)

DFA-VPL-BIO-IFS-1 (Individual Focus Species (IFS): Desert Tortoise)

Significance After Mitigation

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, this impact would be less than significant.~~This impact would be less than significant with implementation of mitigation identified above.~~

****The impact analyses for all Project alternatives have been moved to EIR Section 5.****

3.5.6. Cumulative Impacts

Geographic Scope

The geographic extent for this cumulative analysis includes activities and projects in the desert portion of Riverside County (Palm Springs to the Colorado River) because it consists of similar habitat areas and encompasses the home ranges of species such as those that would be directly or indirectly affected by the proposed Project (Figure 2-4).

Cumulative effects for biological resources include both plant and wildlife species and must consider distribution, habitat availability, designated critical habitat, local rarity or commonness, and likely responses to projects’ effects for each species. From a timing perspective, the Project could contribute to cumulative effects to biological resources starting with the initiation of on-site activities and continuing throughout the O&M phase, through final decommissioning. As the number of solar projects and other development and land use changes increase in the region, the cumulative impacts to biological resources, such as habitat loss also increase. This analysis considers the current and foreseeable future projects identified in the cumulative scenario, listed in Tables 3.1-1 (Past or Present Projects or Programs in the Project Area) and 3.1-2 (Probable Future Projects in the Project Area).

This analysis presumes that MMs BIO-1 through BIO-~~12~~14, identified in Section ~~3.5.9~~3.5.7, would be implemented on private land within the Project site and~~,~~ that the Project would ~~comply with~~implement DRECP CMAs on BLM lands. Cumulative impacts of the projects on biological resources identified in the cumulative scenario, as described below by resource type, would be cumulatively significant. With avoidance through Project design, ~~and~~ mitigation measures, and CMAs, ~~compliance with the DRECP CMAs, and off-site compensation,~~ the Project’s contribution to cumulative impacts would not be cumulatively considerable.

On BLM-administered lands, the DRECP identifies the federal lands in and around the Project site as a DFA, where renewable energy development should be concentrated. DFAs were designated by the BLM, in coordination with the USFWS, the CEC, and CDFW. Cumulative impacts were considered in the DRECP LUPA Final Environmental Impact Statement (FEIS) (BLM, 2015).

Cumulative Impact Analysis

Vegetation and habitat. Construction-related impacts of the cumulative projects would temporarily increase noise and activities, dust, and other habitat disturbances throughout the region. On completion of construction, longer-term land use conversion would contribute to reduced habitat availability and increased habitat fragmentation. Installation of multiple solar projects concentrated in one area could also increase local ambient air temperatures in and around the solar facilities, impacting persistence of vegetation and suitability of habitat. In the context of the number of past, present, and future projects many of which are large solar projects, the effects of the proposed Project would contribute incrementally to the cumulative significant impacts to vegetation and habitat. Direct and indirect impacts to vegetation and habitat on private land in the Project site would be minimized by implementing MMs BIO-1 through BIO-5, which minimize direct disturbance, loss, degradation, and contamination of habitat by using qualified and trained staff, keeping work activities within designated work areas, and implementing re-vegetation and invasives management.

Avoidance of desert dry wash woodland (except for minor incursions for linear features and where there is existing intervening infrastructure on private land), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values for wildlife and offset habitat loss consistent with CMAs LUPA-BIO-RIPWET-1 and LUPA-BIO-COMP-1.

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with the following CMAs, which would be required on BLM lands and are described in detail in Impact BIO-1, would mitigate impacts to less than significant.

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-SVF-1 (Special Vegetation Features).
- LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).

The following CMAs describe protection for desert dry wash woodland. The Project design would avoid desert dry wash woodland with a 200-foot setback buffer, except for minor incursions, consistent with the CMAs (Section 2.7.3).

- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would prevent direct removal of vegetation and habitat and prevent degradation from disturbance in adjacent areas. Compensation for impacts to native habitats would offset loss.

With implementation of the mitigation measures on private lands and CMAs on BLM land, the proposed Project's contribution to cumulative impacts to vegetation and habitat would not be cumulatively considerable. ~~Impacts to native habitat would be mitigated in accordance with regulatory permits from the CDFW and RWQCB. Impacts to desert dry wash woodland would be avoided on private lands, as on~~

~~BLM lands in accordance with the DREPC CMAs. Mitigation for habitat impacts on BLM lands would be implemented in accordance with the DRECP and mitigation measures in the final NEPA document.~~

Sensitive Habitat and Jurisdictional Waters of the State. Some of the cumulative projects would impact desert dry wash woodland with minor incursions and desert pavement~~; however,~~. T~~t~~he proposed Project ~~would~~ was designed to avoid desert dry wash woodland, except for minor incursions (Section 2.7.3). ~~so it would not contribute to cumulative effects.~~ Indirect effects from the Easley Project in adjacent habitats would be minimized with a 200-foot setback buffer (except for minor incursion or where there is existing intervening infrastructure on private land) from desert dry wash woodland habitat on both private and public lands.

The Project would impact unvegetated ephemeral dry wash, which meets criteria as jurisdictional waters of the State. The cumulative projects would have qualitatively similar impacts to unvegetated ephemeral dry wash, due to the nature of the area and the large washes that cross it, resulting in a significant cumulative impact. The effects of the proposed Project would contribute incrementally to the cumulative impacts to jurisdictional waters of the State. This incremental contribution would not be considerable as the Project has been designed to avoid, minimize, and offset impacts to jurisdictional waters. Direct and indirect impacts during construction would be minimized by implementing MMs BIO-1 through BIO-5 and MM BIO-~~12~~14.

MMs BIO-1 to MM BIO-5 require use of qualified biologists for surveying and monitoring (MM BIO-1 Biological Monitoring), training of construction personnel on identifying and avoiding sensitive plant and wildlife resources (MM BIO-2 Worker Environmental Awareness Training), clear demarcation of vegetation for removal and low impact site preparation (MM BIO-3 Minimization of Vegetation and Habitat Impacts), managing herbicide use and the introduction and spread of non-natives in disturbance areas (MM BIO-4 Integrated Weed Management Plan), and revegetating with native habitat (MM BIO-5 Vegetation Resources Management Plan). These measures would minimize direct disturbance, loss, degradation, and contamination of nesting, sheltering, and foraging habitat for threatened and endangered wildlife by keeping work activities within designated work areas. By implementing seeding and revegetation, soil decompaction, erosion control, and non-native control in disturbance areas, as directed in the IWMP and VRMP, soils would be stabilized, native vegetation would be re-established, and post-construction habitat values would be improved in the Project area. Management of herbicides in accordance with established protocols will prevent wildlife encounters with treated vegetation.

Per MM BIO-3, erosion control shall be implemented as described in the Drainage Erosion and Sedimentation Control Plan (DESCP) (MM HWQ-1), which requires identification of erosion treatments for exposed soil, such as chemical-based dust pallatives, soil bonding, and weighting agents suitable for use around vegetation. MM BIO-3 further requires compensation for impacts to desert pavement at a minimum ratio of 1:1. Additional BMPs to minimize erosion, as committed to by the Applicant and incorporated into the Project Description, are described in Section 2.7 and include designation of primary travel routes, limiting grading to specific areas, building racking material in laydown areas to minimize use of roads, using equipment with smaller rubber-wheeled vehicles, maintaining hydrologic flow patterns, and preserving propagule islands to support vegetation recovery.

In MM BIO-14 (Streambed and Watershed Protection) a series of BMPs would prevent or minimize significant effects to jurisdictional waters and streambed function, including measures that require cleanup of petroleum spills and buffers around equipment maintenance, spoil sites, and storage or use of hazardous materials. Equipment will not operate in ponding or flowing water, silt and pollutants will be prevented from entering ephemeral drainages, no equipment will be maintained within 150 feet of streambeds, and equipment will be placed over drip pans. These measures would prevent sedimentation, contamination, and pollution of jurisdictional waters from erosion of soils and use of hazardous fuels and herbicides. Maintaining natural drainage and vegetation under solar panels would further minimize impacts to jurisdictional waters from runoff and erosion. MM BIO-14 further requires compensation for impacts to desert dry wash woodland at a ratio of 5:1.

The Project is required to comply with DRECP CMAs for all Project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with the following CMAs, which would be required on BLM lands, as described in Impact BIO-1 and Impact BIO-5, would mitigate impacts to less than significant.

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-SVF-1 (Special Vegetation Features).
- LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).

The following CMAs describe protection for desert dry wash woodland. The Project design would avoid desert dry wash woodland with a 200-foot setback buffer, except for minor incursions, consistent with the CMAs (Section 2.7.3).

- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

The following CMA requires additional protection for jurisdictional waters.

- LUPA-BIO-9 (Water and Wetland Dependent Species Resources).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would prevent direct removal of sensitive habitat and jurisdictional features, and prevent degradation of habitat and waters in adjacent areas. CMA requirements for compensation for impacts to native habitats, including sensitive habitats and jurisdictional waters, would offset loss. BMPs for fueling, vehicle and equipment maintenance, spill cleanup, erosion control, and stabilizing disturbed areas would prevent sediment and toxic and hazardous materials from entering and degrading streams and washes and sensitive habitats.

With implementation of the mitigation measures on private lands and CMAs on BLM land, the proposed Project's contribution to cumulative impacts to sensitive habitats and jurisdictional waters would not be cumulatively considerable.~~Implementation of MMs, CMAs on BLM lands, and permitting requirements would reduce the impacts so that residual effects would be minimal.~~

Special-status plants. The proposed Project could affect special-status plants, identified in Impact BIO-1. No threatened or endangered plants were identified on the site. Several widespread special-status plants could be affected. The past, present, and future Projects would have similar impacts to special-status plants that occur in similar habitat types, resulting in in a cumulatively significant impact to regional special-status plants. The contribution of the Project would not be considerable because of the limited number of special-status plants on site, and ~~and~~ the implementation of mitigation measures on private lands and DRECP CMAs on BLM lands. ~~Mitigation measures identified under Impact BIO-1 would avoid and minimize the impacts so that residual effects would be minimal.~~

Direct and indirect impacts to special-status plants on private land in the Project site would be minimized by implementing MMs BIO-1 through BIO-5, which minimize direct disturbance, loss, degradation, and contamination of habitat by using qualified and trained staff, keeping work activities within designated work areas, and implementing re-vegetation and invasives management. By implementing seed and plant salvage, seeding and revegetation, soil decompaction, erosion control, and non-native control in disturbance areas, soils would be stabilized, native vegetation would be re-established, and post-construction habitat values would be improved in the Project area to support recovery of special-status plants.

The Project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations in any ROW Grant issued for the Project. Compliance with the following CMAs, which would be required on BLM lands and are described in detail in Impact BIO-1, would mitigate impacts to less than significant.

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-SVF-1 (Special Vegetation Features).
- LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

These CMAs require qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values and recovery of special-status plants. Avoidance of desert dry wash woodland with a 200-foot buffer, except for minor incursions as allowed by CMAs, would preserve habitat in the Project area and prevent degradation from disturbance in adjacent areas. Compensation for native habitat would offset habitat loss.

The following CMA would be implemented to minimize impacts to special-status plants:

- LUPA-BIO-PLANT-1 (Plant Species (PLANT): Plant Focus and BLM Special Status Species CMAs).

By identifying individual special-status plants in the Project area, they could be avoided or salvaged for post-construction re-vegetation, promoting recovery of habitat values.

With implementation of the mitigation measures on private lands and CMAs on BLM-administered land, the proposed Project's contribution to cumulative impacts to special-status plants would not be cumulatively considerable.

Special-status wildlife. Cumulative projects could result in direct impacts to special-status wildlife including injury or mortality resulting from crushing; displacement; loss of suitable habitat, burrows, dens, or nests; attraction of predators to food and water subsidies; encounters with work site hazards such as store materials, trenches, pits, or water tanks; vehicle strikes; and collision or electrocution from Project components. Noise and lighting could affect wildlife in adjacent habitats by disrupting foraging, breeding, sheltering, and other activities; or may cause wildlife to avoid otherwise suitable habitat surrounding the site. Habitat degradation would result in loss of suitable habitat for wildlife species. Herbicides that persist on site could injure wildlife that ingest target plants or come into contact with herbicides (e.g., by digging or rolling in treated soil).

Direct and indirect impacts to special-status wildlife on private land in the Project site would be minimized by implementing MMs BIO-1 through BIO-5, which minimize direct disturbance, loss, degradation, and contamination of habitat by using qualified and trained staff, keeping work activities within designated work areas, and implementing re-vegetation and invasives management. By implementing seed and plant salvage, seeding and revegetation, soil decompaction, erosion control, and non-native control in disturbance areas, soils would be stabilized, native vegetation would be re-established, and post-construction habitat values would be improved in the Project area to support recovery of special-status wildlife. MM BIO-6 would increase detection of wildlife that require avoidance in Project areas by requiring site inspections and managing hazards. Managing food and water subsidies would prevent attraction of predators to the Project site where there is increased likelihood of disturbance.

The Project has been designed to avoid desert dry wash woodland (except for minor incursions), per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1, which would preserve habitat values for special-status wildlife and offset habitat loss.

The Project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations in any ROW Grant issued for the Project. Compliance with the following CMAs, which would be required on BLM lands, as described in Impacts BIO-1 and BIO-2, would mitigate impacts to less than significant.

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, these CMAs reduce impacts to wildlife and habitat by requiring qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values for wildlife. Avoidance of desert dry wash woodland with a 200-foot setback buffer would prevent direct removal of sensitive habitat used by many wildlife species for foraging, shelter, breeding, and movement through the Project vicinity. A 200-foot setback would reduce degradation from disturbance in adjacent areas.

In addition to CMAs that protect wildlife habitat, the following CMAs would be implemented to minimize impacts to special-status wildlife that may be present:

- LUPA-BIO-4 (Seasonal Restrictions).
- LUPA-BIO-6 (Subsidized Predators Standards).
- LUPA-BIO-12 (Noise).
- LUPA-BIO-14 (Biology: General Standard Practices).
- LUPA-BIO-15 (Biology: General Standard Practices).
- DFA-BIO-IFS-1 to -3 (Biological Resources).

These CMAs reduce disturbance, injury, and mortality of wildlife species, by surveying and buffering for individuals, limiting work during species active seasons, and managing work site hazards and sources of disturbance.

With implementation of the mitigation measures on private lands and CMAs on BLM land, the proposed Project's contribution to cumulative impacts to special-status wildlife would not be cumulatively considerable.

In addition to the MMs and CMAs described for special-status wildlife, species-specific measures are presented below.

Crotch bumble bee. Suitable habitat for Crotch bumble bee is present on the Project site; however, the Easley site is east of the current range. The easternmost portion of the gen-tie line on the Oberon Project site overlaps with the historic range. Cumulative projects would impact similar desert scrub habitat, which may have potentially suitable habitat near the historic range. In addition to MMs BIO-1 to BIO-5 previously listed for Vegetation and Habitat, MM BIO-6 (Wildlife Protection) includes specific measures to protect Crotch bumble bee including worker training on identifying individuals, and adaptive management in coordination with CDFW if individuals or nests are detected during pre-construction surveys. Any nests detected would be buffered by the Lead Biologist and avoided until coordination with CDFW is completed. These measures would identify potential instances of Crotch bumble bee in the Project area and protect individuals from disturbance.

No additional species-specific CMAs are applicable to Crotch bumble bee beyond those previously described for all special-status wildlife species.

With implementation of the mitigation measures on private lands and CMAs on BLM land, the proposed Project's contribution to cumulative impacts to Crotch bumble bee would not be cumulatively considerable.

Desert tortoise. Suitable habitat is present throughout the southwestern portion of the Project area. The gen-tie line crosses through the adjacent Oberon Project site, which overlaps with a fragmented portion of USFWS-designated critical habitat. Desert tortoise sign (Class 4, Class 5 carcasses) were observed in and around desert dry wash woodland on the Project site. Most of the past, present, and foreseeable future projects in the vicinity would impact similar desert tortoise habitat and many of them could directly affect desert tortoises, as shown in Table 3.5-5 (Desert Tortoise Sign Key) and Table 3.5-6 (Desert Tortoise [DETO] Sign at Desert Center Solar Projects).

Table 3.5-5. Desert Tortoise Sign Key

Sign Type	Class 1	Class 2	Class 3	Class 4	Class 5
Burrow, pallet	currently active, with desert tortoise or recent desert tortoise sign	good condition, definitely desert tortoise; no evidence of recent use	deteriorated condition which includes collapsed burrows; definitely desert tortoise	good condition; possibly desert tortoise	deteriorated condition which includes collapsed burrows; possibly desert tortoise
Scat	wet (not from rain or dew) or freshly dried, obvious odor	dried, with glaze, some odor, dark brown	dried, no glaze or odor, signs of bleaching (light brown), tightly packed material	dried, light brown to pale yellow, loose material, scaly appearance	bleached, or consisting only of plant fiber
Carcasses, shell remains, and bone fragments	< 1 year, fresh putrid, scutes mostly adhered, sheen on exposed scutes, unexposed bone waxy and solid	1-2 years, scutes mostly adhered to bone, exposed scutes pale without sheen, unexposed bone silky	2-3 years, scutes peeling off bone, unexposed scutes pale and without sheen, no growth ring peeling	4 years, shell bone falling apart, growth rings on scutes peeling; bone fissured	> 4 years, disarticulated and scattered

Source. Easley Biological Resources Technical Report; Ironwood, 2023

Table 3.5-6. Desert Tortoise (DETO) Sign at Desert Center Solar Projects

Project (Survey Dates)	**Easley[1] (2021/2022)** Dev. Footprint	**Easley[1] (2021/2022)** Avoidance Area	**Oberon[2] (2018/2019/2020)** Dev. Footprint	**Oberon[2] (2018/2019/2020)** Avoidance Area	**Victory Pass[3] (2019/2020)**	**Arica (2019)**	**Athos (2017/2018)**	**Desert Harvest[4] (2010)**	**Sapphire (2022)**	**TOTAL ALL PROJECTS**
DETO Sign Type										
Live individuals	-	-	1	2	5	-	-	-	-	8
Live individuals at burrow	-	-	-	3	-	-	-	-	-	3
Tracks	-	-	1	6	-	-	1	-	-	8
Non-viable intact tortoise egg	-	-	1	-	-	-	-	-	-	1
BURROW										
Class 1	-	-	-	4	4	-	-	-	-	8
Class 2	-	-	1	2	2	-	1	1	-	7
Class 3	-	-	3	4	2	-	4	1	-	14
Class 4	-	-	1	1	-	-	4	-	-	6
Class 5	-	-	-	-	1	-	-	-	-	1

	Easley[1] (2021/2022)		**Oberon[2] (2018/2019/2020)**							
Project (Survey Dates)	Dev. Footprint	Avoidance Area	Dev. Footprint	Avoidance Area	**Victory Pass[3] (2019/2020)**	**Arica (2019)**	**Athos (2017/2018)**	**Desert Harvest[4] (2010)**	**Sapphire (2022)**	**TOTAL ALL PROJECTS**
PALLET										
Class 1	-	-	-	-	1	-	-	-	-	1
Class 2	-	-	-	-	1	-	-	-	-	1
Class 3 (none)	-	-	-	-	-	-	-	-	-	0
Class 4 (none)	-	-	-	-	-	-	-	-	-	0
Class 5	-	-	-	2	-	-	-	-	-	2
SCAT										
Class 1	-	-	-	-	1	-	1	-	-	2
Class 2	-	-	-	1	-	-	-	-	-	1
Class 3	-	-	-	-	1	-	-	-	-	1
Class 4 (none)	-	-	-	-	-	-	-	-	-	0
Class 5	-	-	1	1	-	-	-	-	-	2
CARCASS										
Class 1	-	-	-	-	1	-	-	-	-	1
Class 2 (none)	-	-	-	-	-	-	-	-	-	0
Class 3	-	-	-	1	-	-	-	-	-	1
Class 4	1	1	-	1	-	1	-	-	-	4
Class 5	-	7	4	7	-	-	-	3	2	23
TOTAL DETO SIGN	**1**	**8**	**13**	**35**	**19**	**1**	**11**	**5**	**2**	**95**

NOTES:
1 - Easley: Two Class 5 carcasses were located outside the Project Area, adjacent to BLM land.
2 - Oberon: Observed live individuals were all adults. Class 3 carcass was an unknown tortoise species.
3 - Victory Pass: Observed live individuals were all adults; 2 females, 3 males.
4 - Desert Harvest: Three Class 5 bone fragments (carcass), possibly of tortoise origin, were found and may have been washed onto the site from upstream. Due to their old age, highly weathered surfaces and edges, and the small size of the fragments, assigning them definitively to tortoise was not possible.

Due to the number and size of the cumulative projects, they would result in a cumulatively significant impact. Mitigation measures identified in this EIR under Impact BIO-2, implementation of DRECP CMAs on BLM-administered land, and other permitting requirements would prevent lethal take of desert tortoise and avoid and minimize impacts to its habitat on the Easley Project site.

The surrounding projects would be subject to similar CEQA and/or NEPA mitigation measures, permitting requirements, biological resources management plans, and DRECP CMAs (for projects on BLM-administered land), which would have been developed to minimize impacts to habitat and prevent lethal take of desert tortoise. In addition, if any live desert tortoises are found on the Easley ~~and~~ or Oberon sites, they would be relocated or translocated in accordance with the Easley Desert Tortoise Protection and Translocation Plan (MM BIO-7) (~~Aspen, 2023~~EIR Appendix P) and the Oberon Desert Tortoise Protection and Translocation Plan (Aspen, 2022). Desert tortoises would be moved offsite when encountered during both construction and operation if suitable habitat is not available nearby. Compensation for impacts to suitable desert tortoise habitat (creosote bush scrub) at a minimum ratio of 1:1, and compensation for impacts to desert tortoise habitat at a ratio of 5:1, would offset habitat loss (MM BIO-7). Implementation of a Wildlife Protection and Relocation Plan (MM BIO-13) would protect individuals and burrows with buffers to avoid direct injury and mortality. Passive exclusion of individuals would prevent entrapment during construction, avoid the need for handling, and avoid direct injury and mortality. Collapsing inactive burrows prevents further use to avoid future risk to the species from construction in the Project area.

By following agency protocols for tortoise surveying, handling, and relocating, and by using qualified and permitted biological staff, individual desert tortoise would be detected for avoidance and monitoring, and mortality and injury during construction, handling, and relocation would be reduced. By implementing the associated Raven Management Plan (MM BIO-7) (Appendix Q), attractants for opportunities predators, such as food, water, trash, roadkill, and perching opportunities, would be identified, managed, and reduced.

The Project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations in any ROW Grant issued for the Project.

In addition to CMAs previously listed for habitat and all special-status wildlife species, compliance with the following CMAs, which would be required on BLM lands, as described Impact BIO-2, would mitigate impacts to less than significant.

- LUPA-BIO-IFS-1 to -9 (Individual Focus Species (IFS): Desert Tortoise)
- DFA-VPL-BIO-IFS-1 (Individual Focus Species (IFS): Desert Tortoise).

Similar to the mitigation measures on private lands, these measures are expected to effectively avoid lethal take of desert tortoise by avoiding disturbance of individuals, protecting them from work site hazards, identifying and collapsing empty burrows, and passively excluding them from the Project area.

In compliance with the BLM DRECP CMAs, the Easley, Oberon, Arica, and Victory Pass Projects will avoid suitable desert dry wash woodland habitat with a 200-foot buffer throughout the Project sites, except for minor incursion (LUPA-BIO-3 (Resource Setback Standards), LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species), LUPA-BIO-SVF-6 (Special Vegetation Features). Future projects on BLM-administered land in the Desert Center area would likewise be subject to the same DRECP CMAs to protect the hydrologic function and species habitat ~~of the~~in desert dry wash woodland areas. If approved, the proposed expansion of Joshua Tree National Park and creation of the Chuckwalla National Monument would strengthen and expand protection of critical habitat to the west of Kaiser Road and south of I-10. ~~The Project's contribution to cumulative impacts to desert tortoise and its critical habitat would not be considerable.~~

With implementation of the mitigation measures on private lands and CMAs on BLM land, and for the reasons provided above, the proposed Project's contribution to cumulative impacts to desert tortoise would not be cumulatively considerable.

Native birds, including special-status passerine birds. Migratory birds are expected to occur throughout the area during construction and O&M. Land use conversion in the Project area and in other of the cumulative projects would result in habitat loss and degradation, displacement, decreased foraging activities, and potentially disruption or failure of nesting, increased predation, or mortality. Solar panels and the gen-tie line of the proposed Project as well as other solar PV projects may cause electrocution and collision hazards, such as a "lake effect," leading to bird mortality. Taken together, the projects would result in a cumulatively significant impact for native birds. ~~The proposed Project's impacts would be mitigated through pre-construction surveys, avoidance of active nests, and O&M phase adaptive management for bird mortality, as described in MM BIO-8 (Bird and Bat Conservation Strategy).~~

In addition to MMs previously listed for all special-status wildlife, to mitigate effects to native birds on the Easley site, MM BIO-8 (BBCS) requires the development a BBCS Plan that would identify potential hazards to birds and bats during construction and O&M. The Plan (see Appendix M) specifies measures to recognize, minimize, and avoid hazards, describe procedures for reporting and handling dead or injured wildlife, and describe post-construction monitoring and adaptive management for bird and bat mortality. Hazards may include collision, electrocution, territory abandonment, nest and roost site disturbance, habitat loss and fragmentation, disturbance from human presence, and predator subsidies, in accordance with USFWS guidelines (USFWS, 2010). The plan requires provisions for adaptive management to evaluate the death and injury of birds that are detected, based on the results of similar monitoring at other solar project sites in the vicinity. By implementing the requirements of the BBCS, injury and mortality from work site and Project related risks, and operation of the solar facilities, such as collision and electrocution, would be adaptively managed and reduced.

MM BIO-9 would protect nesting birds by implementing a Nesting Bird Management Plan (NBMP) (Appendix O), which requires pre-construction nest surveys and sweeps, establishment of exclusion buffers around active nests and nest monitoring, and agency reporting and adaptive management. Surveys, exclusion buffers, and monitoring would protect nesting birds from direct mortality or injury; avoid direct destruction of nests, eggs, and young; and minimize disturbance of nesting behaviors from construction noise, vibrations, dust, lighting, and increased human presence, which could otherwise result in nest abandonment.~~Natural habitat loss would be minimized and offset through mitigation measures identified under Impact BIO-1.~~

MM BIO-10 (Gen-tie Lines) would require mechanisms in accordance with APLIC standards (APLIC 2006, 2012) to visually warn birds such as permanent markers or bird flight diverters; avoid or minimize use of guy wires; and maintain sufficient distance between all conductors and grounded components to prevent electrocution of large birds. By implementing these design features, injury and mortality from electrocution would be minimized.

In addition to CMAs previously detailed for all special-status wildlife species, the following CMAs would be implemented to minimize impacts to native birds on BLM land in the Project site:

- LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs).
- LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species).
- LUPA-BIO-COMP-2 (Compensation (Birds and Bats)).
- LUPA-BIO-IFS-11 (Bendire's Thrasher).
- LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources).

By identifying potential hazards to birds and bats during construction and O&M, and monitoring for injury and mortality from work site and Project related hazards such as collision and electrocution, implementation of these CMAs on BLM land would ensure that impacts are adaptively managed and reduced. Protecting nesting birds would avoid direct mortality or injury, destruction of nests, eggs, and young, and disturbance of nesting behaviors from construction.

The incremental contribution of the proposed Project to the cumulative impacts to native bird habitat and nesting success would not be considerable because pre-construction nesting bird surveys would be performed to avoid impacts, and native habitat ~~loss~~ would be ~~offset~~re-vegetated and managed post-construction. ~~Regarding~~ To reduce potential collision with the solar facilities or gen-tie line, MM BIO-8 (Bird and Bat Conservation Strategy) and CMA LUPA-BIO-16 and -17 (Activity-Specific Bird and Bat CMAs), would require adaptive management based on Project related risks and monitoring of bird mortality at surrounding solar projects. MM BIO-~~9~~ 10 (Gen-tie Lines) and CMA LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources) would require mechanisms to visually warn birds such as permanent markers or bird flight diverters and maintain sufficient distance between all conductors and grounded components to prevent electrocution.

With implementation of the Project's mitigation measures on private lands and CMAs on BLM lands, the contribution to cumulative impacts to native bird populations from the proposed solar facilities would not be cumulatively considerable.

Burrowing owl. Potential impacts of the solar facilities to burrowing owl include habitat loss or degradation, possible injury or mortality if they are present in a work area, particularly during nesting season, and possible mortality from collision with facilities, as described above for native birds. Other projects in the vicinity include transmission lines and solar energy projects with similar habitat for burrowing owl. Effects of the other projects would be similar to potential effects of the proposed Project. Together these projects would result in significant impacts to habitat and mortality of burrowing owls. In addition to MMs previously listed for all special-status wildlife, MM BIO-11 (Burrowing Owl Avoidance and Relocation) and MM BIO-13 (Wildlife Protection and Relocation Plan) are expected to effectively avoid lethal take of burrowing owls by surveying for individuals according to established protocols, avoiding disturbance of individuals and nests in the Project site and surrounding buffer areas, protecting them from work site hazards, and passively excluding them from the Project area.

In addition to the CMAs previously listed for all special-status wildlife species, the following CMAs would be implemented on BLM land within the Project site to minimize impacts to western burrowing owl:

- LUPA-BIO-IFS-12 to -14 (Burrowing Owl).

Similar to the mitigation measures implemented on private lands, these measures are expected to avoid take of burrowing owls by surveying per protocols, avoiding disturbance, managing work site hazards, and passively excluding them from the Project area.

The incremental contribution of the proposed Project to the cumulative impacts to burrowing owls, including habitat loss, construction-related mortality, or collision morality, would not be considerable because mitigation measures would be implemented on private lands and CMAs would be implemented on BLM lands, individuals would be relocated to an off-site location prior to construction, and potential collision would be mitigated as described above for native birds.

Special-status raptors, including golden eagle. Marginal nesting habitat for elf owl is present. The site provides suitable seasonal or year-round foraging habitat for several raptor species, including Swainson's hawk~~,~~ described under Impact BIO-1, and is within potential foraging distance of known golden eagle nesting territories. Several raptors are likely to forage infrequently on the solar facility site at any time of year, including winter and migration seasons. Effects of the other projects in the vicinity would be similar to potential effects of the proposed Project. Cumulatively, these projects could result in significant impact to foraging due to habitat loss.

In addition to MMs previously listed for all special-status wildlife, MM BIO-8 (Bird and Bat Conservation Strategy), as previously described, requires implementation of a BBCS (Appendix M) to identify, minimize, and avoid Project related hazards to birds and bats, provide procedures for handling and reporting dead and injured wildlife, and describe a strategy for post-construction adaptive management for bird and bat mortality associated with the Project. By implementing the requirements of the BBCS, instances of raptor injury and mortality associated with solar facilities would be adaptively managed and impacts would be minimized. MM BIO-9 (Nesting Bird Management Plan) (Appendix O) requires performing pre-construction nest surveys and implementing buffers and monitoring around active nests, which would protect nesting raptors from disturbance due to increased noise, dust, vibration, and human presence and from direct destruction of nests, eggs, and young.

MM BIO-10 (Gen-tie Lines) would require mechanisms in accordance with APLIC standards (APLIC 2006, 2012) to visually warn birds such as permanent markers or bird flight diverters; avoid or minimize use of guy wires; and maintain sufficient distance between all conductors and grounded components to prevent electrocution of large birds. By implementing these design features, injury and mortality from electrocution would be minimized.

In addition to the CMAs previously described for all special-status wildlife species, the following CMAs would be implemented on BLM land within the Project site to minimize impacts to raptors:

- LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs).
- LUPA-BIO-COMP-2 (Compensation (Birds and Bats)).
- LUPA-BIO-IFS-25 (Golden Eagle).
- DFA-BIO-IFS-2 (Biological Resources).
- LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources).

By identifying potential hazards to birds and bats during construction and O&M, and monitoring for injury and mortality from work site and Project related hazards such as entrapment, collision, and electrocution, implementation of these CMAs on BLM land would ensure that impacts are adaptively managed and reduced. Protecting nesting birds would avoid direct mortality or injury, destruction of nests, eggs, and young, and disturbance of nesting behaviors from construction. Species-specific setbacks would ensure that protected raptors are appropriately buffered to avoid disturbance, injury, or mortality.

The incremental contribution of the proposed Project to the cumulative impacts to special-status raptors would not be considerable~~,~~ because mitigation measures would be implemented on private lands and CMAs would be implemented on BLM lands, native habitat loss would be minimized and potential ~~collision~~ hazards would be adaptively managed and mitigated ~~as described above for native birds~~.

Desert kit fox and American badger. Active desert kit fox burrows and American badger burrows occur on the Project site. Both species could use native habitats, wherever prey animals may be present. Both species are expected to occur on the cumulative project sites and loss of the habitat and prey species could result in a significant cumulative impact. Mitigation measures identified under Impact BIO-1 would ~~offset~~ minimize habitat loss and prevent or minimize wildlife injury and mortality. In addition to MMs previously listed for all special-status wildlife, MM BIO-12 (Desert Kit Fox and American Badger Relocation) and MM BIO-13 (Wildlife Protection and Relocation Plan) are expected to effectively avoid lethal take of desert kit fox and American badger by performing pre-construction surveys for individuals according to established protocols, avoiding disturbance of individuals and nests in the Project site and surrounding buffer areas, protecting them from work site hazards, and passively excluding them from the Project area. Identification of individuals and avoidance of active dens would minimize disturbance of American badger and desert kit fox. Passive exclusion of individuals from dens would prevent entrapment during construction and avoid direct injury and mortality. ~~Pre-construction surveys would be performed to exclude both species from work sites.~~

No additional species-specific CMAs are applicable to desert kit fox and American badger beyond those previously listed for all special-status wildlife species.

The incremental contribution of the proposed Project to the cumulative impacts to these species would not be considerable because mitigation measures would be implemented on private lands and CMAs would be implemented on BLM lands, individuals would be relocated out of harm's way to an off-site location and native habitat loss would be minimized.

Burro deer. The principal potential impacts to burro deer would be reduced access to dependable irrigation water at agricultural sites. Burro deer are expected to occur on the cumulative project sites and loss of native habitat and access to water sources could result in a significant cumulative impact. Mitigation measures previously listed for Vegetation and Habitat (MM BIO-1 to MM BIO-5), ~~identified under Impacts BIO-1 and BIO-3~~ would minimize~~offset~~ habitat loss and ~~minimize~~ impacts to wildlife movement by restricting disturbance to work areas and improving post-construction habitat values.

Desert dry wash woodland would be avoided, except for minor incursions, per the Project Description, and compensatory mitigation for desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7) would preserve habitat values for burro deer in the Project area and offset habitat loss consistent with CMAs LUPA-BIO-RIPWET-1 and LUPA-BIO-COMP-1.~~.~~

No additional species-specific CMAs are applicable to burro deer beyond those previously listed for all special-status wildlife species.

The incremental contribution of the proposed Project to the cumulative impacts to burro deer would not be considerable because mitigation measures would be implemented on private lands and CMAs would be implemented on BLM lands, no take would occur, and desert dry wash woodland used for wildlife movement would be avoided.

Special-status bats. Construction of the Project could adversely impact special-status bats through the conversion of desert shrubland foraging habitat Desert dry wash woodland that may support limited roosting sites would be avoided. Removal of those features could disturb, injure, or kill bats. Mitigation measures identified under Impact BIO-1 would minimize ~~and offset~~ habitat loss, inspect structures and remove wildlife or allow wildlife to escape prior to demolition, and require pre-construction surveys or scheduling of tree removal outside the bat maternal roosting season.

In addition to MMs previously listed for all special-status wildlife, MM BIO-8 (Bird and Bat Conservation Strategy) requires a project-specific risk assessment to address potential for take of birds and bats due to Project related threats including collision, electrocution, territory abandonment, nest and roost site disturbance, habitat loss and fragmentation, disturbance from human presence, and predator subsidies. The plan further describes a strategy for post-construction adaptive management for bird and bat mortality associated with the Project. By implementing the requirements of the BBCS, instances of bat injury and mortality associated with solar facilities would be adaptively managed and impacts would be minimized.

In addition to the CMAs previously listed for all special-status wildlife species, the following CMAs would be implemented on BLM land within the Project site to minimize impacts to bats:

- LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs).
- LUPA-BIO-BAT-1 (Bat Species (BAT)).
- LUPA-BIO-COMP-2 (Compensation (Birds and Bats)).

These measures would minimize and avoid disturbance, injury, and mortality of bats by identifying, monitoring, and managing project related risks and are ~~These measures are~~ expected to effectively minimize potential impacts to special-status bats ~~and to offset habitat loss~~.

Cumulative projects would also convert desert shrubland foraging habitat and remove roost sites, resulting in a significant cumulative impact to special-status bats. These projects would implement mitigation measures and DRECP CMAs, as applicable, similar to those identified for the proposed Project, including offsite compensation for native habitats, avoidance of active roosts, avoidance of desert dry wash woodland, and Bird and Bat Conservation Strategies. The incremental contribution of the proposed Project to the cumulative impacts to special-status bats would not be considerable because mitigation measures would be implemented on private lands and CMAs would be implemented on BLM lands, desert dry wash woodland habitat would persist on the Project site, native habitat loss would be minimized, and potential collision would be adaptively managed ~~mitigated~~ as described above for native birds.

Wildlife movement. Cumulative impacts for wildlife movement consider projects within 5 miles that could impact multi-species linkages. Past, present, and foreseeable projects are listed in Tables 3.1-1 and 3.1-2 and include the SCE Red Bluff Substation and Oberon Solar Project to the south, the Sapphire, Palen, Arica, and Victory Pass Solar Projects to the east, the Athos Solar Project to the north and east, and the Desert Harvest, Desert Sunlight to the north. Together with the other solar projects in the surrounding area, cumulative impacts to wildlife movement in the vicinity of the Project area would be significant. The southernmost portion of the DRECP Pinto Wash multi-species linkage overlaps the northern Project area, a portion of which would be impacted by the proposed Project. The avoided portion of the linkage on the Easley Project site supports desert dry wash woodland. Avoidance of this habitat would help maintain movement opportunities east-west through the southern portion of the linkage. Undeveloped lands would persist in the remainder of the multi-species linkage to the north, in ACECs located east and south of the Project site, and if approved by Congress, in the areas of the proposed expansion of Joshua Tree National Park and the Chuckwalla National Monument to the west and south. In combination with avoidance of desert dry wash woodland on BLM lands under the DRECP, and at other cumulative projects, limited wildlife movement through and around the Project would be maintained.

On private lands, MMs BIO-1 through BIO 5, described in detail in Impact BIO-1, would minimize significant impacts to native vegetation, including corridor habitat, by restricting disturbance to work areas, promoting low impact development and preserving vegetation under solar panels, and improving post-construction habitat values. MM BIO-6 (Wildlife Protection) identifies numerous requirements to manage hazards to wildlife in work areas and report dead or injured wildlife. These measures would increase detection of wildlife in Project areas that require avoidance and would prevent attraction to the Project site where there is increased likelihood of disturbance.

MMs BIO-7 through BIO-13 would prevent significant impacts to specific special-status wildlife species and nesting or breeding sites by requiring specific pre-construction surveys and nesting surveys, species protection plans, passive exclusion of wildlife from work areas or relocation or translocation of certain species away from the area, and avoidance of buffer areas while bird nests and occupied burrows and dens are active.

These measures ensure that work areas would be inspected and surveyed, and that special-status wildlife would be identified, monitored, buffered and avoided, or properly excluded or relocated, which is expected to reduce the likelihood and severity of injury, and the likelihood of mortality of wildlife with potential to move through the Project areas or use the site for breeding or rearing of young.

The Project has been designed to avoid desert dry wash woodland (except for minor incursions), per the Project Description, and compensatory mitigation (desert dry wash woodland at a ratio of 5:1 (MM BIO-14), desert pavement at a ratio of 1:1 (MM BIO-3), creosote bush scrub (suitable desert tortoise habitat) at a ratio of 1:1 (MM BIO-7), and desert tortoise critical habitat at a ratio of 5:1 (MM BIO-7)) would preserve habitat values and corridors for wildlife movement and would offset habitat loss, consistent with CMAs LUPA-BIO-RIPWET-1 and LUPA-BIO-COMP-1.

Long-term night lighting that could affect nocturnal and other wildlife and wildlife movement would be managed per MM VIS-1 (see EIR Section 3.2, Aesthetics).

The project is required to comply with DRECP CMAs for all project activities and development on BLM land. The BLM is expected to ensure project-specific CMA compliance through imposition of NEPA mitigation measures and stipulations of the ROW Grant issued for the Project. Compliance with the following CMAs, which would be required on BLM lands, as described in Impact BIO-3, would mitigate impacts to less than significant.

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-SVF-1 (Special Vegetation Features).
- LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).

Similar to the requirements of the MMs that would be implemented on private land within the Project site, these CMAs reduce impacts to wildlife and habitat by requiring qualified biological staff to perform species and pre-construction surveys, worker training, and monitoring to detect and identify biological resources for demarcation and avoidance. Implementation of plant and seed salvage, re-vegetation, and weed management would improve post-construction habitat values. Avoidance of desert dry wash woodland with a 200-foot setback buffer would prevent direct removal of wildlife and corridor habitat.

Per LUPA-BIO-13 (General Siting and Design) projects along the edges of the biological linkages are required to maximize the retention of microphyllous woodlands in order to maintain the function of the connectivity area. By avoiding desert dry wash woodland with a setback buffer, consistent with CMAs, Project areas would be left open to wildlife movement and the Project would not threaten the long-term viability and function of the corridor.

The Project's contribution to cumulative impacts to wildlife movement would not be considerable.

Local policies and ordinances. All cumulative projects are subject to environmental review and approval by federal, State, or local agencies. During that process, the agencies review the applicable polices and ensure that each project complies with policies and ordinances, and impose conditions as appropriate to ensure compliance. Therefore, there is no significant cumulative conflict with local policies and ordinances. The proposed Project does not conflict with local policies or ordinances and thus has no contribution to any cumulative conflict. Cumulative impacts to policies and ordinances would be less than significant.

Mitigation Measures for Cumulative Impacts

Mitigation Measures BIO-1 through MM BIO-~~12~~ 14, detailed in full in Section 3.5.7, would be implemented on private land in the Project site to address potential biological resources impacts for the proposed Project and ~~Lake Tamarisk Alternative~~all alternatives. No additional mitigation is required.

DRECP CMAs for Cumulative Impacts

CMAs identified in the analysis above would be implemented on BLM land in the Project site to address potential biological resources impacts for the proposed Project and alternatives.

- LUPA-BIO-1 (Biological Resources).
- LUPA-BIO-2 (Biological Resources).
- LUPA-BIO-5 (Worker Education).
- LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but not Converted by Long-Term Disturbance).
- LUPA-BIO-10 (Standard Practices for Weed Management).
- LUPA-BIO-11 (Nuisance Animals and Invasive Species).
- LUPA-BIO-13 (General Siting and Design).
- LUPA-BIO-SVF-1 (Special Vegetation Features).
- LUPA-BIO-VEG-1 to -3 and LUPA-BIO-VEG-5 to -6 (General Vegetation Management).
- LUPA-BIO-3 (Resource Setback Standards).
- LUPA-BIO-RIPWET-1 (Other Riparian & Wetland Focus Species).
- LUPA-BIO-SVF-6 (Special Vegetation Features).
- LUPA-BIO-COMP-1 (Compensation) and DFA-VPL-BIO-COMP-1 (Biological Compensation).
- LUPA-BIO-4 (Seasonal Restrictions).
- LUPA-BIO-6 (Subsidized Predators Standards).
- LUPA-BIO-12 (Noise).
- LUPA-BIO-14 (Biology: General Standard Practices).
- LUPA-BIO-15 (Biology: General Standard Practices).
- DFA-BIO-IFS-1 to -3 (Biological Resources).
- LUPA-BIO-9 (Water and Wetland Dependent Species Resources)
- LUPA-BIO-16 to -17 (Activity-Specific Bird and Bat CMAs)
- LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species)
- LUPA-BIO-BAT-1 (Bat Species (BAT))
- LUPA-BIO-COMP-2 (Compensation (Birds and Bats))
- LUPA-BIO-IFS-11 (Bendire's Thrasher)
- LUPA-BIO-IFS-12 to -14 (Burrowing Owl)
- LUPA-BIO-IFS-25 (Golden Eagle)
- LUPA-TRANS-BIO-1, -2, and -4 (Biological Resources)
- LUPA-BIO-IFS-1 to -9 (Individual Focus Species (IFS): Desert Tortoise)
- DFA-VPL-BIO-IFS-1 (Individual Focus Species (IFS): Desert Tortoise)

Significance After Mitigation

With implementation of the mitigation measures described above on private land within the Project site and implementation of the CMAs described above on BLM land within the Project site, ~~T~~the Project's contribution to cumulative impacts would not be cumulatively considerable. ~~with implementation of mitigation identified above.~~

3.5.7. Mitigation Measures

MM BIO-1 **Biological Monitoring**. Monitoring to ensure conformance with conditions of approval, including effective protection and avoidance of biological resources, shall be implemented by the Applicant as follows:

Biological Monitoring Team**.** During construction and decommissioning, the Applicant shall employ a biological monitoring team to oversee Project activities. Any activity that may impact vegetation, wildlife, and sensitive resources shall be monitored to ensure compliance with all mitigation measures for biological resources.

The biological monitoring team shall consist of:

- *Lead Biologist:* The Applicant shall assign a Lead Biologist, approved by Riverside County, BLM, CDFW, and USFWS as the primary point of contact for the BLM and resource agencies regarding biological resources mitigation and compliance. The Lead Biologist shall have an approved MOU with Riverside County prior to commencing work on the Project.
- *Biological Monitor:* Biological monitors shall be overseen by the Lead Biologist and shall perform any required surveys, ground disturbance and construction monitoring, wildlife monitoring, inspections, marking sensitive resource buffers, and revegetation monitoring during Project activities. Biological monitors shall include trained desert tortoise monitors (MM BIO-7) and nest monitors (MM BIO-8).
- *Authorized Desert Tortoise Biologist:* For desert tortoise protection measures (MM BIO-7), the Applicant shall nominate a qualified individual to serve as Authorized Desert Tortoise Biologist, for approval by the USFWS and CDFW.

The Applicant shall provide the resumes of the proposed Biological Monitoring Team to the BLM and Riverside County for approval prior to onset of ground-disturbing activities. The Biological Monitoring Team shall have demonstrated expertise with the biological resources within the Project region. The Biological Monitoring Team shall have authority to halt any activities in any area if it is determined that the activity, if continued, would cause an unauthorized adverse impact to biological resources.

The duties of the Biological Monitoring Team shall vary during the construction, O&M, and decommissioning phases, based on the biological monitoring tasks needed for compliance during each phase. During O&M, an Applicant staff member serving as a compliance manager may perform the duties of the Lead Biologist to ensure compliance with biological mitigation measures, such as performing inspections for entrapped wildlife and fence condition, reporting dead or injured wildlife, ~~and~~ avoiding nesting birds, and inspections of panel washing. The Applicant's compliance manager, if serving as Lead Biologist during O&M, shall have an approved MOU with Riverside County prior to commencing Lead Biologist duties on the Project.

In general, the duties of the Lead Biologist shall include, but shall not be limited to:

- Regular, direct communication with representatives of the BLM, and other agencies, as appropriate. The Lead Biologist, or during O&M, the Applicant's compliance manager, shall immediately notify the BLM and applicable resource agencies in writing of dead or injured special-status species, or of any non-compliance with biological mitigation measures or permit conditions.
- Train and supervise Biological Monitors, including desert tortoise monitors, nest monitors, and construction monitors.
- Conduct or oversee Worker Environmental Awareness Program (WEAP) training (MM BIO-2).
- During construction and decommissioning, clearly mark and inspect sensitive biological resource areas in compliance with regulatory terms and conditions.
- Oversee wildlife clearance surveys, ground disturbance and grading, and biological monitoring. Ensure that all biological monitoring is completed properly and on schedule.

- Conduct or oversee bi-weekly compliance inspections during ground-disturbing activities and communicate any remedial actions needed (i.e., trash, fence, weed maintenance; wildlife mortality) to maintain compliance with mitigation measures.

Reporting. The Lead Biologist, or during O&M, the Applicant's compliance manager, shall report regularly to the BLM and Riverside County to document the status of compliance with biological mitigation measures.

During construction and decommissioning:

- Provide weekly verbal or written updates to the BLM with any information pertinent to the BLM and Riverside County, to resource agencies, or to state or federal permits for biological resources.
- Prepare and submit monthly and annual compliance reports to include a summary of Project activities that occurred, biological resources surveys and monitoring that were performed, any sensitive or noteworthy species observed, weed infestations removed, and non-compliance issues and remedial actions that were implemented.

During O&M:

- Conduct quarterly compliance inspections and reporting, to be submitted to the BLM and Riverside County, to document the condition of exclusion fencing, wildlife mortality, and any biological resource issues of note.

MM BIO-2 **Worker Environmental Awareness Training.** The Lead Biologist shall prepare and implement a Worker Environmental Awareness Program (WEAP). The Applicant shall be responsible for ensuring that all workers at the site receive WEAP training prior to beginning work on the Project and throughout construction and operations. The WEAP shall be available in English and Spanish. The Applicant shall submit the WEAP to the lead agency and resource agencies for approval prior to implementation. The WEAP will:

- Be developed by or in consultation with the Lead Biologist and consist of an on-site or training center presentation with supporting written material and electronic media, including photographs of protected species, available to all participants.
- Provide an explanation of the function of flagging that designates authorized work areas; specify the prohibition of soil disturbance or vehicle travel outside designated areas.
- Discuss general safety protocols such as vehicle speed limits, hazardous substance spill prevention and containment measures, and fire prevention and protection measures.
- Review mitigation and biological permit requirements.
- Explain the sensitivity of the vegetation and habitat within and adjacent to work areas, and proper identification of these resources.
- Discuss the federal and state Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act and the consequences of non-compliance with these acts.
- Discuss the locations and types of sensitive biological resources on the Project site and adjacent areas and explain the reasons for protecting these resources.
- Inform participants that no snakes, other reptiles, birds, bats, or any other wildlife shall be harmed or harassed.

- Place special emphasis on species that may occur on the Project site and/or gen-tie lines, including special-status plants, Crotch bumble bee, desert tortoise, burrowing owl, golden eagle, nesting birds, desert kit fox, American badger, and burro deer.
- Specify guidelines for avoiding rattlesnakes and reporting rattlesnake observations to ensure worker safety and avoid killing or injuring rattlesnakes. Rattlesnakes should be safely removed from the work area using appropriate snake handling equipment, including a secure storage container for transport, or by calling local animal control.
- Describe workers' responsibilities for avoiding the introduction of invasive weeds onto the Project site and surrounding areas, describe the Integrated Weed Management Plan.
- Provide contact information for the Lead Biologist and instructions for notification of any vehicle-wildlife collisions or dead or injured wildlife species encountered during Project-related activities.
- Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines.
- Desert Tortoise Education Requirements: Prior to the start of construction activities, a desert tortoise education program shall be presented by the Lead Biologist to all personnel who will be present on Project work areas. Following the start of construction, any new employee shall be required to complete the tortoise education program prior to working on site. At a minimum, the tortoise education program shall cover the following topics:
  (a) A detailed description of the desert tortoise, including color photographs;
  (b) The distribution and general behavior of the desert tortoise;
  (c) Sensitivity of the species to human activities;
  (d) The protection the desert tortoise receives under the state and federal Endangered Species Acts, including prohibitions and penalties incurred for violation;
  (e) The protective measures being implemented to conserve the desert tortoise during construction activities;
  (f) Procedures and a point of contact if a desert tortoise is observed on site.

MM BIO-3 **Minimization of Vegetation and Habitat Impacts.** Prior to ground-disturbing activities during construction, O&M, or decommissioning, authorized work areas shall be clearly delineated and sensitive resources that require avoidance would be flagged by the Lead Biologist. These areas shall include, but not be limited to, staging areas, access roads, and sites for temporary placement of construction materials and spoils. Delineation may be implemented with common orange vinyl "fencing" or staking to clearly identify the limits of work and will be verified by the Lead Biologist. No paint or permanent discoloring agents shall be applied to rocks or vegetation (to indicate surveyor construction activity limits or for any other purpose). Fencing/staking shall remain in place for the duration of construction. Spoils shall be stockpiled in disturbed areas. All disturbances, vehicles, and equipment shall be confined to the fenced/flagged areas.

Construction activities shall minimize soil and vegetation disturbance and onsite construction/vehicle trips to minimize impacts to soil and root systems. Erosion control shall be implemented as described in the Drainage Erosion and Sedimentation Control Plan (DESCP) (MM HWQ-1), which requires identification of erosion treatments for exposed soil, such as chemical-based dust pallatives, soil bonding, and weighting agents suitable for use around vegetation. Additional BMPs, as committed to by the Applicant and incorporated into the Project Description, are described in Section 2.7 and include designation of primary travel routes, limiting grading to specific areas, building racking material in laydown areas to minimize use of roads, using equipment with smaller rubber-wheeled vehicles, maintaining hydrologic flow patterns, and preserving propagule islands to support vegetation recovery.

Upon completion of construction activities in any given area, all unused materials, equipment, staking and flagging, and refuse shall be removed and properly disposed of, including wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, and metal or plastic containers. Any unused or leftover hazardous products shall be properly disposed of off-site in accordance with applicable legal requirements.

Hazardous materials shall be handled in accordance with applicable legal requirements, and spills or leaks shall be promptly corrected and cleaned up according to applicable legal requirements. Vehicles shall be properly maintained to prevent spills or leaks. Hazardous materials, including motor oil, fuel, antifreeze, hydraulic fluid, grease, shall not be allowed to enter drainage channels.

Low-Impact Site Preparation and O&M. Native vegetation shall be allowed to recover from rootstocks and seed bank wherever facilities do not require permanent vegetation removal (e.g., access roads, foundations, paved areas, or fire clearance requirements) within the perimeter fenceline of the solar facilities and under solar arrays. Project BMPs to minimize impacts during site preparation require that primary travel routes be designated through panel arrays to minimize disturbance between rows; that grading be limited to specific areas, including roads, substation, O&M facilities, laydown areas, some equipment pads, and in discrete areas within the arrays; and that small rubber-wheeled equipment be used.

During O&M, ~~V~~vegetation height and density shall be managed as needed ~~for O&M and~~ for fire safety and operation of the solar panels~~,~~. Onsite vegetation that re-establishes under the solar panels will be periodically trimmed to a height no more than 12 inches, to avoid interference with the panels. Vegetation may require trimming approximately once every three years, as needed. ~~but v egetation management shall otherwise focus on r~~Revegetation of native habitat and protection of erosive soils shall be implemented in temporary impact areas~~maintaining habitat and soil conditions~~, as described in MM BIO-4 and MM BIO-5.

Compensation for impacts to Desert Pavement. Compensatory mitigation for impacts to desert pavement shall be identified prior to disturbance of the features at a minimum 1:1 ratio, in coordination with BLM and CDFW.

MM BIO-4 **Integrated Weed Management Plan**. The Applicant shall prepare and implement an Integrated Weed Management Plan (IWMP) to minimize or prevent invasive weeds from infesting the site or spreading into surrounding habitat.

The IWMP must comply with existing relevant BLM plans and permits including the Vegetation Treatments Using Herbicides (BLM, 2007) and Vegetation Treatment Using Aminopyralid, Fluroxypyr, and Rimsulfuron (BLM, 2016b), and must be approved by BLM and Riverside County (or its designated representative). Use of any pesticides would conform with licensing and application requirements from the California Department of Pesticide Regulation.

Prior to herbicide use on BLM-administered lands, the BLM requires that a Pesticide Use Proposal (PUP) (BLM, 2019) be submitted to ensure that Projects follow herbicide use policies. If herbicides or pesticides will be used on BLM lands, the Applicant shall submit a Pesticide Use Proposal (PUP) form, to be approved by the BLM (also see Section 3.10.5 on hazardous materials). The PUP details which herbicides, pesticides, and associated adjuvants will be used for treatment, location of applications, responsible parties, timeline for treatment, application methods, application rates and maximum annual amounts, target species, and precautions for humans, sensitive resources, and non-target vegetation. Only a State of California and federally certified contractor will be permitted to perform herbicide applications. Only herbicides and adjuvants approved by the State of California and BLM for use on public lands will be used within or adjacent to the federal land segments of the Project.

The Applicant shall submit the BLM approved PUP to Riverside County and implement the requirements of the PUP on private lands. ~~including requiring a Pesticide Use Permit approved by the BLM and adhere to the design features included in the Project EIR and BLM EA. CDFW, BLM, and Riverside County (or its designated representative) must approve the plan. The IWMP shall identify weed species occurring or potentially occurring in the Project area, means to prevent their introduction or spread (e.g., vehicle cleaning and inspections), monitoring methods to identify infestations, and timely implementation of manual or chemical (as appropriate) suppression and containment measures to control or eradicate invasive weeds. The IWMP shall identify herbicides that may be used for control or eradication, and avoid herbicide use in or around any environmentally sensitive areas. The IWMP shall also include a reporting schedule, to be implemented by the Lead Biologist.~~

The IWMP shall require that cover and density of non-native plants within temporarily disturbed areas will be no more than 25% of total cover, or no more than comparable adjacent undisturbed lands. Total cover on the Project site shall be calculated during the annual quantitative monitoring as required in the Vegetation Resources Management Plan (MM BIO-5), which shall complement the IWMP. Quantitative monitoring shall be performed using California Native Plant Society (CNPS) Combined Vegetation Rapid Assessment and Relevé Protocol (CNPS, 2022). Qualitative and quantitative vegetation monitoring will continue for a period of no less than three (3) years or until the defined success criteria are achieved (up to 5 years).

PLAN REQUIREMENTS

Consistent with DRECP CMA LUPA-BIO-10 (Standard Practices for Weed Management), the Plan shall include:

- Plan objectives, including weed prevention, identification, and control via eradication, suppression, and containment;
- A list and discussion of weed species occurring or potentially occurring in the Project area, including Cal-IPC threat rankings;
- Role and responsibilities of a Weed Management Biologist, who will track, manage, and coordinate weed management activities;
- A discussion of methods to prevent introduction or spread of weeds, including -worker training, vehicle cleaning and inspections, and use of weed-free seed, erosion control materials, and other construction material (gravel, sand, fencing);

- Requirements for annual monitoring of the Project site and 100-foot buffer in the early spring and late summer/early fall during construction, O&M, and decommissioning, and for 5 years after decommissioning;
- A description of monitoring methods to identify and map infestations;
- A description of manual and mechanical treatments that may be used to suppress, contain, or eradicate invasive weeds, such as use of hand or power tools, hand pulling, and soil solarization;
- A description of chemical treatments (herbicide) that may be used, including permitting and regulatory requirements for use, types of herbicides to be used such as pre-emergent, post-emergent, selective, and non-selective and the weeds they affect, application methods and rates, handling and cleanup procedures, and best practices to minimize impacts of herbicide use on wildlife and native vegetation, such as suspending treatments when winds are high or if precipitation is imminent, mixing herbicides over a drip pan at least 200 feet from open or flowing water, inspecting containers for leaks, and maintaining spill kits in vehicles and storage areas;
- A requirement for any herbicides used to meet the requirements of the BLM Vegetation Treatment guidelines (BLM, 2007; BLM, 2016b) and be implemented in accordance with the PUP (BLM, 2019);
- A description of reporting, to require management and monitoring reports during construction, O&M and decommissioning, and for 5 years after decommissioning;
- Annual reports shall include the location, species, extent, and density of weeds; a description of management efforts, dates, locations, types of treatment, and results; and a summary of preventative measures such as vehicle wash logs and facilities and success of measures.

MM BIO-5 **Vegetation Resources Management Plan.** The Applicant shall prepare and implement a Vegetation Resources Management Plan (VRMP), to be reviewed and approved by USFWS, CDFW, BLM, and Riverside County (or its designated representative). ~~The VRMP shall address revegetation of temporarily disturbed areas and ongoing O&M management of native vegetation within the solar fields.~~ The VRMP shall detail the methods to revegetate temporarily impacted sites and salvage special-status plants from the Project footprint; and outline long-term vegetation management within the solar facility during its operations.

The Lead Biologist shall oversee implementation of the VRMP to meet success criteria and prevent further degradation of areas temporarily disturbed by Project activities. ~~Pre-disturbance habitat values would not be restored, but voluntary off-site compensation would offset the loss in habitat value.~~

~~The Vegetation Resources Management Plan shall detail the methods to revegetate temporarily impacted sites and salvage special-status plants from the Project footprint; and outline long-term vegetation management within the solar facility during its operations.~~ The Plan shall require that total native vegetation cover will be no less than 80% of total vegetation cover on nearby undisturbed lands of comparable quality. Project sites previously disturbed by anthropogenic activities will be compared to nearby, similarly pre-disturbed sites.

As described below, total cover on the Project site shall be calculated during the annual quantitative monitoring as required in the VRMP, using California Native Plant Society (CNPS) Combined Vegetation Rapid Assessment and Relevé Protocol (CNPS, 2022).

Transplantation of cacti and ocotillo shall be considered successful with 75% survival after 3 years. If unsuccessful, remediation will be implemented to plant additional cacti at a 2:1 ratio.

PLAN REQUIREMENTS

Consistent with DRECP CMAs LUPA-BIO-7 (Restoration of Areas Disturbed by Construction Activities but Not Converted by Long-Term Disturbance), LUPA-BIO-VEG-1 (vegetation management for cactus, yucca, and other succulents under BLM policy), and LUPA-BIO-VEG-5 (adherence to BLM regulations and policies regarding salvage and transplants of cactus, yucca, other succulents, and BLM sensitive plants), the Plan shall include:

- *Revegetation of temporarily impacted sites.* The Plan shall specify methods to prevent or minimize further site degradation; stabilize soils; maximize the likelihood of vegetation recovery over time (for areas supporting native vegetation); and minimize soil erosion, dust generation, and weed invasions. The nature of revegetation will differ according to each site, its pre-disturbance condition, and the nature of the construction disturbance (e.g., drive and crush, vs. blading). The Plan shall include:
  (a) soil preparation measures, including locations of recontouring, decompacting, imprinting, or other treatments, as prescribed by the Lead Restoration Ecologist and consistent with CNPS Combined Vegetation Rapid Assessment and Relevé Protocol (CNPS, 2022);
  (b) details for topsoil storage, as applicable;
  (c) plant material collection and acquisition guidelines, including guidelines and methods for salvaging, storing, and handling seed and plants (including desert native species protected by the CDNPA and special-status plants) from the Project site, as well as obtaining replacement plants from outside the Project area (seed and plant palettes and materials shall be limited to locally occurring native species from local sources);
  (d) a plan drawing or schematic depicting the temporary disturbance areas (drawing of "typical" gen-tie structure sites will be appropriate);
  (e) time of year that the planting or seeding will occur and the methodology of the planting;
  (f) maintenance details, including vegetation treatments; a description of the irrigation, if used; erosion control measures; and non-native weed management per the IWMP;
  (g) quantitative success criteria for regrowth of vegetation, requiring at least 80% native cover and no more than 20% non-native cover; ~~and~~
  (h) a monitoring program to measure project compliance with the success criteria, including annual quantitative monitoring ~~commensurate with the Plan's goals,~~ in accordance with CNPS Combined Vegetation Rapid Assessment and Relevé Protocol (CNPS, 2022);
  (i) contingency measures for failed revegetation efforts not meeting success criteria, which may include, but is not limited to, reseeding, re-planting, erosion repairs, modifications to irrigation, and repair or remediation of sites;
  ~~(a)~~(j) annual monitoring reports to be submitted to BLM and Riverside County (or its designated representative), providing a summary of the restoration and adaptive management activities for the previous year.

- *Cactus Salvage.* ~~To conform with BLM DRECP CMA LUPA-BIO-VEG- 5, LUPA-BIO-VEG- 7, and BLM policy, t~~The Applicant shall include salvaged or nursery stock yuccas (all species), and cacti (excluding cholla species, genus Cylindropuntia)~~,~~ in revegetation plans ~~and implementation affecting BLM lands~~. The Plan shall include:

  (a) -methods of salvage, including ~~to salvage and replant cacti and yucca found on the site~~heavy equipment or hand tools, depending on plant size. For each plant, the microsite description will be recorded and the north-facing orientation will be identified and tagged.

  ~~(a)~~(b) to the extent feasible, plants shall be salvaged during the fall or winter to minimize transplantation stress. If cacti must be salvaged during spring or summer, they shall be held over in a shade structure and protected from wind and heat until fall for transplantation. If cacti must be installed during spring or summer, shade structures or "vertical mulch" (branches cleared from the work sites) will be provided as shelter from sun and wind.

  (c) guidelines for removing plants, such that plants are dug to avoid root damage. Roots shall be treated, as necessary, and plants shall be transported to avoid root damage. ~~;~~

  ~~(b)~~(d)~~season for salvaging the plants;~~ guidelines for storing plants, such that cacti and ocotillo shall be stored only when unavoidable. Plants shall be kept shaded and roots kept moist;

  ~~(c)~~(e) specific replanting locations shall be identified within Project lands, such as revegetation areas on tem-po-rarily disturbed work sites, unless directed otherwise by BLM (for BLM land) or the County (for private land);

  (f) methods for ~~salvage, storage, and~~ re-planting, ensuring that ~~them;~~ each salvaged plant shall be replanted in a microsite that resembles its salvage site and in the same north-facing orientation as the salvage site. Salvaged plants shall be covered deeply enough with soil to prevent root exposure and watered immediately after planting and at regular intervals thereafter based on needs of each species. ~~locations for re-planting;~~

  (g) quantitative success criteria for survival, requiring at least 75% survival after 3 years. If this criterion is not met, remediation shall be implemented to plant additional cacti at a 2:1 ratio or increase native vegetation cover and diversity at Project site.

  (h) a monitoring program to measure Project compliance with the success criteria, including quarterly quantitative monitoring of survival status and identification of remedial actions needed, such as water, shade, or protection from wind, erosion, or wildlife. Results of monitoring shall be included in the annual monitoring report, as described above.

  (i) seeds from special-status plants, if found, would be salvaged for re-vegetation. CRPR 1 or 2 species that are found shall be experimentally salvaged. No quantitative success criteria are assigned for experimental salvage; however, monitoring data shall be provided to the CDFW, Riverside County, and BLM to inform future mitigation for those species.

- ~~and appropriate monitoring and success criteria for the salvage work.~~

- *Operations Phase On-Site Vegetation Management.* The Plan shall include mowing methods and scheduling for on-site vegetation management during O&M ~~throughout~~

~~the operations phase, describing~~. The Plan shall describe ~~mowing or other~~ vegetation treatments to be implemented~~ented,~~ to minimize interference with the solar panels, fire hazard, soil disturbance, and disturbance of any bird nests. Vegetation shall be inspected annually to identify hazardous vegetation or barren areas prone to erosion that require repair. All mowed or cut plant material that contains invasive weeds will be transported to a licensed solid waste or com-posting facility. Mowed or cut native plant material may be used on site as mulch. Weed control during O&M will be conducted as described in the IWMP (MM BIO-4).~~It also shall address disposal of mown material, and incorporate all applicable components of the Integrated Weed Management Plan, including any proposed herbicide usage.~~

MM BIO-6 **Wildlife Protection.** The Applicant shall undertake the following measures during construction and O&M to avoid or minimize impacts to wildlife. Implementation of all measures shall be subject to review and approval by ~~CDFW,~~ BLM~~,~~ and Riverside County (or its designated representative).

Wildlife avoidance. Project activities shall minimize interference with wildlife (including ground-dwelling species, birds, bats) by allowing animals to escape from a work site prior to disturbance; conducting pre-construction surveys and exclusion measures for certain species as specified in other measures; checking existing structures (homes, trailers, etc.) for animals such as bats, barn owls, skunks, or snakes that may be present, and safely excluding them prior to removing the structures.

Minimize traffic impacts. The Applicant shall specify and enforce maximum vehicle speed limits as specified in the Traffic Control Plan, to minimize risk of wildlife collisions and fugitive dust.

Minimize lighting impacts. Night lighting, when in use, shall be designed, installed, and maintained to prevent side casting of light towards surrounding fish or wildlife habitat.

Avoid use of toxic substances. Soil bonding and weighting agents used for dust suppression on unpaved surfaces shall be non-toxic to wildlife and plants.

Minimize noise and vibration impacts. The Applicant shall conform to noise requirements specified in the noise analysis of this EIR to minimize noise to off-site habitat.

Water. Potable and non-potable water sources such as tanks, ponds, and pipes shall be covered or otherwise secured to prevent animals (including birds) from entering. Prevention methods may include storing water within closed tanks or covering open tanks with 2-centimeter netting. Dust abatement shall use the minimum amount of water on dirt roads and construction areas to meet safety and air quality standards. Water sources (e.g., hydrants, tanks, etc.) shall be checked periodically by biological monitors to ensure they do not create puddles.

Trash. All trash and food-related waste shall be contained in vehicles or covered trash containers inaccessible to ravens, coyotes, or other wildlife and removed from the site regularly.

Workers. Workers shall not feed wildlife or bring pets to the Project site. Except for law enforcement personnel, no workers or visitors to the site shall bring firearms or weapons.

Wildlife ~~netting or~~ exclusion ~~fencing~~. The Applicant may install temporary or permanent ~~netting or~~ exclusion fencing around equipment, work areas, or Project facilities to prevent wildlife exposure to hazards such as toxic materials or vehicle strikes.~~ or prevent birds from nesting on equipment or facilities. Bird deterrent netting shall be maintained free of~~

~~holes and shall be deployed and secured on the equipment in a manner that, insofar as possible, prevents wildlife from becoming trapped inside the netted area or within the excess netting.~~ If fencing is not used, openings in stored equipment that would allow for entry of wildlife shall be secured with tape or other covering to prevent entrapment. The biological monitor shall perform inspections of equipment prior to use to ensure that no birds have nested on stored equipment and that no wildlife has become entrapped. ~~netting (if installed) twice daily, at the beginning and close of each workday.~~ The biological monitor will inspect exclusion fence (if installed) weekly.

Wildlife entrapment. Project-related excavations and water tanks shall be secured or covered to prevent wildlife entry, entrapment, and drowning. Holes and trenches shall be backfilled, securely covered, or fenced. Open water tanks shall be covered or shall have other means of exit provided to prevent wildlife from drowning. Excavations that cannot be fully secured shall incorporate wildlife ramp or other means to allow trapped animals to escape. At the end of each workday, a biological monitor shall ensure that excavations and water tanks have been secured or provided with appropriate means for wildlife escape.

All pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas. Netting shall be installed over porta-potty vents. No pipes or tubing shall be left open either temporarily or permanently, except during use or installation. Any construction pipe, culvert, or other hollow materials shall be inspected for wildlife before it is moved, buried, or capped.

Dead or injured wildlife shall be reported immediately to USFWS (for federally listed species and migratory birds) and CDFW (for all wildlife) and/or the local animal control agency, as appropriate, by the Lead Biologist (or the Applicant's compliance manager during O&M). Procedures for handling of dead or injured wildlife shall be outlined in a Wildlife Protection Plan, in coordination with CDFW. A Special Purpose Utility Permit (SPUT) would be acquired from the USFWS prior to collection of migratory bird carcasses. A biological monitor shall safely move the carcass out of the road or work area if needed and dispose of the animal as directed by the agency. If an animal is entrapped, a biological monitor shall free the animal if feasible, work with construction crews to free it in compliance with safety requirements, or work with animal control, USFWS, or CDFW to resolve the situation.

Pest control. No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), may be used within the Project site, on off-site Project facilities and activities, or in support of any other Project activities.

Measures for Crotch bumble bee

- All on-site personnel shall be required to attend the Worker Environmental Awareness Training Program, as detailed in MM BIO-2, that includes education program on identification and avoidance of Crotch bumble bee and nests.
- If a live individual is detected during pre-construction surveys, or incidentally, the Applicant shall take adaptive management actions in coordination with CDFW, considering CDFW guidance and best management practices at the time of the occurrence.
- Pre-construction surveys would include inspection for Crotch bumble bee nests. If any are located, CDFW would be notified and a no-disturbance buffer of at least 50 feet would be demarcated as determined by the Lead Biologist, in coordination with CDFW.

MM BIO-7 **Desert Tortoise Protection.** No desert tortoise may be handled or relocated without authorization from USFWS and CDFW. The Applicant shall obtain incidental take authorization from both agencies to address any potential take of desert tortoise, including authorization to handle or translocate desert tortoise. In addition to implementing the actions to be taken during construction, the Applicant shall prepare and implement a Desert Tortoise Protection Plan and a Raven Management Plan, with contents as defined herein.

REQUIRED ACTIONS TO PROTECT TORTOISE DURING CONSTRUCTION

The following shall be implemented:

- *Inspect for tortoises under vehicles*. The ground beneath vehicles parked outside of desert tortoise exclusion fencing will be inspected immediately prior to the vehicle being moved. If a tortoise is found beneath a vehicle, the vehicle will not be moved until the desert tortoise leaves of its own accord.
- *Protect tortoises on roads*. The Applicant shall specify and enforce maximum vehicle speed limits as specified in the Traffic Control Plan, to minimize risk of vehicle strikes. If a tortoise is observed on or near the road accessing a work area, vehicles will stop to allow the tortoise to move off the road on its own.
- *Tortoise Observations*. Any time a tortoise is observed within or near a work site, Project work activities will proceed only at the site and within a suitable buffer area after the tortoise has either moved away of its own accord, or if it has been trans-located off the site under authorization by the USFWS and CDFW. If a tortoise is observed outside of exclusion fencing, construction will stop, and the tortoise shall be allowed to move out of the area on its own. If a tortoise or tortoise burrow is observed within the exclusion fencing, construction in the vicinity will stop, pending translocation of the tortoise or other action as authorized by USFWS and CDFW.
- *Reporting of dead or injured specimens*. Upon locating a dead or injured tortoise, the Applicant or its agent will immediately notify the Palm Springs Fish and Wildlife Office by email or telephone. Written notification must be made within five days of the finding, both to the appropriate USFWS field office and to the USFWS's Division of Law Enforcement. The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death, if known, and other pertinent information.
- *Tortoise compensatory mitigation*. Compensatory mitigation for desert tortoise shall include suitable habitat at a minimum of 1:1 ratio for impacts to desert tortoise suitable habitat and a ratio of 5:1 for impacts to desert tortoise critical habitat, in coordination with USFWS, CDFW, and in compliance with any ITPs.

PREPARE DESERT TORTOISE PROTECTION AND RELOCATION PLAN

To ensure safe handling and translocation in accordance with applicable wildlife agency guidance, d~~D~~esert tortoises shall be handled or translocated according to a Desert Tortoise Protection and Relocation Plan, ~~pending approval by both agencies~~to be reviewed and approved by USFWS, CDFW, BLM, and Riverside County.

The Desert Tortoise Protection and Relocation Plan shall be developed in accordance with and be consistent with the Desert Tortoise (Mojave Population) Field Manual (USFWS, 2009); Revised Recovery Plan for the Mojave Population of the Desert Tortoise (USFWS, 2011a); Translocation of Mojave Desert Tortoises from Project Sites: Plan Development

Guidance (USFWS, 2020), and Health Assessment Procedures for the Mojave Desert Tortoise (USFWS, 2019b).

Relocated and translocated tortoises will be transmittered and monitored, as described below. All relocated or translocated desert tortoises will be monitored once within 24 hours of release; twice weekly for the first two weeks after release; weekly during the more-active season; biweekly during the less-active season; and for a duration agreed upon by Riverside County, BLM, USFWS, and CDFW from date of release.

PLAN REQUIREMENTS

Consistent with DRECP CMAs LUPA-BIO-COMP-1: (Compensation); LUPA-BIO-IFS-1: (Individual Focus Species [IFS]: Desert Tortoise [activities within desert tortoise linkages]); LUPA-BIO-IFS-2: (new roads in Tortoise Conservation Areas [TCAs]), LUPA-BIO-IFS-3: (culvert sizing for desert tortoise), LUPA-BIO-IFS-4: (desert tortoise exclusion fencing), LUPA-BIO-IFS-5: (desert tortoise monitoring for initial clearing and grading), LUPA-BIO-IFS-6: (desert tortoise monitoring during geotechnical boring), LUPA-BIO-IFS-7: (desert tortoise monitoring during geotechnical testing), LUPA-BIO-IFS-8: (inspections for desert tortoise under vehicles), LUPA-BIO-IFS-9: (speed limits in desert tortoise habitat), LUPA-VPL-BIO-IFS-1: (site activities in previously disturbed areas in desert tortoise linkages and TCAs), DFA-BIO-IFS-1: Individual Focus Species (IFS) (protocol surveys in desert tortoise habitat), DFA-BIO-IFS-2 (setback requirements), DFA-BIO-IFS-3: Desert Tortoise (desert tortoise translocation), the Desert Tortoise Protection and Relocation Plan shall include:

Authorized p~~P~~ersonnel titles and ~~R~~roles.~~, and Titles~~ The Applicant shall designate a USFWS Authorized Biologist to implement the desert tortoise protection measures. The Authorized Biologist may (or may not) also serve as the Project's Lead Biologist.

The Applicant shall employ one or more desert tortoise monitors who are qualified to conduct desert tortoise clearance surveys and who will be on site during all construction. The desert tortoise monitors' qualifications will be subject to review and approval by Riverside County and the BLM. Qualifications may include work as a compliance monitor on a project in desert tortoise habitat, work on desert tortoise trend plot or transect surveys, conducting surveys for desert tortoise, or other research or field work on desert tortoise. Attendance at a training course endorsed by the agencies (e.g., Desert Tortoise Council tortoise training workshop) is a supporting qualification.

The Authorized Biologist shall direct one or more desert tortoise monitors to conduct pre-construction clearance surveys for each work area, watch for tortoises wandering into the construction areas, check under vehicles, and examine excavations and other potential pitfalls for entrapped animals.

The Authorized Biologist shall be responsible for overseeing compliance with desert tortoise protective measures and for coordination with resource agencies. The Authorized Biologist will have the authority to halt any Project activities that may risk take of a desert tortoise or that may be inconsistent with adopted mitigation measures or permit conditions. Neither the Authorized Biologist nor any other Project employee or contractor may bar or limit any communications between Riverside County, BLM, CDFW, or USFWS staff and any Project biologist, biological monitor, or contracted biologist. Upon notification by the desert tortoise monitor or another biological monitor of any noncompliance the Authorized Biologist shall ensure that appropriate corrective action is taken.

The following incidents will require immediate cessation of any Project activities that could harm a desert tortoise: (1) location of a desert tortoise within a work area; (2) imminent threat of injury or death to a desert tortoise; (3) unauthorized handling of a desert tortoise, regardless of intent; (4) operation of construction equipment or vehicles outside a Project area cleared of desert tortoise, except on designated roads; and (5) conducting any construction activity without a biological monitor where one is required.

***Worker training*.** Prior to the onset of construction activities, a desert tortoise education program will be presented by the Authorized Biologist to all personnel who will be present on Project work areas. Following the onset of construction, any new employee will be required to formally complete the tortoise education program prior to working on site. The following specifications will be incorporated into the WEAP training, identified in Mitigation Measure BIO-2. At a minimum, the tortoise education program will cover the following topics:

(a) A detailed description of the desert tortoise, including color photographs;

(b) The distribution and general behavior of the desert tortoise;

(c) Sensitivity of the species to human activities;

(d) The protection the desert tortoise receives under the state and federal Endangered Species Acts, including prohibitions and penalties incurred for violation;

(e) The protective measures being implemented to conserve the desert tortoise during construction activities; and

~~(a)~~ Procedures and a point of contact if a desert tortoise is observed on site.

(f) ~~Actions to Protect Desert Tortoise. The Applicant shall be responsible for implementing the following requirements, under direction of the Lead Biologist.~~

***Plan requirements for pre-construction and clearance surveys and use of exclusion fencing*.** Prior to the construction of solar facilities, temporary or permanent desert tortoise exclusion fencing will be installed around the entirety of the approved solar field and storage facility construction areas, as well as parking and laydown areas. Fenced areas would be surveyed and monitored to ensure desert tortoise are avoided.

Construction phase tortoise exclusion fencing. Exclusion fencing will adhere to USFWS design guidelines in the Desert Tortoise Field Manual (USFWS, 2009), where applicable. The exact location of different fencing types shall be determined in coordination with the USFWS. Permanent fencing shall be constructed with durable materials (i.e., 16 gauge or heavier) suitable to resist desert environments, alkaline and acidic soils, wind, and erosion. Temporary fencing would be built with the same materials, however it would not be trenched or buried but bent inwards flush with the ground surface.

Tortoise exclusion fencing shall include a “cattle guard” or desert tortoise exclusion gate at each entry point. This gate shall remain closed at all times, except when vehicles are entering or leaving. If it is deemed necessary to leave the gate open for extended periods of time (e.g., during high traffic periods), the gate may be left open as long as a biological monitor is present to monitor for tortoise activity in the vicinity.

Preconstruction surveys and c~~C~~learance. No more than 10 days prior to the initiation of fence construction, a pre-activity tortoise survey shall be conducted using techniques that provide 100% visual coverage of the disturbance area. Transects will be spaced 15 feet (5 meters) apart, and within an additional buffer area of 100 feet (30 meters) transects would be spaced 10 meters apart. Clearance will be considered complete after two successive 100 percent coverage surveys have been conducted without finding any desert tortoises.

Clearance surveys must be conducted during the active season for desert tortoises (April 1 through May 31 or September 1 through October 31), unless authorized by CDFW and USFWS. If a tortoise or an occupied tortoise burrow is located during clearance surveys, work activities will proceed only at the site and within a suitable buffer area after the tortoise has either moved away of its own accord~~,~~ or ~~if it~~ has been translocated off the site under authorization by the USFWS and CDFW. The buffer distance shall be 100 feet during the non-active season and at least 250 feet during the active season (September-October and April-May), unless otherwise directed in the CDFW Incidental Take Permit (ITP).

~~*Worker Training*. The following specifications will be incorporated into the WEAP training, identified in Mitigation Measure BIO-2. Prior to the onset of construction activities, a desert tortoise education program will be presented by the Authorized Biologist to all personnel who will be present on Project work areas. Following the onset of construction, any new employee will be required to formally complete the tortoise education program prior to working on site. At a minimum, the tortoise education program will cover the following topics:~~

~~A detailed description of the desert tortoise, including color photographs;~~

~~The distribution and general behavior of the desert tortoise;~~

~~Sensitivity of the species to human activities;~~

~~The protection the desert tortoise receives under the state and federal Endangered Species Acts, including prohibitions and penalties incurred for violation;~~

~~The protective measures being implemented to conserve the desert tortoise during construction activities; and~~

~~Procedures and a point of contact if a desert tortoise is observed on site.~~

~~Construction phase tortoise exclusion fencing. Prior to construction of solar facilities, temporary or permanent desert tortoise exclusion fencing will be installed around the work areas. The fence will adhere to USFWS design guidelines, where applicable.~~ The Authorized Biologist ~~will~~ shall direct a clearance survey before the tortoise fence is enclosed to ensure no tortoises are in the work area. Any potentially occupied burrows will be avoided until monitoring or field observations (e.g., with a motion-activated camera or fiber-optic mounted video camera) determines absence. If live tortoises or an occupied tortoise burrow are identified in the work area, tortoises shall be relocated under authorization by USFWS and CDFW or allowed to leave on their own accord before enclosing the fence. The fence shall be either continuously monitored prior to closure, or clearance surveys shall be repeated prior to closure after tortoises are removed.

Fence monitoring. A biological monitor shall be present during all fence installation activities to inspect the work area and under vehicles for desert tortoise prior to ground disturbance or vehicle access to ensure that no tortoises have moved into the work area. If a desert tortoise moves into the work area, activities will halt until it moves out of the work site on its own accord or is moved from harm's way by an Authorized Biologist.

Fence inspections. Exclusion fencing will be inspected daily for the first two weeks following installation, to monitor for desert tortoise exhibiting fence-walking behavior. ~~Once installed~~If none are observed, exclusion fencing will be inspected weekly during desert tortoise active seasons (April 1 to May 31 and September 1 to October 31), at least monthly during non-active seasons (June to September, November to March), and following all rain events, and corrective action taken if needed to maintain it. ~~Tortoise exclusion fencing will include a "cattle guard" or desert tortoise exclusion gate at each entry point. This gate will remain closed at all times, except when vehicles are entering or leaving. If it is deemed necessary to leave the gate open for extended periods of time (e.g., during high traffic periods), the gate may be left open as long as a biological monitor is present to monitor for tortoise activity in the vicinity.~~

Unfenced work areas. As an alternative to exclusion fencing, any work conducted in an area that is not fenced to exclude desert tortoises (e.g., gen-tie tower sites) must be monitored by a biological monitor who will stop work if a tortoise enters the work area. Work activities will proceed only at the site and within a suitable buffer area after the tortoise has either moved away of its own accord, or if it has been translocated off the site under authorization by the USFWS and CDFW. Work sites with potential hazards to desert tortoise (e.g., auger holes, steep-sided depressions) that are outside of the desert tortoise exclusion fencing will be fenced by installing exclusionary fencing, covered, or will not be left unfilled overnight.

Plan requirements for handling of desert tortoise.

Only persons permitted by the USFWS and CDFW under the Desert Tortoise Activity Form (i.e., streamlined Section 7 consultation process) or Incidental Take Permit shall handle desert tortoises. All desert tortoises will be handled by an Authorized Biologist in accordance with the Desert Tortoise Field Manual (2009) and the USFWS Revised Translocation Guidance (2020). Authorized Biologists shall handle tortoises in accordance with approved disinfection and sanitation techniques and procedures defined by the Desert Tortoise Health Assessment Procedures (USFWS, 2019a).

Tortoises shall be handled according to seasonal and temperature constraints, where any handling of desert tortoises would always be below the temperature of 95°F. During handling, the desert tortoise will be kept in a shaded environment that does not exceed 95°F and will not be released until ambient air temperatures fall below 95°F.

Biologists will maintain a record of all desert tortoises identified and handled on the Project site, including photographs, time and location of handling, temperature, condition and measurements of the individual, transmitter information, and information on nests, eggs, and voiding of bladder. Should a tortoise void or defecate between capture and release, it shall be thoroughly rehydrated and rinsed to remove any odors that could attract potential predators. Any desert tortoise handling event shall be completed within 30 minutes or less (not including rehydrating a desert tortoise that has voided).

The Plan shall detail methods for attaching transmitters to desert tortoises that will be relocated, translocated, or monitored. The Applicant will consult with the USFWS Desert Tortoise Recovery Office to coordinate transmitter frequencies. Radio transmitters and antennae must be mounted by an Authorized Biologist so as not to impede growth or the daily activities of the tortoise.

The Plan shall detail nest and egg handling procedures. Any nest that is found will be carefully excavated by hand by an Authorized biologist. A nest will be prepared at the release site with the same depth and location in relation to the burrow entrance as the original nest. The eggs will be transferred to the new nest, maintaining their original orientation and replaced so that they touch one another. Eggs will be gently covered with soil from which cobbles and pebbles have been removed so that all the air spaces around the eggs are filled.

To the greatest extent practicable, bromating (hibernating) tortoises will not be relocated or translocated. If a bromating desert tortoise cannot be avoided by Project activities or be passively relocated, the tortoise may be captured and released in coordination with USFWS and CDFW.

***Procedures for relocation, passive exclusion, and translocation of desert tortoise and identification and description of translocation recipient sites*.**

-*Relocation*. Desert tortoises less than 160 mm will be relocated as soon as possible after detection. Adult desert tortoises (more than 160 mm) identified for relocation will be transmittered and left in situ or within on-site pens following health assessments, data collection, and monitoring, until they can be transported. The Plan shall detail the construction of on-site pens, in accordance with USFWS guidance (USFWS, 2011).

Passive exclusion. Passive exclusion shall be prioritized on all linear Project components and in unfenced work areas by using a biological monitor to accompany construction crews and equipment in the field. Construction or maintenance activities will cease if a desert tortoise is detected within the work area or if a tortoise is in imminent danger, until the tortoise moves a safe distance out of the work area. Desert tortoises would be relocated from unfenced work areas if a tortoise does not leave a work area and no other alternate work site is available for crews or an occupied burrow is located within or adjacent to a work area that cannot be avoided.

A Biological Monitor would monitor initial clearing and grading activities for any tortoises missed during the clearance survey. Excavations with steep walls shall have a wildlife escape ramp and be fully covered at the end of the workday to prevent entrapment. After vegetation is fully removed within fenced areas, weekly spot checks shall be conducted to ensure that there are no desert tortoises within the construction area for the duration of the construction phase.

Translocation. If a desert tortoise is found and is not in an area appropriate for relocation (i.e., suitable habitat does not occur within a 1.5-kilometer buffer surrounding the potential release point), the tortoise will be translocated. Translocations shall occur during the tortoise active season.

The Plan shall detail methods and procedures for translocation, including health assessments, transportation requirements, and identification of comparable release locations, in accordance with the Desert Tortoise Field Manual (USFWS, 2009). Per the USFWS Translocation Guidance (2020), a translocation review package, incorporating the penultimate health assessment in the month before the scheduled translocation, shall be submitted to Riverside County, BLM, USFWS, and CDFW for approval of the proposed disposition of each tortoise on the Project site.

Recipient sites shall be approved in consultation with BLM, USFWS, and CDFW, and shall be comprised of suitable desert tortoise habitat with modelled high desert tortoise occupancy (Nussear, 2009). The recipient site shall be sited within desert tortoise critical habitat, unless otherwise directed by the agencies.

Plan requirements for construction monitoring and reporting

Construction monitoring and reporting. During the construction phase, the Authorized Biologist shall prepare daily records of desert tortoise observations and site inspections. If at any time a desert tortoise is identified on the Project site, Riverside County, BLM, USFWS, and CDFW will be notified.

Reporting for construction monitoring and implementation of the Plan shall be provided in weekly updates and monthly reporting to Riverside County, BLM and USFWS, as well as quarterly reporting to CDFW. Annual and final reports shall be submitted to Riverside County, BLM, USFWS, and CDFW, as required. Summaries of compliance tortoise surveys, relocation, translocation, and monitoring activities conducted during the previous calendar year will be included.

Translocation monitoring and reporting. Telemetry-based monitoring shall be implemented for at least six months to document short-term survival of small numbers of translocated tortoises. The Applicant will consult with Riverside County, BLM, USFWS, and CDFW to determine the appropriate monitoring duration and methodology. All relocated or translocated desert tortoises will be monitored once within 24 hours of release; twice weekly for the first two weeks after release; weekly during the more-active season; biweekly during the less-active season; and for a duration agreed upon by Riverside County, BLM, USFWS, and CDFW from date of release. Health assessments shall be performed twice-annually.

Reporting for translocation shall be provided in weekly updates and monthly reporting to Riverside County, BLM and USFWS, as well as quarterly reporting to CDFW. Annual and final reports will be submitted to Riverside County, BLM, USFWS, and CDFW. Summaries of all compliance tortoise translocation, and post-translocation, effectiveness, and health monitoring activities conducted during the previous calendar year will be included.

Plan requirements for O&M, decommissioning, and adaptive management

O&M. ~~*Operation phase tortoise monitoring or exclusion*.~~ At the Applicant's discretion, and in consultation with resource agencies, permanent desert tortoise exclusion fencing may be installed around each solar facility site~~, or~~. If permanent desert tortoise exclusion fencing is not installed, the Applicant shall ~~may~~ prepare and implement a monitoring and avoidance program to ensure no take of desert tortoise during O&M, while allowing wildlife (possibly including desert tortoise) to move through the facilities uninjured.

Tortoises observed by personnel within the fence line of the solar facility components during routine maintenance activities or along the main access road will be relocated by permitted biologists to suitable habitat within 300 meters of where it was found or it will be translocated into suitable habitat outside of the fence line.

For any routine maintenance or emergency/unexpected repairs that require surface disturbance or heavy equipment desert tortoise shall be allowed to move out of harm's way of its own accord, or the tortoise will be relocated by an Authorized Biologist.

In areas where wildlife-friendly fencing is implemented, temporary exclusion fencing may be removed after vegetation is re-established. If used, wildlife-friendly fencing will be installed around solar arrays in the Pinto Wash Linkage and areas adjacent to desert dry wash woodland that provide higher quality desert tortoise habitat. The security fence would leave a 6- to 8-inch gap between the lower fence margin (rail or mesh) and the ground and the bottom of the fence fabric (chain-link or similar material) would be wrapped upward so that no sharp edges are exposed along the lower fence margin.

Decommissioning. After decommissioning, fencing shall be removed. Desert tortoise conservation measures shall be in place and the decommissioning activities shall be monitored for the presence of desert tortoise and desert tortoise sign. Observations of desert tortoise shall be reported and protection measures shall be coordinated with USFWS and CDFW.

Adaptive management. Adaptive management measures would be implemented if there is evidence of Project-related disturbance to or increased risk to desert tortoise, and where initial protection methods have been deemed ineffective based on monitoring results. Remedial actions may include repairs or modifications to fencing, additional surveying, or additional monitoring and inspections. Adaptive management measures used shall be reported in the annual report.

- ~~*Tortoises under vehicles*. The ground beneath vehicles parked outside of desert tortoise exclusion fencing will be inspected immediately prior to the vehicle being moved. If a tortoise is found beneath a vehicle, the vehicle will not be moved until the desert tortoise leaves of its own accord.~~
- ~~*Tortoises on roads*. If a tortoise is observed on or near the road accessing a work area, vehicles will stop to allow the tortoise to move off the road on its own.~~
- ~~*Tortoise Observations*. Any time a tortoise is observed within or near a work site, Project work activities will proceed only at the site and within a suitable buffer area after the tortoise has either moved away of its own accord, or if it has been translocated off the site under authorization by the USFWS and CDFW. If a tortoise is observed outside of exclusion fencing, construction will stop, and the tortoise shall be allowed to move out of the area on its own. If a tortoise or tortoise burrow is observed within the exclusion fencing, construction in the vicinity will stop, pending translocation of the tortoise or other action as authorized by USFWS and CDFW.~~
- ~~*Dead or Injured Specimens*. Upon locating a dead or injured tortoise, the Applicant or its agent will immediately notify the Palm Springs Fish and Wildlife Office by email or telephone. Written notification must be made within five days of the finding, both to the appropriate USFWS field office and to the USFWS's Division of Law Enforcement. The information provided must include the date and time of the finding or incident (if known), location of the carcass or injured animal, a photograph, cause of death, if known, and other pertinent information.~~

PREPARE A RAVEN MANAGEMENT PLAN

The Applicant ~~will~~ shall develop and implement a Raven Management Plan to address activities that may occur during the pre-construction, construction, decommissioning, and O&M phases of the Project that may attract common ravens (*Corvus corax*), a nuisance species that is a subsidized predator of desert tortoises and other sensitive species in the Project vicinity.

The Applicant will submit payment to the Project sub-account of the Renewable Energy Action Team (REAT) Account held by the National Fish and Wildlife Foundation (NFWF) to support the Service's Regional Raven Management Program. The one-time fee will be as described in the cost allocation methodology, or more current guidance as provided by the Service or CDFW. The contribution to the regional raven management plan will be $105 per acre impacted.

The Plan shall be prepared in accordance with USWFS guidelines in Management of Conflicts Associated with Common Ravens in the United States (USFWS, 2023). If raven monitoring indicates an increase in local raven activity attributed to the Project, measures shall be implemented to deter ravens from the site, such as additional worker education, more stringent restrictions on water use or trash disposal, installation of nest-prevention or roost-prevention devices on Project facilities, or specific measures to "haze" ravens from Project facilities or subsidies in coordination with USFWS and CDFW.

PLAN REQUIREMENTS

Consistent with DRECP CMA LUPA-BIO-6 (Subsidized Predators Standards),~~The measures contained in the R~~ the Raven Management Plan will be ~~designed~~ developed and implemented to:

(a) Identify conditions associated with the Project that might provide raven subsidies or attractants, including water, anthropogenic food sources, roadkill for scavengers, trash, and perches.

(b) Describe management practices and control measures to avoid or minimize conditions and subsidies that might increase raven numbers and predatory activities, such as proper and regular disposal of food waste and trash using raven proof containers; removing road-killed animals; securing water thanks from leaks; using the minimum amount of water needed for dust control, panel washing, and irrigation; and use of BMPs for perching and roosting per current standards and practices, including APLIC guidelines (2006, 2012).

(c) Describe monitoring during construction and operations, including roles and responsibilities for monitoring biologists, monitoring requirements for food and water subsidies, monitoring requirements for raven presence and nesting, and methods to identify individual ravens that prey on desert tortoises.

(d) Describe reporting requirements for monitoring results, including annual monitoring reports to be submitted to USFWS, CDFW, BLM, and Riverside County.

~~(e) The Applicant will submit payment to the Project sub-account of the Renewable Energy Action Team (REAT) Account held by the National Fish and Wildlife Foundation (NFWF) to support the Service's Regional Raven Management Program. The one-time fee will be as described in the cost allocation methodology, or more current guidance as provided by the Service or CDFW. The contribution to the regional raven management plan will be $105 per acre impacted.~~

MM BIO-8 **Bird and Bat Conservation Strategy (BBCS).** Bird and bat fatality and injury monitoring is being performed at the neighboring Oberon, Arica, and Victory Pass Projects. The approved BBCS plans for these projects include mortality monitoring and sampling methods, sampling design, and survey and data collection protocols. The Applicant shall use the results of post-construction bird and bat monitoring at the Oberon, Arica, and Victory Pass Projects to inform actions to be taken at the Easley Project, focused on the development of adaptive management measures that would minimize impacts and mortality to avian and bat species.

The Applicant ~~will~~ shall prepare and implement a ~~the final~~ BBCS that acknowledges the ongoing monitoring at other projects. The BBCS shall be~~,~~ focused on the implementation of adaptive management measures that may be required depending on monitoring results at the other projects. Adaptive management measures shall be developed in ~~accordance~~ consultation with USFWS based on the results of on-going monitoring and current standards and guidelines. Available guidelines include USFWS Considerations for Avian and Bat Protection Plans (USFWS, 2010). These measures would~~to~~ avoid ~~or~~ and minimize take of ~~migratory birds~~birds and bats ~~that may nest on the site or~~on the Project site that may be vulnerable to injury or mortality on the Project site and/or collision with Project components (IP Easley, 2023).

The plan shall be crafted to meet the following standard: If impacts to avian species are documented at Oberon, Arica, Victory Pass, and Easley Projects and these impacts are shown to result in a substantial, long-term reduction in the demographic viability of the population of the species in question, then the Applicant would coordinate with USFWS and CDFW to determine if adaptive management, as described below, must be implemented to reduce Project related impacts. Over the course of construction and O&M, fatality thresholds and future conservation measures may be subject to revision in coordination with USFWS and CDFW as new information is obtained.

PLAN REQUIREMENTS

Consistent with DRECP CMAs LUPA-BIO-16 (Activity-Specific Bird and Bat CMAs) and LUPA-BIO-17 (Activity-Specific Bird and Bat CMAs BBCS), the Plan shall include:

- A description of bird and bat species in the Project area;
- A project-specific risk assessment that addresses potential for take, based on threats to birds and bats from the Project, including collision, electrocution, territory abandonment, nest and roost site disturbance, habitat loss and fragmentation, disturbance from human presence, and predator subsidies, in accordance with USFWS guidelines (USFWS, 2010);
- A description of the ongoing monitoring occurring at the Oberon, Arica, and Victory Pass Projects and the findings of these programs as of the date of Plan preparation.
- A description of the monitoring that will occur at the Project site. Monitoring efforts will be designed to ensure that birds and bats are identified and avoided on the Project site, and that Project related risks are managed to detect and avoid injury and mortality.
- A description of how the adaptive management actions would be developed and a list of potential adaptive management measures that could be implemented if ~~project~~ impacts to any avian species are shown to be occurring at Oberon, Arica, Easley, and Victory Pass and these impacts appear likely to result in a substantial, long-term reduction in the demographic viability of the population of the species in question. Adaptive management measures may include passive avian diverter installations, the use of sound, light or other means to discourage site use consistent with legal requirements, on site habitat management or control measures consistent with applicable legal requirements, or modification to support structures to exclude nesting birds.
- A requirement that adaptive management measures be implemented until monitoring data indicates that mortality has not increased due to operation of the Project; and that there is not a substantial reduction in demographic viability for the species in question.

~~It describes the proposed Project components, summarizes baseline data regarding birds and bats in the Project vicinity; assesses potential risks to those species that could result from Project construction, operation, and decommissioning; and describes conservation measures to be implemented in order to minimize those risks.~~

~~The Plan shall be prepared in accordance with guidelines recommended by the U.S. Fish and Wildlife Service (USFWS, 2010a and 2010b).~~

MM BIO-9 **Nesting Bird Management Plan (NBMP).** The Applicant shall prepare and implement a Nesting Bird Management Plan (NBMP) that will provide a framework for surveying, management, and monitoring of bird nesting activities during the construction phase. The NBMP shall be prepared in conjunction with the BBCS.

The Project will either avoid vegetation clearing during the nesting season or conduct pre-construction nest surveys of potential habitat and implement no-disturbance buffer areas around active nests. ~~Over the course of construction and O&M, fatality thresholds and future conservation measures may be subject to revision in coordination with USFWS and CDFW as new information is obtained. The BBCS outlines an adaptive management process to address such revisions to monitoring.~~

The plan shall ensure that impacts to nesting birds are avoided and minimized through establishment of adequate buffers around active nests, as determined by a qualified biological monitor. Nest surveys shall be conducted for all Project activities throughout the nesting season, (beginning January 1 for raptors and hummingbirds and February 1 for other species, and continuing through August). Nest buffers shall be species-specific, ranging from 100 feet for small passerines to 500 feet for raptors, as defined by the California Public Utilities Commission Nesting Bird Working Group (2015).

Default Buffers for Nests During Construction

Avian Group (nest type/location)	Species Potentially Nesting Within Easley Solar Project Site	Minimum Buffers for Ground Construction per Disturbance Level (feet)*
Waterfowl and rails	Canada goose, wood duck, mallard, cinnamon teal, ruddy duck, Virginia rail, sora, American coot, pied-billed grebe	150
Quail	California quail, Gambel's quail	150
Herons	Great blue heron, great egret, snowy egret, cattle egret, black-crowned night-heron	250
Birds of prey (Category 1)	American kestrel, barn owl, western screech-owl	300
Birds of prey[2] (Category 2)	Cooper's hawk, red-tailed hawk, red-shouldered hawk, great horned owl	300
Birds of prey (Category 3)	Turkey vulture, red-tailed hawk, white-tailed kite, northern harrier, long-eared owl	500
Shorebirds	Killdeer	200
Pigeons	Band-tailed pigeon	150
Doves	Mourning dove, white-winged dove, common ground-dove	150
Roadrunners	Greater roadrunner	300
Nightjars	Lesser nighthawk, common poorwill	150
Swifts	White-throated swift	200
Hummingbirds	Anna's hummingbird, Costa's hummingbird	100
Woodpeckers	Acorn woodpecker, ladder-backed woodpecker, Nuttall's woodpecker, downy woodpecker, northern flicker	150
Passerines (bridge, culvert, and building nesters)	Black phoebe, Say's phoebe, Ash-throated flycatcher, northern rough-winged swallow, cliff swallow, barn swallow, house finch (3)	100
Passerines (ground nesters, open habitats)	Horned lark, rock wren, western meadowlark, orange-crowned warbler, lark sparrow, grasshopper sparrow	150
Passerines	Bushtit, Bewick's wren, blue-gray gnatcatcher (2),	150

Avian Group (nest type/location)	Species Potentially Nesting Within Easley Solar Project Site	Minimum Buffers for Ground Construction per Disturbance Level (feet)*
(understory and thicket nesters)	black-throated gray warbler, yellow-breasted chat, spotted towhee, black-chinned sparrow, sage sparrow, song sparrow, black-headed grosbeak, blue grosbeak, lazuli bunting, American goldfinch	
Passerines (shrub and tree nesters)	Pacific-slope flycatcher, Cassin's kingbird, western kingbird (2), loggerhead shrike (2)*, Hutton's vireo, western scrub-jay, American crow, common raven, verdin, bushtit, black-tailed gnatcatcher, blue-gray gnatcatcher (2), cactus wren (2)*, American robin, northern mockingbird, Le Conte's thrasher, phainopepla, yellow warbler, black-throated gray warbler, yellow-breasted chat, California towhee, black-throated sparrow, song sparrow, summer tanager, great-tailed grackle, hooded oriole, Bullock's oriole, house finch (3), Lawrence's goldfinch, lesser goldfinch	150 (300 for species marked with *)
Passerines (open scrub nesters)	Loggerhead shrike (2)*, verdin, cactus wren (2)*, black-tailed gnatcatcher, wren tit, northern mockingbird, California thrasher, Le Conte's thrasher, Phainopepla, orange-crowned warbler, southern rufous-crowned sparrow, California towhee, black-throated sparrow, Brewer's blackbird, lesser goldfinch	150 (300 for species marked with *)
Passerines (tower nesters)	Western kingbird (2), common raven, house finch (3)	150
Species not covered under MBTA	Domestic waterfowl, including domesticated mallards, feral (rock) pigeon, ring-necked pheasant, chukar, Eurasian collared dove, spotted dove, parrots, parakeets, European starling, house sparrow	NA

PLAN REQUIREMENTS

Consistent with DRECP CMAs LUPA-BIO-16 (Activity-Specific Bird and Bat CMAs), LUPA-BIO-17 (Activity-Specific Bird and Bat CMAs BBCS), DFA-BIO-IFS-1 (Individual Focus Species (IFS) (pre-construction/activity breeding season surveys for individual species – Bendire's thrasher, burrowing owl, golden eagle), DFA-BIO-IFS-2 (Setbacks for individual species – Bendire's thrasher, burrowing owl, golden eagle), LUPA-BIO-3 (Resource Setback Standards), LUPA-BIO-RIPWET-3 (BLM Special Status Riparian Bird Species (pre-construction/activity nesting bird surveys)), and LUPA-BIO-IFS-12 (Burrowing Owl (setbacks and monitoring for burrows)) the Plan shall include:

- A site description detailing the suitability of the Project site for nesting birds, the species that may be encountered, and potential impacts to nesting birds
- Identification of qualifications, roles, and responsibilities of the Lead Biologist, biological monitors, and avian biologists

- Methods for preconstruction nest surveys and "sweeps" for nesting activity during construction, including the following:
  - Pre-construction surveys for active nests shall be conducted by one or more qualified biological monitors at the direction of the Lead Biologist.
  - Nest surveys shall be conducted for all Project activities throughout the nesting season, identified here as beginning January 1 for raptors and hummingbirds and February 1 for other species, and continuing through August 15.
  - Any nesting surveys involving passerines shall be conducted within 4 days of the initiation of any vegetation clearance or grading. Surveys involving raptors shall be conducted 7 days prior. An additional preconstruction survey shall be conducted immediately prior to initial Project related, ground disturbing activities to confirm no new nests are found. Surveys shall be repeated regularly during nesting season in nesting habitat.
  - Survey methods shall follow standard nest-locating techniques such as those described in Martin and Guepel (1993). Surveys may be systematic transects, meandering transects, or other methods which are determined by the Lead Biologist based on site-specific characteristics, performed in the Project site and a 1,200-foot buffer for raptors and a 300-foot buffer for other species surrounding each work area. If adjacent properties are not accessible to the biological monitors, the off-site nest surveys may be conducted with binoculars.
  - Detection of nests shall be reported using an Avian Nest Reporting Form developed in coordination with USFWS and CDFW.
- Establishment of exclusion buffers surrounding active nests and procedures for reduction of buffers including the following:
  - At each active nest, the biological monitor shall establish and mark a buffer area surrounding the nest where construction activities that could disrupt nesting behavior will be excluded.
  - The default buffer distance established around a particular nest shall be species-specific, as developed by the California Public Utilities Commission Nesting Bird Working Group (2015), which ranges from 100 feet for passerines to 500 feet for raptors, in coordination with BLM, CDFW, and USFWS.
  - Construction shall not occur within the designated nest exclusion buffer until the nest is no longer active (i.e., the young fledge from the nest, or the nest is abandoned).
  - Buffer reductions for special-status species shall not occur beyond the default distances without notification to BLM, USFWS, or CDFW, as appropriate, at least 3 calendar business days prior to the proposed buffer reduction. Any threatened or endangered listed species would require agency approval prior to any buffer reduction.
- Procedures for active nest monitoring:
  - Active nest monitoring shall occur at a minimum of one to three times per week, depending on site-specific conditions.
  - Nests shall be monitored and mapped from a distance, and nest details will be recorded including species, nesting stage, and nesting outcome. Only the Lead Biologist or Avian Biologist/Monitor may enter the established buffer zone of a nest.

- Guidelines for nest removal:
  - If a bird nest must be removed during nesting season, the Applicant shall notify CDFW and USFWS and retain written documentation of the correspondence. Nests shall be removed only if they are inactive or if an active nest for a non-special status species presents a hazard to people or other wildlife. Removal of an active nest requires a permit from USFWS, which would be acquired, as needed. All nest removals shall be documented and described in the Annual Report.
- Reporting requirements:
  - A nest survey and monitoring log shall document all new and monitored nests, including date, species of bird, nest status (e.g., nest building, incubating, fledglings present, or inactive); unique identification number of each nest monitored and coordinates (easting and northing); estimated date of nest establishment; estimated fledge date; description of and distance to nearby construction activities; relative noise level; description of any nearby non-Project activities (e.g., publicly accessible roads or trails); exclusion buffer size; and description of additional measures taken to protect nests.
  - Logs and corresponding maps showing the disturbance limits, Project features, and current nest buffer data shall be updated weekly and made available to survey crews, construction personnel, and resource agencies.
  - During construction, the Applicant shall provide an Annual Report detailing a summary of nesting activities on the Project site and survey buffers. The Applicant shall provide the annual reports to Riverside County, BLM, CDFW, and the USFWS during the last quarter following each of season of construction that occurs during the nesting season.
- Adaptive Management:
  - Adaptive management measures shall be implemented if there is evidence of Project-related disturbance to nesting birds where initial protection methods (i.e., buffers) are determined to be ineffective. Triggers for adaptive management include agitation behavior (displacement, avoidance, and defense), increased vigilance behavior at nest sites, changes in foraging and feeding behavior, or nest site abandonment.
  - Potential adaptive management measures shall be identified, which may include increased buffer width; additional worker education; modifying work intervals, or allowing specific work types that may be implemented on a case-by-case basis; cessation of construction activities that are the source of disturbance to the nesting bird; or installation of visual or sound barriers.~~Construction. As an Appendix to the BBCS, the Applicant will prepare and implement a Nesting Bird Management Plan (NBMP), to include nest surveys, avoidance, and protection. The Project will either avoid vegetation clearing during the nesting season or conduct pre-construction nest surveys of potential habitat and implement no-disturbance buffer areas around active nests. Pre-construction surveys for active nests will be conducted by one or more biological monitors at the direction of the Lead Biologist. The biologists' qualifications will be subject to review and approval by CDFW, BLM, and Riverside County. Nest surveys will be conducted for all Project activities throughout the nesting season, identified here as beginning January 1 for raptors and hummingbirds and February 1 for other species, and continuing through August 15. Nest surveys will be completed at each work site no more than 7 days prior to initiation of site~~

~~preparation or construction activities. Nest surveys will cover all work sites, including the solar facility and gen-tie, and surrounding buffer areas of 1,200 feet for raptors and 250 feet for other species. If adjacent properties are not accessible to the biological monitors, the off-site nest surveys may be conducted with binoculars.~~

- ~~At each active nest, the biological monitor will establish and mark a buffer area surrounding the nest where construction activities that could disrupt nesting behavior will be excluded. The BBCS may identify species-specific buffer distances or variable distances, depending on activity levels (e.g., driving past the nest to access work sites may be less disruptive than foundation construction). Alternately, buffer distances will be 1,200 feet for raptor nests and 250 feet for other species. The extent of nest protection will be based on proposed construction activities, species, human activities already underway when the nest is initiated (e.g., a house finch nest built in the eaves of an occupied structure would warrant less avoidance or protection than a loggerhead shrike nest build in native shrubland), topography, vegetation cover, and other factors. The avoidance and protection measures will remain in effect until the nest is no longer active.~~

~~If for any reason a bird nest must be removed during the nesting season, the Applicant or its agent will notify the CDFW and USFWS and retain written documentation of the correspondence. Nests will be removed only if they are inactive, or if an active nest presents a hazard.~~

- ~~The BBCS specifies monitoring and conservation measures to be implemented by the Applicant to document bird mortality or injury that may result from the operation of the Project, such as downed exhausted birds on the site that are unable to take flight or collision with Project components including gen-tie line collisions. The BBCS includes conservation measures and an adaptive management framework to be implemented through design and operations to minimize bird and bat fatalities at the solar facilities and gen-tie line. Provisions for a potential O&M monitoring and reporting program for bird and bat fatalities are included, based on monitoring at other active projects in the vicinity.~~

MM BIO-10~~9~~ **Gen-tie lines.** Gen-tie line support structures and other facility structures shall be designed in compliance with current standards and practices to discourage their use by raptors for perching or nesting (e.g., by use of anti-perching devices). This design also reduces the potential for increased predation of special-status species, such as the desert tortoise. Mechanisms to visually warn birds (permanent markers or bird flight diverters) shall be placed on gen-tie lines at regular intervals to prevent birds from colliding with the lines (APLIC, 2006, 2012). To the extent practicable, the use of guy wires shall be avoided because they pose a collision hazard for birds and bats. Necessary guy wires shall be clearly marked with bird flight diverters to reduce the probability of collision. Shield wires shall be marked with devices that have been scientifically tested and found to significantly reduce the potential for bird collisions. Gen-tie lines shall maintain sufficient distance between all conductors and grounded components to prevent potential for electrocution of the largest birds that may occur in the area (e.g., golden eagle and turkey vulture). They shall utilize non-specular conductors and non-reflective coatings on insulators.

MM BIO-1~~0~~1 **Burrowing Owl Avoidance and Relocation.** ~~The Applicant will prepare and implement a Plan for wildlife relocation, including burrowing owl and other species (i.e., desert kit fox, American badger), as needed. The Plan must be reviewed and approved by Riverside County, BLM, CDFW, and USFWS prior to the start of ground-disturbing activities.~~

Burrowing owl protection and relocation will ~~incorporate~~ meet the following requirements, in accordance with CDFW burrowing owl protocols (1993, 2012):

- Pre-construction surveys for burrowing owls, possible burrows, and sign of owls (e.g., pellets, feathers, whitewash) will be conducted throughout each work area. Survey schedules will be coordinated with constructing the desert tortoise exclusion fence and the pre-construction desert tortoise clearance surveys. As needed, follow-up surveys will be conducted no more than 14 days prior to construction.
- Pre-construction surveys shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls.

  If an active burrowing owl burrow is detected within any Project disturbance area, or within a 150-meter buffer of the disturbance area, a 150-meter (500-foot) exclusion buffer will be maintained while the burrow remains active or occupied. The buffer may be reduced to 50 meters (160 feet) during the non-breeding season (September 1 to January 31).~~Should any of the pre-construction surveys identify burrowing owl or active burrows within the solar facility, the Lead Biologist will coordinate with the Construction Contractor to implement avoidance and set-back distances.~~ The size of the buffer may be adjusted based on the time-of-year, and level of disturbance in the area, after consultation with CDFW. The following provides exclusion buffer guidelines for nesting sites (CDFW, 2012); which may be adjusted in the field by the Designated Biologist/ Authorized Biologist, in consultation with agency personnel. ~~Disturbance of owls or occupied burrows during the breeding season (February 1 through August 31) will not be permitted.~~

	BUOW Buffer Distance (m) and Level of Disturbance*		
Time of Year	**Low**	**Medium**	**High**
April 1 – Aug 15	200	500	500
Aug 16 – Oct 15	200	200	500
Oct 16 – Mar 31	50	100	500

*Levels of disturbance: Low =drive by, low use, once per week; Medium = 15 minutes to 2 hours of activity, less than 49 decibels, one or two passes per day; High = more than 2 hours of activity, more than 49 decibels

- Any unoccupied suitable burrows within the solar facility footprint will be excavated and filled in under the supervision of the Lead Biologist prior to site preparation. Any unoccupied burrows located outside the construction activity zones shall be left in their current condition.
- ~~The Plan will specify detailed methods for passive relocation of burrowing owls, if needed, and monitoring and management of the passive relocation including a three-year monitoring program.~~
- Passive relocation shall only be used during the non-breeding season, generally September 1 to February 1, to exclude burrowing owls from the Project site. Passive relocation shall be implemented to provide replacement burrows off site (if needed); collapse all unoccupied burrows within the construction site; and install a one-way door on the occupied burrow to evict the burrowing owl without handling it. Prior to any passive relocation, biologists shall survey nearby habitats to identify and inventory suitable unoccupied natural burrows for relocation. If none are available, artificial

burrows shall be constructed based on the number of burrowing owls in need of relocation.

- Artificial burrows shall be located at least 50 meters outside any temporary or permanent Project impact areas, but as close as possible to the original burrow and no more than one mile from the original burrow location if possible. Artificial burrows will be designed, constructed, and installed following guidelines provided in CDFW (2012). All artificial burrows and mapped natural burrows shall be monitored for burrowing owl use at least once per quarter throughout the construction phase of the Project.
- Following the excavation of all suitable inactive burrows within the construction area and installation of artificial burrows, burrowing owls will be passively excluded from occupied burrows. Burrow exclusion will involve the installation of one-way doors in burrow openings during the non-breeding season. Following confirmation that passive exclusion burrows are unoccupied, the burrows shall be carefully excavated using hand tools, or small tracked equipment, and backfilled to ensure that they are no longer suitable for burrowing owl use.
- Compensatory mitigation for burrowing owl shall include suitable habitat for the species at a minimum of 1:1 ratio, as determined in coordination with CDFW.

MM BIO-~~11~~12 **Desert Kit Fox and American Badger** Relocation**.** Desert kit fox and American badger protection and relocation will incorporate the following requirements:

- ~~The Applicant will prepare and implement a Plan for wildlife relocation, including desert kit fox, American badger, and other species (i.e., burrowing owl), as needed. The Plan must be reviewed and approved by _the lead agencies prior to the start of ground-disturbing activities.~~ Under direction of the Lead Biologist, biological monitors shall conduct pre-construction surveys for desert kit fox and American badger. Surveys schedules will be coordinated with constructing the desert tortoise exclusion fence and the pre-construction desert tortoise clearance surveys. Surveys shall also consider the potential presence of dens within 100 feet of the Project boundary (including utility corridors and access roads).
- If dens are detected each den shall then be ~~further~~ classified as inactive, potentially active, or definitely active.
  - Inactive dens directly impacted by construction activities shall be excavated and backfilled to prevent reuse. Excavation and backfilling shall be conducted in accordance with standard approved desert tortoise burrow excavation and protocols. Excavation will use hand tools or a small driver-operated backhoe under close supervision of a qualified biologist, as there are no excavation standards and protocols for desert kit fox or badger.
  - All dens identified as potentially active or active within the Project footprint (solar facilities and gen-tie work sites) shall be monitored by a biological monitor for a minimum of 3 consecutive nights using a tracking medium such as diatomaceous medium or fire clay and/or infrared camera stations at the entrance. Each active or potentially active den shall be further classified as non-natal or natal (pups are present) based on tracks or photos observed after the initial 3 consecutive nights.
  - If after 3 nights of den monitoring, no desert kit fox/badger tracks are found at the burrow entrance and no photos of the target species using the den are observed, it will be determined that the desert kit fox/badger den or complex is inactive and will be excavated.

- If an active non-natal den is detected on the site, a 100-foot construction exclusion zone will be established until passive relocation is successfully completed. Passive relocation methods include spray deterrents, transistor radios, and ultrasonic emitters. Any kit fox hazing activities that include the use of animal repellents such as coyote urine must be cleared through the CDFW prior to use. With CDFW approval, the den may be blocked with natural materials or bag barriers. If these methods are unsuccessful, installation of one-way doors may be used. On the third day following one-way door installation, all den entrances will be inspected to ensure they are clear of sign and that desert kit fox or badger have vacated. Confirmed active dens may be excavated if passive relocation was successful. Dens shall be collapsed prior to construction of the perimeter fence, to allow animals the opportunity to move off site without impediment.
- Potential natal dens shall be monitored for a minimum of 3 additional consecutive nights. If a den or complex is determined to be natal, the CDFW shall be notified via email within 24 hours. A 500-foot no disturbance buffer shall be maintained around all active natal dens. Passive relocation and excavation will not be implemented until monitoring confirms that the den is no longer in active use as a natal den. ~~Inactive dens directly impacted by construction activities shall be excavated by hand and backfilled to prevent reuse.~~ Active dens identified early in the pupping season, from February 1 to April 30, will not be passively relocated or excavated without prior approval from CDFW.~~Potentially active dens within the construction footprint shall be monitored by a Biological Monitor for three consecutive nights using a tracking medium such as diatomaceous medium or fire clay and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand.~~
- The biological monitor shall make weekly visits to the location of passive relocation to ensure that desert kit fox or badger do not re-excavate and reoccupy the area if no active ground disturbing construction is occurring within the vicinity.~~If tracks are observed, dens shall be fitted with one-way trap doors to encourage animals to move off site. After 48 hours post installation, the den shall be excavated by hand and collapsed. Dens shall be collapsed prior to construction of the perimeter fence, to allow animals the opportunity to move off site without impediment.~~

- ~~If an active natal den is detected on the site, the CDFW shall be contacted within 24 hours. The course of action will depend on the age of the pups, location of the den site, status of the perimeter fence, and the pending construction activities proposed near the den. A 500-foot no disturbance buffer shall be maintained around all active dens. Alternatively, a designated biologist authorized by CDFW shall trap and remove animals from occupied dens and move them off site into appropriate habitat. Additionally, the following measures are required to minimize the likelihood of distemper transmission:~~
- ~~Any kit fox hazing activities that include the use of animal repellents such as coyote urine must be cleared through the CDFW prior to use.~~
- Any documented kit fox mortality shall be reported to the CDFW within 24 hours of identification. If a dead kit fox is observed, it shall be retained and protected from scavengers until the CDFW determines if the collection of necropsy samples is justified.

MM BIO-13 **Wildlife Protection and Relocation Plan.** The Applicant shall prepare and implement a Wildlife Protection and Relocation Plan that incorporates the protection, buffer, and survey requirements for desert tortoise (MM BIO-7), burrowing owl (MM BIO-11), and desert kit fox and American badger (MM BIO-12). The Plan shall specify the requirements for each species and provide a framework for adaptive management and reporting of survey results. The Plan must be reviewed by Riverside County, BLM, CDFW, and USFWS prior to the start of ground-disturbing activities.

Desert tortoise, burrowing owl, desert kit fox, and American badger buffers shall be maintained as directed in MM BIO-7, MM BIO-10, and MM BIO-11.

PLAN REQUIREMENTS

Consistent with DRECP CMAs LUPA-BIO-6 (Subsidized Predators Standards), LUPA-BIO-9 (Water and Wetland Dependent Species Resources), LUPA-BIO-12 (Noise), LUPA-BIO-14 (General Standard Practices), LUPA-BIO-IFS-12 (Burrowing Owl), LUPA-BIO-IFS-13 (Burrowing Owl), DFA-BIO-IFS-1 (Individual Focus Species (IFS)), the Plan will include:

- A summary of wildlife survey methods and results;
- Detailed qualifications, roles, and responsibilities for the Lead Biologist and monitoring biologists;
- Procedures for pre-construction clearance surveys;
  - Prior to construction of solar facility, desert tortoise exclusion fencing will be installed around the entirety of the approved solar field construction areas, as well as parking and laydown areas. No more than 10 days prior to the initiation of fence construction, a pre-activity multi-species survey shall be conducted using techniques that provide 100% visual coverage of the disturbance area. If any burrow within the potential disturbance area for fence construction or inside the planned fence line is determined to be unoccupied, it will be carefully collapsed per guidelines from the Desert Tortoise Field Manual (USFWS, 2009).
  - If a burrow is potentially occupied by a target species, then further actions will be taken to passively exclude the animal during the appropriate season (as detailed in MM BIO-7, MM BIO-10, and MM BIO-11).
  - Once the fence is constructed, clearance surveys within fenced areas shall consist of 100% visual coverage using pedestrian belt transects spaced at 5-meter intervals. An additional 500-foot (150-meter) buffer outside the Project boundary shall also be surveyed with pedestrian belt transects spaced at 10 meters apart, where possible, to identify any potentially active burrows or complexes that may be indirectly affected by construction activities. Surveys shall focus on sign for desert tortoise, desert kit fox, American badger, and burrowing owl.
  - Any burrows or den complexes identified shall be classified as inactive, possibly active, or active. Inactive dens that would be directly impacted by construction shall be excavated. All burrows and kit fox den complexes that are potentially active or active with live individuals inside will be further observed per the requirements of individual species as detailed in MM BIO-7 (desert tortoise), MM BIO-10 (burrowing owl), and MM BIO-11 (desert kit fox, American badger). Confirmed active dens may be excavated upon successful passive relocation. Excavations shall be photographed for reporting to demonstrate success and sufficiency.

- Methods for construction monitoring;
  - Biological Monitors shall be present during fence construction (security fencing, desert tortoise exclusion fencing, or both for the solar sites), vegetation removal, and ground disturbance to ensure that wildlife is not present. After vegetation is cleared, biological monitors will perform spot checks in fenced areas immediately prior to initiation of construction to ensure that no wildlife have re-entered the site.
  - Along the gen-tie line, biological monitors shall escort construction vehicles and inspect work areas prior to crews beginning any ground disturbance. All parked vehicles and equipment, and the ground beneath them, will be inspected for wildlife prior to being moved. Work activities shall be stopped by the Biological Monitor if any target species or other special-status species, such as desert tortoise, enters the work area. Work activities shall proceed at the site only after the animal has either moved away of its own accord or, is moved from harm's way by a biologist with state and federal authorization and according to any conditions identified in applicable authorizations.
- Detailed species-specific exclusion methods for special-status wildlife as follows:
  - Couch's spadefoot toad. Potential breeding habitat identified during wildlife surveys shall be inspected after sufficient rainfall for Couch's spadefoot toad. If Couch's spadefoot toads are found on the Project site, the permitting and wildlife agencies will be consulted in order to develop an avoidance strategy.
  - Desert tortoise. See MM BIO-7 for details on buffers, monitoring, exclusion, relocation, and translocation.
  - Burrowing owl. See MM BIO-10 for details on burrow buffers, monitoring, passive relocation, and excavation.
  - Desert kit fox and American badger. See MM BIO-11 for details on den buffers, monitoring, passive relocation, and excavation.
- Procedures for handling sick, injured, or dead wildlife;
  - Resource agencies would be immediately notified of sick, injured, or dead wildlife. Written follow-up notification via email will be submitted within 24 hours, including the location (GPS record), photographs (if available), and any relevant observations at the time of detection. The animal will be handled and transported only on direction from the wildlife agencies. Health and safety precautions will be used at all times when handling the animal.
- Description of adaptive management methods;
  - If there is evidence of Project-related disturbance or increased risk to special-status wildlife, where initial protection methods have been deemed ineffective, adaptive management would be implemented in coordination with resource agencies, such as additional surveying and monitoring, increased buffers, seasonal restrictions, additional artificial replacement burrows, or agency approved wildlife relocation.
- Description of reporting requirements;
  - During construction, reporting shall be provided in weekly, monthly, quarterly, and annual compliance reports to the permitting and wildlife agencies. During O&M, reports shall be provided quarterly, unless more frequent reporting is prudent based on species presence. Reports shall provide a summary of activities performed and

the results for each species. Data recorded shall be submitted as appendices to each report.

MM BIO-~~12~~14 Streambed and Watershed Protection. If jurisdictional features cannot be avoided, prior to ground disturbance activities that could impact these aquatic features, the Applicant shall file a complete Report of Waste Discharge with the RWQCB to obtain Waste Discharge Requirements (WDR) and shall consult with CDFW on the need for a streambed alteration agreement. Copies of the final report shall be submitted to Riverside County. If permits are required, they shall be obtained prior to disturbance of jurisdictional resources.~~Prior to ground-disturbing activities in jurisdictional waters of the State, the Applicant will obtain a Lake and Streambed Alteration Agreement (LSAA) from the CDFW and Waste Discharge Requirements (WDR) from the RWQCB.~~

Compensatory mitigation for impacts to jurisdictional streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, and a 5:1 ratio for minor incursions to desert dry wash woodland, as approved by RWQCB or CDFW, either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank. The Applicant shall comply with the compensatory mitigation required and provide proof of compliance, along with copies of permits obtained from the RWQCB and/or CDFW shall be provided to Riverside County.

A Stormwater Pollution Prevention Plan (SWPPP) or SWPPP-equivalent document shall be prepared by a qualified engineer or erosion control specialist~~, and once approved by the State Water Resources Control Board and a BLM hydrologist,~~ ~~shall be~~and implemented before and during construction. The SWPPP shall include BMPs for stormwater runoff quality control measures, management for concrete waste, stormwater detention, watering for dust control, and construction of perimeter silt fences, as needed.

- The Applicant ~~will~~ shall implement BMPs identified below to minimize adverse impacts to streambeds and watersheds.
  - Vehicles and equipment will not be operated in ponded or flowing water except as specified by resource agencies.
  - The Applicant will minimize road building, construction activities, and vegetation clearing within ephemeral drainages.
  - The Applicant will prevent water containing mud, silt, or other pollutants from grading or other activities from entering ephemeral drainages or being placed in locations that may be subjected to high storm flows.
  - Spoil sites will not be located within 30 feet from the boundaries of drainages or in locations that may be subjected to high storm flows, where spoils might be washed back into drainages.
  - Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, unapproved herbicides, or any other substances that could be hazardous to vegetation or wildlife resources, resulting from Project-related activities, will be prevented from contaminating the soil and/or entering ephemeral drainages. The Applicant shall ensure that safety precautions specified by this measure, as well as all other safety requirements of other measures and permit conditions are followed during all phases of the Project.
  - When operations are completed, any excess materials or debris will be removed from the work area. No rubbish will be deposited within 150 feet of the high-water

mark of any drainage during construction, operation, and decommissioning the Project.

- No equipment maintenance will occur within 150 feet of any wetland, Category 3, 4, or 5 streambed, or any streambed greater than 10 feet wide. No petroleum products or other pollutants from the equipment will be allowed to enter these areas or enter any off-site state jurisdictional waters under any flow.
- With the exception of the drainage control system installed for the Project, the installation of bridges, culverts, or other structures will be such that water flow (velocity and low flow channel width) is not impaired. Bottoms of temporary culverts will be placed at or below stream channel grade.
- No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, or other organic or earthen material from any construction or associated activity of whatever nature will be allowed to enter into or be placed where it may be washed by rainfall or runoff into, off-site state jurisdictional waters.
- Stationary equipment such as motors, pumps, generators, and welders located within or adjacent to a drainage will be positioned over drip pans. Stationary heavy equipment will have suitable containment to handle a catastrophic spill/leak. Clean up equipment such as brooms, absorbent pads, and skimmers will be on site prior to the start of construction.
- The cleanup of all spills will begin immediately. USFWS, ~~RWQCB~~SWRCB, CDFW, BLM, and Riverside County will be notified immediately by the Applicant of any spills and will be consulted regarding clean-up procedures.

3.6. Cultural and Tribal Cultural Resources

This section provides information on known existing cultural resources and tribal cultural resources in and surrounding the IP Easley Renewable Energy Project (Easley or Project) area~~ and alternatives~~. The California Environmental Quality Act (CEQA) requires that the effects of discretionary projects on cultural and tribal cultural resources be considered in the planning process. This section evaluates the proposed Project's potential impacts to these resources. An impact analysis and comparison of project alternatives is included in Section 5.

Cultural resources reflect the history, diversity, and culture of a region, as well as the people who created them. Cultural resources are unique in that they are often the only remaining evidence of past human activity. Cultural resources can have a variety of forms, only a subsection of which are actively built or modified by humans. Cultural resources can also be natural features or connected landscapes with understood importance to people in the past and/or the present. They include archaeological, traditional, and built environment resources, including but not necessarily limited to buildings, structures, objects, districts, and sites. Cultural resources include locations of important events, traditional cultural places, sacred sites, and places associated with important people. Many cultural resources are present in the region surrounding the proposed Project area, both on the ground surface and buried completely or partially beneath it, which could be affected by development without adequate protections in place.

Tribal cultural resources (TCR) include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a Tribe. To qualify as a TCR, the resource must either: (1) be listed on, or be eligible for listing on, the California Register of Historical Resources or other local historic register; or (2) constitute a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC Section 21074(a)(2)). Native American tribes that are traditionally and culturally affiliated with a geographic area can provide lead agencies with expert knowledge of TCRs.

The Project area encompasses approximately 3,888 acres, which includes 988 acres of privately owned land under the jurisdiction of the County of Riverside (County) and 2,900 acres of land managed by the Bureau of Land Management (BLM). For purposes of the analysis of Cultural Resources and TCRs under CEQA, the Project area ~~under County jurisdiction~~ is identified herein as the CEQA Area of Direct Impacts. The 1-mile area surrounding the ~~CEQA Area of Direct Impacts~~Project is identified herein as the CEQA Area of Indirect Impacts.

The following discussion is based on the confidential cultural resources technical reports prepared for this Project: *Phase I Cultural Resource Inventory for the Easley Renewable Energy Project, Riverside County, California* (Clark et al. 2023) and *Class III Cultural Resources Inventory for the Easley Renewable Energy Project, Riverside County, California* (Hinojosa et al. 2024).

3.6.1. Environmental Setting

3.6.1.1. Natural Setting

Physiography and Geography

The Project is in the Chuckwalla Valley of eastern Riverside County, situated in the intervening valley forming the boundary between the Mojave Desert and eastern Transverse Range geomorphic provinces (CGS 2002; Hall 2007).

The Project area is situated on a series of fans emanating from the southeastern front of the Eagle Mountains. The surface of this area is highly alleviated with braided drainages incised into younger sandy

Holocene remnant surfaces with a number of east-northeast trending channels cut into a relict Late Holocene surface. In general, The Project area consists of both active and remnant surface components.

The Colorado Desert climate is generally hot and dry, with average daily temperatures ranging from the low 40 degrees Fahrenheit (°F) in winter to 105°F in summer, although summer temperatures can exceed 120°F. Rapid heat loss at night results in a wide daily temperature variance of approximately 50°F. Annual rainfall totals within the Colorado Desert are among the lowest in the Sonoran Desert, averaging less than 2 inches per year in the Salton Trough and between 2 to 4 inches along the Colorado River.

Surface water is restricted to perennial and seasonal sources. Perennial water for the region is limited to the Colorado River, which lies approximately 48 miles east of the Project area and is one of the major river systems in the United States. Mountains that surround the valley include the Palen and Coxcomb ranges to the north and northeast, the Eagle Mountains to the west, and the Chuckwalla Mountains to the south. The Chuckwalla Valley basin includes four dry lakes or playas: Palen Lake, Ford Lake, Hayfield Lake, and an unnamed playa between the McCoy Range and Mule Mountain.

Flora within the Project area is typical of the Colorado Desert and characterized by a bimodal pattern of rainfall allowing for greater plant diversity. The primary plant community is Sonoran Desert Scrub, which is dominated by creosote bush. Other plant communities include Desert Dry Wash Woodland and Desert Pavement.

Faunal species within Project area consist of small mammals such as the desert cottontail, jackrabbit, kangaroo rat, packrat; lizards, snakes, desert tortoise (*Gopherus agassizii*), and a small number of birds. Large mammals typically consist of desert bighorn sheep (*Ovis canadensis nelsoni*), Sonoran pronghorn antelope (*Antilocapra americana sonoriensis*), and coyote (*Canis latrans*).

3.6.1.2. Prehistoric Setting

The Project area is near the boundary of the Colorado and Mojave deserts and is located along a known prehistoric and historic travel corridor. Scholars suggest multiple groups were present in the region at various times. Groups in the region originated from portions of the Mojave Desert, the interior Colorado Desert, and the Colorado River, as well as more distant locations, such as the peninsular ranges, the Sonoran Desert region east of the Colorado River or elsewhere in the southwestern cultural sphere of Arizona, New Mexico, and Mexico. Therefore, the area’s archaeological record also may reflect affinities with any of these regions. Consequently, the prehistoric context herein draws on current knowledge from both the Mojave and Colorado desert regions.

Paleoindian Period (circa 12,000 to 8000 BP)

This first period of human occupation in California is commonly referred to as the Paleoindian Period (around 12,000 to 8,000 years before the present [BP]). Evidence of a permanent Paleoindian occupation in the Colorado Desert is scant. Isolated Paleoindian projectile points (large, fluted points) have been recovered on the surface at several locations, including Pinto Basin, approximately 37 miles northwest of the Project area, and near McCoy Spring in the northern Chuckwalla Valley, approximately 25 miles due east. However, few Paleoindian archaeological sites have been identified in the Colorado Desert. The lack of evidence may be due to an absence of large-scale data recovery efforts in the region and the instability of landforms rather than a lack of human occupation.

Archaic Period (8000 to 1500 BP)

During the Archaic period (8000 to 1500 BP), climates were generally warmer and drier. Populations grew and prehistoric economies became more diversified, shifting away from large game hunting that occurred during the terminal-Pleistocene. New technologies, such as the milling stone, indicate an increasing dependence on plant resources. Archaic Period projectile point types include Gypsum, Elko, and Humboldt series.

Late Prehistoric Period (1500 BP to Historic Period)

The Late Prehistoric period is represented by the Patayan complex. By this time, an extensive network of established trade routes traversed through the desert. This complex network of prehistoric trails consisted of major travel routes and special activity areas, interconnected with smaller trails. Broken ceramic vessels, lithic debitage, and small rock features are often found in association with these trails.

Artifacts associated with the Late Prehistoric period include Desert Side-notched and Cottonwood projectile points, brownware and buffware ceramics, and steatite shaft straighteners. Imported goods from the California coast, such as shell beads, are also found and testify to the importance of long-distance trade during this period. Late Prehistoric sites are often associated with trails, pictographs, petroglyphs, bedrock milling surfaces, and rock shelters. Along the Colorado River, subsistence strategies of native groups shifted from hunting and gathering to floodplain horticulture. Many Late Prehistoric sites have been found on the shorelines of ancient Lake Cahuilla. Water levels of this lake oscillated over the course of human history, particularly in the Salton Trough where the Salton Sea sits today (between approximately 30 and 60 miles southwest of the Project area).

Numerous petroglyphs and geoglyphs exist in the lower Colorado River area, the most well-known of which are the Blythe Intaglios. These large anthropomorphic (human-shaped) and zoomorphic (animal-shaped) figures are located along the Colorado River north of the town of Blythe, California.

3.6.1.3. Ethnographic Setting

There is archaeological evidence that ancestors of the Yuman language groups have been in the area for some time. However, these were not the only people who used this area. Ethnographic information suggests several other Native American groups, such as the Cahuilla and Chemehuevi, at least traversed the vicinity of the Project area (e.g., Bean 1978; Kelly and Fowler 1986; Laird 1976).

Native use of the Chuckwalla Valley area in the eighteenth and early nineteenth centuries was conditioned by its location as a frontier or boundary zone between the Halchidhoma to the east and the Takic groups, the Cahuilla, to the west. The Halchidhoma were linked to the desert division of the Cahuilla and the mountain division of the Serrano by ties of political friendship and long-distance exchange. Thus, the Chuckwalla Valley area formed a geographical link between these groups and formed a major travel corridor for communication between them. In addition to this east–west travel, the Chuckwalla Valley also provided a corridor for north–south travel between the territories of two Colorado River groups who were enemies of the Halchidhoma, the Mohave (also spelled Mojave) and the Quechan. Traveling parties from either one of these two groups going up or down the Colorado River traversed through the Chuckwalla Valley region to avoid the Palo Verde Valley and the Halchidhoma.

Ethnohistorical and ethnographic sources for the Chuckwalla Valley area have been limited because the area was not regularly visited by non-native people until the 1860s. This was due in part to the fact that water and feed management on the eastern California deserts posed a severe challenge to successful horse or mule travel to the Colorado River and Arizona by non-native people. In addition, the boundaries and areas of settlement of native groups in the region fluctuated over time. Thus, ethnohistoric information and archaeological data may outline different patterns of occupation and territoriality. Nevertheless, it can be said with confidence that most groups living in the vicinity of the Project when the Spanish first made forays into the area spoke languages in the Yuman family of the Hokan language stock. These include the Halchidhoma, the Mohave, and the Quechan. Surrounding groups are Uto-Aztecan speakers; the Chemehuevi speak a language of the Numic branch, and the Cahuilla are Takic-speakers. The final desiccation of Lake Cahuilla is thought to have caused major disruptions in the population in the

Colorado Desert, perhaps contributing to the persistent warfare reported along the lower Colorado and Gila Rivers.

Native American groups with historical tribal territories falling within the vicinity of the Project site include the Quechan, Halchidhoma, Mohave, Chemehuevi, and Desert Cahuilla, which are discussed briefly below.

Quechan

Quechan is a variation on the names Kwichyan or Kuchiana, but this group is also commonly known as the Yuma; today they refer to themselves as Kw'tsan. The Quechan are among the Yuman groups who occupied the lower Colorado River where it forms the boundary between California and Arizona. Prior to European contact, Quechan populations may have reached 4,000.

Quechan subsistence was based on a combination of horticulture, fishing, and gathering. Plants such as maize, melons, teparies, corn, black-eyed beans, and pumpkins were cultivated in the rich silt of the Colorado River floodplain. During wet winter and spring months, Quechan groups occupied seasonal villages located above the river floodplain. In the summer and fall, small kin groups would relocate along the river to plant crops. Diets were supplemented with fish taken from the river. Several villages were located along the Colorado River, including *Avi Kwotapai* located on the west side of the Colorado River between Blythe and Palo Verde Valley and *Xenu mala vax* on the east side of the river near present-day Ehrenberg.

For the Quechan, like other lower Colorado River groups, individual dreaming to seek guidance in life and spiritually based power was a principal aspect of their religious belief and practice. This included learning sacred songs about events that occurred at the time of the creation of the world through dreaming. Singing these songs are a principal avenue of religious expression. The dreaming experience meant that sacred places could be visited, and the sacred landscape traversed, through dreaming rather than through conventional travel, although physical travel along trails to sacred places is also an important aspect of the religious experience. Travel on key Native American trails continues to be a cultural practice today to commemorate and experience traditional culture. The geography of sacred places related to the sacred song cycles of Yuman groups is a major cultural feature of the lower Colorado River region.

Halchidhoma

The Halchidhoma (also known as the Panya) are a Yuman group who, until about 1825, lived along the Colorado River between the present-day cities of Blythe and Needles. According to the oral history of the Halchidhoma, they traveled south to Mexico where they lived adjacent to a Yaqui settlement until around 1838 when most died of an epidemic. At that point, the remaining Halchidhoma moved northeast and eventually settled down with the Maricopa tribe, another Yuman group living along the Gila River.

The Halchidhoma were known to travel and trade over great distances. The Coco-Maricopa Trail, leading west from a portage point across the Colorado River adjacent to the city of Blythe, linked the Halchidhoma with the Pacific coast. Ceramic seriation and radiocarbon dates from marine shell indicate that an extensive trade network between the Pacific coast and the lower Colorado River region was established by at least 1100 BP. The Halchidhoma traded with the Cahuilla, Hualapai, Papago, and Pima of Arizona, and were closely allied with the Maricopa.

By all accounts, the Halchidhoma were frequently in conflict with their Colorado River neighbors, the Quechan and Mohave. During the decades, if not centuries, of open hostility, the Halchidhoma established strong alliances with the Maricopa and Cocopah peoples who lived to the east along the Gila River. Ultimately, the Halchidhoma went to live with and intermarried with their allies the Maricopa, and are, therefore, poorly documented in the ethnographic literature.

Mohave

The Mohave were among the earliest residents in the Mojave Desert. They moved from the area approximately 500 years ago to the Colorado River where they were documented by Father Francisco Garcés, a Spanish explorer, in 1776. Another Spanish explorer, Juan de Oñate, may have observed this group as early as 1604 based on his descriptions of the "Mohave" people along the Colorado River. The Mohave are notable for their understanding of themselves as a unified "nation" of people, known as the Hamakhava, rather than as a series of loosely related clans or villages. The whole of the Mohave acted together in defending their territory and attacking their enemies.

During much of the year, the Mohave lived in villages on terraces above the Colorado River, only moving down onto the floodplain in the spring to plant crops after the seasonal floods. Like other lower Colorado River peoples, the Mohave relied on floodplain horticulture, fishing, and gathering for subsistence. Planted crops included maize, black-eyed beans (cowpeas), squash, pumpkin, and several local grasses. Cultivated plants were supplemented by the collection of wild plant foods including honey mesquite and mesquite screwbean, which could be stored for long periods of time and were traditional staple foods. Although the pods of both plants could be eaten green, they were usually pounded into flour using long stone or wooded pestles. Additionally, screwbean pods were often processed in large pits dug into sandy soil where the pods were placed, covered with vegetation, and then periodically watered to leach out bitter compounds.

The Mohave are well known for their long-distance travel. Like other Colorado River tribes, they participated in a trade network extending east to the Pueblos of Arizona and west to the Pacific coast. Many important passes and routes of travel, including the well-known Mohave trail connecting the high deserts with the Southern California coastal valleys were developed, or frequented by the Mohave. The endurance and speed of Mohave travelers were legendary at the time of European contact. During the Colonial era, the Spanish frequently encountered groups of traveling Mohave who continued the tradition of desert–coastal travel and trade throughout the mission period, occasionally in conflict with the wishes of Spanish officials.

The importance of dreaming, and the belief in the fundamental interrelationship between the mundane and spiritual worlds, was particularly developed among the Mohave. All people were capable of meaningful dreaming, and most individuals came to their chosen roles in life as a result of their dreams. In dreams, the Mohave travel in a mythical place and time when the world was first formed and the important places, such as mountains and springs, came into being. Dreams also inform public rituals, and the many complicated "song series" that singers perform from memory are said to be dreamed as much as learned. Mohave songs are remarkably specific in the context of geography, thereby acting as a means of storing and transferring important landscape knowledge; they are, among other things, a collection of meaningfully constituted mental maps of the Mohave territory and beyond. Many nearby groups, including the Chemehuevi, borrowed extensively from the Mohave song series repertoire.

Chemehuevi

The Chemehuevi are the southernmost of 16 groups of Southern Paiute peoples, and the only non-Yuman group living along the lower Colorado River at the time of European contact. The traditional territory of the Chemehuevi was an extensive area southwest of Las Vegas, including portions of the eastern Mojave Desert of California. The Chemehuevi lived along the lower Colorado River, although only within the last few hundred years. Their traditional territory was the largest of any tribe in California speaking the same dialect. They occupied a huge portion of the eastern Mojave Desert, ranging from the Old Woman Mountains in eastern San Bernardino County, west to an undefined point in the middle of the Mojave Desert where Serrano territory began, and as far south as the Riverside/Imperial County line. The Spanish missionary explorer Francisco Garcés in 1775–1776 suggested that the northern Chuckwalla Valley was in the territory of the Chemehuevi.

The Chemehuevi living in the deserts practiced a relatively nomadic hunting/gathering way of life, with larger settlements near reliable water sources, but no permanent villages. Groups moved with the rhythm of the seasons, arriving to harvest plant foods as they matured and hunting primarily small game. Hunting parties also traveled to the San Bernardino Mountains and visited with their allies the Northern Serrano, or Vanyume. Owing to the impermanence of most desert encampments, housing was typically made of brush erected to protect inhabitants from the harsh sun and wind. Several foods, including dried meats, dried melon and squash, agave hearts, and various seeds, were stored in specially prepared baskets, earth pits, and caves. Chemehuevi groups did not live permanently with their food caches, though, and the stealing of cached food could incite war and inflict spiritual harm.

Until their expansion into the lower Colorado River region, the Chemehuevi did not use pottery, but relied instead on a variety of woven implements and baskets, often with painted designs. Chemehuevi hunters were known for their recurved, sinew-backed bows, which, though shorter than comparable Mohave bows, were nonetheless accurate, powerful, and well suited to hunting deer and other big game. Those groups that settled along the Colorado River adopted agriculture, more substantial wooden dwellings, pottery, and several other cultural features from their riverine neighbors. They are known to have constructed hand-dug wells.

Despite an underlying friction, the Chemehuevi were traditional allies of the Mohave. After the Halchidhoma were driven from the Colorado River area in the early nineteenth century, the Chemehuevi moved into the Parker/Blythe area vacated by the Halchidhoma. Some Chemehuevi families moved to the Mara Oasis, near what now is the city of Twenty-nine Palms. Some scholars suggest that the Chemehuevi may have settled in the Palo Verde Valley vicinity before the expulsion of the Halchidhoma. According to Mohave oral histories, the Chemehuevi were invited to come to the Colorado River after 1830. Chemehuevi sources, though, suggest that the Chemehuevi Valley and Cottonwood Island along the Colorado River were part of the Chemehuevi traditional territory prior to the 1800s. This continues to be a point of disagreement between scholars and between the Mohave and Chemehuevi.

In the Protohistoric and Historical periods, the Chemehuevi traveled extensively through the deserts and as far west as the Pacific coast simply for exploration purposes, and to exchange goods and obtain marine shell ornaments and raw materials. Periodically, small groups of Chemehuevi and Las Vegas Southern Paiute would travel together to the Hopi villages in Arizona, although those trips were described as purely social visits involving gift exchanges, not trading expeditions.

Desert Cahuilla

The Cahuilla language, divided into Desert, Pass, and Mountain dialects, has been assigned to the Cupan subfamily of the Takic branch of the Uto-Aztecan linguistic family. Territory traditionally claimed by the Cahuilla stretches from the summit of the San Bernardino Mountains in the north to Borrego Springs and the Chocolate Mountains in the south, a portion of the Colorado Desert west of Orocopia Mountain to the east, and the San Jacinto Plain near the City of Riverside and the eastern slopes of Palomar Mountain to the west.

Cahuilla villages were typically located in canyons or on alluvial fans near water and food patches. The immediate area surrounding a village was owned by a lineage. Other lands were divided into tracts owned by clans, families, and individuals. Numerous sacred sites with rock art were associated with each village. Villages were connected by trail networks used for hunting, trading, and social visits. Trading was a prevalent economic activity. Some Cahuilla were trading specialists. Cahuilla trade routes extended as far west as the Channel Islands and east to the Gila River.

The Cahuilla had access to an immense variety of plant resources across a diverse suite of habitats. Several hundred plant species were used for food, manufacturing materials, and medicine. Acorns, mesquite and screw beans, pinyon nuts, and cactus fruits were the most important plant foods. These were supplemented by a host of seeds, tubers, roots, bulbs, fruits and berries, and greens. Corn, beans, squash, and melons were cultivated. More than 200 species of plants were used as medicines. Hunting and meat processing were done by men. Game included deer, mountain sheep, pronghorn, rabbits, rodents, and birds. These were pursued by individuals and communal hunting groups. Blinds, pits, the bow and arrow, throwing sticks, nets, snares, and traps were used to procure game. Communal hunts with fire drives sometimes occurred.

Mortars and pestles, manos and metates, pottery, and baskets were used to process and prepare plant and animal foods. Cahuilla material culture included a variety of decorated and plain baskets; painted/ incised pottery; bows, arrows, and other hunting-related equipment; clothing, sandals, and blankets; ceremonial and ritual costumes and regalia; and cordage, rope, and mats. Games and music were important social and ritual activities for the Cahuilla.

3.6.1.4. Historic Setting

In California, the historic era is generally divided into three periods: the Spanish or Mission period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American period (1848 to present). Although Europeans did pass through the Project area during the Mission and Mexican periods, all the historic resources identified in the Project area are associated with the American Period. As such, the following discussion emphasizes the American Period. The history of the area relates to themes involving the development of the west and the Colorado Desert, mining and homesteading activities, military desert training, and agribusiness in the late twentieth century. The areas of regional development, transportation, mining, water conveyance, military training activities, and agriculture and ranching are briefly described below.

Regional Development

In the early 1800s, prospectors were some of the only Euro-Americans traveling in the California deserts, and they frequently came into conflict with Native American groups. In the 1820s, limited placer mining began in the eastern Colorado Desert. Regionally, mining and prospecting activities were most intense in the mountains and high deserts of the Mojave, but small-scale mining has been a consistent feature of the Colorado Desert from the 1800s to the present day.

After the Treaty of Guadalupe Hidalgo in 1848, the United States took control of the Southwest and established a series of camps and forts throughout the Arizona, Nevada, and California deserts. The U.S. Cavalry was used to protect settlers and immigrants from the often-hostile tribes whose territories they were invading. Following the discovery of gold at Sutter’s Mill the same year, mining camps were established in the desert beginning with Salt Creek in the Armargosa Desert. In the 1850s, some would-be miners tried their luck in the eastern Colorado Desert but found very little gold. Most miners simply passed through the desert on their way to the larger strikes to the west and north.

As part of an effort to establish a railroad route from St. Louis to the Pacific Ocean, the U.S. government conducted a series of surveys from 1853 to 1855 to identify feasible routes. Lieutenant Amiel Weeks Whipple, a topographical engineer in the U.S. Army, was assigned the task of determining the western-most section of the route from Arkansas to Los Angeles. Whipple passed through Mojave territory in 1854, crossing the Colorado River near present-day Needles. The railroad surveys recorded the terrain and geology of the Colorado Desert. Land in the vicinity of the Project area was included in the survey in 1853.

Along the eastern bank of the Colorado River, the town of La Paz, Arizona, developed when gold was discovered nearby. The subsequent gold rush made La Paz an instant boomtown with a population that peaked at 1,500 in the 1860s. By 1863, between 2,500 and 3,000 Americans and Mexicans were on the river between Palo Verde Valley and El Dorado Canyon, most of them engaged in mining. Along the stage line between San Bernardino and the Colorado River, La Paz was an important stop and served as the county seat for Yuma County until 1870. The La Paz mining district yielded placer gold for only a short period. The town of La Paz went from boomtown to ghost town by the early 19th century.

Significant economic development of the Colorado Desert region began in the 1870s and came to fruition in the early part of the twentieth century. Development was dependent largely on two things: water and transportation. Development of transportation came in 1872 with the construction of the Southern Pacific Railroad from Los Angeles to present-day Indio and, eventually, Yuma. The early townsite of Indio, the mid-point between Los Angeles and Yuma, was created to provide living quarters for train crews and rail-road workers. A nearby Native American reservation provided some of the labor force for the construction of those living quarters. The first trains ran on May 29, 1876. The Southern Pacific Railroad reached Yuma on September 30, 1877. Railroad stops were built at Walters (now called Mecca), Woodspur (Coachella), and Thermal, among others. The second transcontinental railroad was completed when the Southern Pacific and the Atchison, Topeka, and Santa Fe Railroads were linked at Deming in New Mexico Territory on March 8, 1881, providing settlers relatively quick and easy access to the region.

The railroad was the single most important boost to mining in the southeastern Colorado Desert, offering convenient transportation of heavy mining equipment, supplies, personnel, and bullion. By 1880, the Southern Pacific Railroad was providing regional access to gold and silver ore deposits in the Chocolate Mountains, Cargo Muchachos, and Palo Verde Mountains. When mines opened near the turn of the twentieth century, stamp mills and small tracks leading from the mines to the stamp mills were built. Mining productivity in the southeastern Colorado Desert was greatest between 1890 and 1910, with a brief resurgence in the 1930s.

A further boost to regional development in the Colorado Desert was the rail rate war of 1887, when fares from Missouri River to California were slashed to $1. Advertising programs were developed to attract settlers to the West. With the railroad to transport crops and the consistently warm climate, areas in the desert were attractive places for prospective farmers of the time. Besides settlers, health reasons stimulated others' attraction to sanitariums that took advantage of the warm climate and desert hot springs in Palm Springs.

Community Development – Desert Center

There are few communities in the Chuckwalla Valley. Desert Center is the closest community, approximately 0.9 mile southwest of the Project Area. The largest nearby city is Blythe, which is located roughly 42 miles east. Other smaller communities include Hell and Eagle Mountain; neither is currently occupied.

Desert Center was founded in 1921 by Stephen Ragsdale, who opened a small gas station and diner with his wife Lydia. It is situated along a segment of former U.S. Highway 60/70 (Ragsdale Road) near the intersection of Rice Road (State Route [SR] 177) and north of Interstate 10 (I-10). The town's core buildings, including the Desert Center Café, automobile garage/service station, and cabins on the south side of Ragsdale Road as well as the post office and market on the north side are on lots that were originally carved out of a larger 40-acre parcel acquired by Ragsdale through a land patent from the State of California approved December 22, 1926.

They pumped gasoline from a 55-gallon drum and served food to weary travelers. Ragsdale was successful in establishing the town along Route 60. It was moved 5 miles to the north to its current location along the freeway following construction of I-10. The community of Desert Center experienced a resurgence associated with the Desert Training Center/California-Arizona Maneuver Area (DTC/C-AMA) and the establishment of Camp Desert Center and Airfield (see discussion below). The town, however, once again became a small quiet roadside attraction after the DTC/C-AMA was closed at the end of World War II

(WWII). The airfield is now privately owned. Today Desert Center is in disrepair, although it still serves as a stopping point along I-10.

Transportation

William D. Bradshaw blazed the first road through what is now Riverside County in 1862 as an overland stage route beginning at San Bernardino, California, and ending at La Paz (now Ehrenberg), Arizona. Early in the 1860s, Hank Brown and John Frink independently developed routes to access the gold mines in the vicinity of La Paz. Frink's route was an east–west road established as an alternative to the more southern Butterfield Stage route. This was apparently the first Anglo development across the Palo Verde Mesa, although it has since all but disappeared. Bradshaw's route, later known eponymously as the Bradshaw Trail, crossed the desert to the La Paz mining district. Bradshaw also operated a ferry across the Colorado River near Providence Point, opposite a small community that would become Ehrenberg, Arizona.

Bradshaw developed his road partly along Brown's and Frink's previous routes although Bradshaw's trail headed more directly east from Salt Creek Pass to the north slopes of the Chocolate Mountains. Bradshaw, like most early trailblazers, used Native American routes that predated Spanish exploration. Part of Bradshaw's trail may have been the Coco-Maricopa Trail, which intersected the Colorado River near Blythe and may have passed from west to east approximately 8 miles due south of the Project area. The Bradshaw Trail is near Corn Spring (Ross, 1992:129). The Bradshaw Trail, like many other cross-country routes, became largely obsolete with the arrival of rail service in the desert and the depletion of the La Paz gold fields in the late 1870s. The railroads reoriented the development of trails and wagon roads that connected new mining communities to major routes of transportation. Railroad stops became destinations for wagon roads, allowing points of access for development of the remote desert interior. Bradshaw's trail has been largely obliterated and is now a 65-mile-long graded road that traverses mostly public land south of the Chuckwalla Mountains.

The early highway system in the United States developed out of a patchwork of trails that later became unimproved roads and eventually were connected into an integrated system of paved routes. Often, early roads in the United States followed prehistoric trails. One of the earliest transportation corridors through the Chuckwalla Valley included U.S. Highways 60 and 70, currently known as Chuckwalla Valley Road. Portions of Chuckwalla Valley Road were still unpaved up until 1926.

Today, I-10 is the major transportation corridor through the Chuckwalla Valley and the major connector between Los Angeles and Phoenix. The road was completed in 1968 and has become a major east–west corridor for travelers and commercial traffic.

Mining

Riverside County was known historically for its sporadic, small-scale mining of gold, silver, lead, copper, uranium, fluorite, and manganese. Large numbers of prospectors were attracted to the region during the 1862 gold boom in La Paz (in western Arizona, 6 miles north of present Ehrenberg). Not long after, miners and prospectors began combing the mountains on either side of the Chuckwalla Valley. Gold was being mined as early as 1865 in the Eagle Mountain District. Much later, in the late 1940s, Kaiser Steel began a large-scale iron ore mining operation in the Eagle Mountains. In the 1950s, the Blythe-Eagle transmission line was constructed. It was a 161-kilovolt (kV) transmission line that connected a substation in Blythe to a substation near Eagle Mountain for the purpose of providing power to the mine and the community of mine workers.

In the Granite Mountains to the north-northwest, there was a short stint of gold mining beginning in 1894, followed by a resurgence in the late 1920s by the Chuckwalla Mining and Milling Corporation. Copper mining occurred in the Palen Mountains to the northwest during the 1910s, by the Fluor Spar Group, Homestake Group, Crescent Copper Group, Orphan Boy, and Ophir mines. Most of these mines were abandoned only a few years later.

The short-lived Pacific Mining District in the Chuckwalla Mountains was established in 1887, following gold and silver discoveries that caused the most substantial rush to Riverside County in its history. Sixty claims were filed by the end of the year, but the boom fizzled by 1890 because the owners never had enough capital to work them properly. Around 1898, some 40 claims in the area were taken up by the Red Cloud Mining Company. The company installed a new hoist and a 30-ton mill and was raising money through stock offerings to construct a tram from the mine to the mill. The company changed hands some time before 1915, however, and folded soon after. Just prior to this, six prospectors began working the Chuckwalla Placer Diggings near Chuckwalla Springs—this lasted about 15 years. The Red Cloud Mine was resurrected in 1931, when a small amalgamation plant was built, and continued operations until 1945.

With the onset of WWII, the demand for steel increased. However, the iron ore in the Eagle Mountain claims was protected as part of the Joshua Tree National Monument, established in 1936. Henry J. Kaiser had a steel mill at Fontana and the Vulcan iron mine near Kelso that supplied materials for his West Coast shipyards. Kaiser purchased the Eagle Mountain Mine and succeeded in having the boundaries of Joshua Tree Monument shifted to exclude Eagle Mountain. Kaiser constructed a rail line that connected to the Southern Pacific Railroad, and ore mining commenced in 1948. By 1971, the Eagle Mountain Mine produced 90% of California's iron.

At its height, the mine employed more than 4,000 people, making it the largest employer in Riverside County. The town of Eagle Mountain included schools, fire and police departments, 416 rental houses, 185 trailers, 383 dormitories, and 32 apartments. Kaiser Steel needed to provide medical care for the residents of Eagle Mountain, and medical care provided by the company eventually became Kaiser Permanente. The mine closed in 1983 because of economic factors and competition from abroad.

Water Conveyance

The Colorado River Aqueduct (CRA) is a water conveyance system operated by the Metropolitan Water District (MWD) of Southern California. Construction began in 1933 and water first flowed through the system in 1941. The CRA system carries Colorado River water, impounded at Lake Havasu on the California-Arizona border to the coastal and inland valleys of Southern California. The CRA stretches 242 miles from Parker Dam to Lake Mathews (formerly known as Cajalco Reservoir). Water from Lake Mathews is then distributed to local water districts in the Los Angeles basin and lower Santa Ana River drainage. The system is composed of 2 reservoirs, 5 pumping plants, 63 miles of canals, 92 miles of tunnels, 84 miles of buried conduit and siphons, and a filtration plant at La Verne, California. The nearest of these pump stations to the Project area is the Eagle Mountain Pump Lift, located 7 miles north of Desert Center.

Construction of the CRA involved creative engineering solutions and newly introduced equipment at the time of its construction. It also employed more than 35,000 people during an 8-year span of construction, and as many as 10,000 people at one time, making it Southern California's single largest work opportunity during the Great Depression. Prior to beginning construction, little to no infrastructure was present in the desert. Roadways, power lines, telephones, and water sources had to be built to accommodate the work effort required. Due to its many engineering merits, the CRA has been named a National Historic Civil Engineering Landmark by the American Society of Civil Engineers. Today, it is one of the principal water supply systems for Southern California.

Military Training Activities

Evidence of military training is present across the Colorado Desert. George Patton's DTC/C-AMA and Operation Desert Strike have left many artifacts, features, and sites across the region. The DTC/C-AMA was established in the 1940s to prepare U.S. troops for possible deployment to North Africa. The Project vicinity is between areas where major military maneuvers took place and where camps were located, though evidence of small unit training maneuvers can be found within the Project area.

Desert Training Center/California-Arizona Maneuver Area

In 1942, during WWII, General George S. Patton, Jr., established the DTC/C-AMA in a sparsely populated region of southeastern California, Arizona, and Nevada. Its purpose was to prepare tank, infantry, and air units for the harsh conditions of North Africa by practicing maneuvers, developing tactics, and field-testing equipment. The installation was in operation for two years and was the first simulated theater of operations in the United States. Its location was chosen for its unforgiving desert heat, rugged terrain, available telephone communications system, and accessibility by established railroads and highways.

Recent renewable energy projects in the region have identified many DTC/C-AMA-related sites, artifacts, and features. These resources were understood to be pieces of a larger historic district that represents an important piece of the military history of the nation. The DTC/C-AMA was the largest training facility and the only one of its kind in American military history, eventually encompassing more than 16,000 square miles. The tactical, strategic, and logistical doctrines developed and refined during the facility's life were applied overseas and undoubtedly helped to win WWII.

DTC/CAMA resource types include maneuver areas, divisional camps, small unit training areas, air facilities and crash sites, bivouacs, campsites, ranges, supply depots and railroad sidings, and hospitals and medical centers. Based on the proximity of Desert Center, sites within the Project area could be related to most of these property types. The following is a summary of properties known to be present in the vicinity of Desert Center.

Maneuver Areas: The Chuckwalla Valley. The greater Chuckwalla Valley was considered a maneuver area, consisting of 11,520 acres, and was considered "contaminated" immediately after the war. Units moved across this valley in many of the maneuvers, and bivouacs and defensive positions were established in many locations. Several passes adjacent to this valley also served as good training grounds for movement, attack, and defense.

Desert Center Airport. The Desert Center Army Airfield was first known as the Desert Center Airdrome and was operational beginning sometime in the winter of 1942–1943. The airfield was a sub-base of Thermal Army Airfield, as a support base for the Air Technical Services Command. The airport contained two paved runways, each measuring 5,000 by 150 feet, along with taxiways and a parking apron. More than 40 buildings were constructed at the airfield, including an operations building, powerhouse, control tower, pump house and well, and a 10,000-gallon water tower. Several crash sites are known to exist in the DTC/CAMA, particularly in those areas close to air facilities.

Air-to-ground ranges are also considered a part of air facilities. For the most part, air-to-ground gunnery practice focused on the toe of mountains. Bombs and .50-caliber shell casings from these activities have been found in the years following the Army's departure from the area. There were likely range markers established on these facilities, along with targets for the aircraft to fire upon.

Desert Center Observer's Camp. A camp was established immediately north of the small town of Desert Center, along the road to Camps Coxcomb and Iron Mountain. It was here that the maneuvers were evaluated, and deficiencies pointed out. The camp contained 112 tents, 5 shower buildings, and 8 latrines. The camp was also supplied with water through a well and pump along with a 4,000-gallon storage tank.

18th Ordnance Battalion Campsite. Located 5 miles east of Desert Center, this camp appears to encompass a watering point. The only structures reported included a capped well, a 50,000-gallon water tank, and a wooden tower. Tent stakes and other refuse have been found in an area that relate to this camp.

Small Arms Range – Desert Center. A small arms range was established southeast of the town of Desert Center on the north end of the Chuckwalla Mountains. Neither the type of weapons used here nor the units that used them are known.

Desert Center Supply Depot. A quartermaster truck site was established near the small community of Desert Center. A rock alignment for the 496th Medium Ordnance Company remains northeast of the town. The rock alignment spells out “496 MEDCO.” An ammunition depot was established northeast of Desert Center, although its location has not been examined or confirmed.

Desert Center Evacuation Hospital. An evacuation hospital was established near the town of Desert Center on both sides of the road to Eagle Mountain. The hospital site remains in good condition today and retains its basic design and layout. Many rock-lined walkways, roads, symbols, tent sites, and other activity areas remain in place. Artifacts are dispersed across the site and in dumps.

Desert Strike. One brief military training exercise, known as Desert Strike, took place in the desert maneuver area in May 1964. Amidst the nuclear arms race, the U.S. Strike Command conducted the joint Army and Air Force field training exercise for the major combat organizations and their support units in employing tactical nuclear and conventional weapons. Army and Air Force troop units were trained in passive and active tactics, as well as concepts and procedures for joint operations.

The exercise was a two-sided enactment, with fictitious world powers “Calonia” and “Nezona” sharing a common border at the Colorado River. The premise of the conflict between these two entities, each led by a Joint Task Force, was a dispute over water rights. Major tactical operations during the exercise included deep armor thrusts, defensive operations along natural barriers, counterattacks including airmobile and airborne assaults, and the simulated use of nuclear weapons. The Air Force provided fighter, air defense, interdiction, counterair reconnaissance, and troop carrier operations in support of both joint task forces.

Agriculture/Ranching

Agriculture became an important industry, second only to mining, by the late 1850s. Homesteading formed the foundation for California’s agricultural economy in the nineteenth century, and the official passage of the Homestead Act in 1862 opened vast areas of the public domain to private citizens. The Desert Land Act of 1877 also promoted the acquisition of open tracts of land, with an entitlement to 640 acres for each applicant, who were primarily speculators. Generally, lands that fell under this act were marginal for sustained agriculture. Transforming arid land into productive farming and grazing lands was a key factor in development. Although agriculture became an important industry in the Palo Verde Valley near Blythe and the Colorado River, significant agricultural development did not take place near the Project area until the late twentieth century.

The federal government and the State of California decided to invest in the cultivation of the jojoba plant as an alternative to sperm whale oil. A tax-break was given to private growers, and speculators began buying up acreage in the Chuckwalla Valley and other California deserts. In the late 1970s and early 1980s, farmers purchased land in Chuckwalla Valley and began commercially growing jojoba. Hundreds of farms were established in the 1980s by private farmers hoping to make a large profit. Approximately 6,000 acres of jojoba was planted in Chuckwalla Valley.

However, the boom was short lived because the jojoba plant grows slowly, and it takes years for plants to produce oil. Many jojoba farms were converted to other crops, including asparagus. Currently, there is only one active jojoba farm in the Chuckwalla Valley, La Ronna Jojoba Company Farm. La Ronna Jojoba Company Farm is a research/mother block of a variety of cultivars.

3.6.2. Regulatory Framework

Numerous laws and regulations require federal, state, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies.

3.6.2.1. Federal Laws, Regulations, and Policies

National Environmental Policy Act. The National Environmental Policy Act (NEPA) of 1969, as amended, requires analysis of potential environmental impacts to important historic, cultural, and natural aspects of our national heritage for major federal actions that may have a significant effect on the human environment (42 USC 4321-4375; Title 40 CFR Sections 1500-1508). The discussion of impacts pursuant to NEPA is defined by the Council on Environmental Quality regulations and requires consideration of the temporal scale, spatial extent, and intensity of the change that would be introduced by the Linear Facility Routes associated with the Project, as these traverse BLM-administered land.

National Historic Preservation Act. The federal government has developed laws and regulations designed to protect cultural resources that may be affected by actions undertaken, regulated, or funded by federal agencies. Under the National Historic Preservation Act (NHPA) of 1966, the Linear Facility Routes associated with the Project are considered a federally licensed "undertaking" per Title 36 Code of Federal Regulations (CFR) Section 800.2(o) and subject to compliance with Section 106 of the NHPA, as amended. Under these guidelines, federal agencies are required to identify cultural resources that may be affected by Project actions, assess the significance of these resources and their eligibility for inclusion on the National Register of Historic Places (NRHP) as per 16 United States Code (USC) 470w(5), and consult with the Advisory Council on Historic Preservation regarding Project effects on significant resources. Eligibility is based on criteria defined by the U.S. Department of the Interior. Generally, districts, archaeological sites, buildings, structures, and objects that possess integrity are potentially eligible for inclusion on the NRHP under the following criteria (Title 36 CFR Section 60.4):

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or

B. that are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to yield, information important in prehistory or history.

If a cultural resource is determined to be an eligible historic property under Title 36 CFR Section 60.4, then Section 106 requires that the effects of the proposed undertaking be assessed and considered in planning the undertaking. According to Title 36 CFR Section 800, Regulations of the Advisory Council on Historic Preservation Governing the Section 106 Review Process, the lead agency, State Historic Preservation Officer (SHPO), and Advisory Council on Historic Preservation:

> ...should be sensitive to the special concerns of Indian tribes in historic preservation issues, which often extend beyond Indian lands to other historic properties. …When an undertaking may affect properties of historic value to an Indian tribe on non-Indian lands, the consulting parties shall afford such tribe the opportunity to participate as interested persons. Traditional cultural leaders and other Native Americans are considered

interested persons with respect to undertakings that my affect historic properties of significance to such persons.

Desert Renewable Energy Conservation Plan Programmatic Agreement. Compliance with Section 106 of the NHPA will be guided by the Desert Renewable Energy Conservation Plan (DRECP) Programmatic Agreement (PA) because portions of the Project area and associated gen-tie transmission lines are within the Riverside East Solar Energy Zone and within the DRECP Land Use Plan Amendment Development Focus Area, as defined in the Final Environmental Impact Statement (BLM 2015a). The subsequent DRECP PA resulted from consultation among agencies, tribes, and other interested parties in defining how the Bureau of Land Management (BLM) will conduct Section 106 compliance within the DRECP Land Use Plan Amendment Area. The DRECP PA establishes a process that guides BLM in fulfilling its responsibilities under Section 106 of the NHPA for proposed renewable energy projects sited on public lands administered by BLM. Importantly, Section II of the DRECP PA directs BLM to obtain the active involvement of the SHPO, Advisory Council on Historic Preservation, other federal agencies, federally recognized tribal governments and Native American organizations, other interested parties, and the public. BLM is to engage tribes and tribal organizations at the earliest stages of assessing a proposed undertaking to "identify areas which may be of religious and cultural significance to them and which may be eligible for the []NRHP" (Section II.E.2 of BLM 2015b).

Archaeological Resources Protection Act. If federal or Indian lands are involved, the Archaeological Resources Protection Act may impose additional requirements on an agency. The act (1) prohibits unauthorized excavation on federal and Indian lands, (2) establishes standards for permissible excavation, (3) prescribes civil and criminal penalties, (4) requires agencies to identify archaeological sites, and (5) encourages cooperation between federal agencies and private individuals.

Antiquities Act of 1906. The Antiquities Act of 1906 states, in part, that any person who shall appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which said antiquities are situated, shall upon conviction, be fined in a sum of not more than $500 or be imprisoned for a period of no longer than 90 days, or shall suffer both fine and imprisonment, in the discretion of the court.

Federal Land Policy Management Act. The broadest framework for managing cultural resources on public lands is the Federal Land Policy and Management Act (FLPMA) of 1976 (43 U.S.C. ch. 35 § 1701 et seq.). This law directs the BLM to manage the multiple use of public lands in a manner that will "protect the quality of… historical… resources, and archeological values" (BLM 2004:8100.03.H). Under this law, cultural resources do not need to be determined eligible for the NRHP to receive consideration. Additionally, the Act provides for periodic inventorying of the cultural resources on public land as well as the enforcement of public land laws and regulations (BLM 2004:8100.03.H).

Native American Graves Protection and Repatriation Act. The Native American Graves Protection and Repatriation Act was enacted on November 16, 1990, to address the rights of lineal descendants, Indian tribes, and Native Hawaiian organizations to Native American cultural items, including human remains, funerary objects, sacred objects, and objects of cultural patrimony. The act assigned implementation responsibilities to the Secretary of the Interior.

If human remains are encountered on federal lands, this act states that the responsible federal official must be notified immediately and that no further disturbance shall occur in the area until clearance is given by the responsible federal official (Title 43 CFR Section 10.4). If the remains are determined to be Native American Indian, the federal agency will then notify the appropriate federally recognized Native American tribe and initiate consultation.

3.6.2.2. State Laws, Regulations, and Policies

There are numerous state regulations and policies that direct management of cultural resources on state lands and by state agencies. The following is a discussion of the most pertinent laws affecting the Project and impact analysis from a State of California and California Environmental Quality Act (CEQA) perspective. These laws identify four types of resources: historical resources, unique archaeological resources, human remains, and tribal cultural resources (TCRs).

California Environmental Quality Act

Historical Resources. Under CEQA, cultural resources listed on, or determined to be eligible for listing on, the California Register of Historical Resources (CRHR) or a local register must meet the CEQA definition of "historical resources" and must be given consideration in the CEQA process. For this EIR, effects on historical resources may be considered impacts of the Project. Under the California Code of Regulations (CCR), Title 14, Chapter 11.5, properties listed on or formally determined to be eligible for listing on the NRHP are automatically eligible for listing on the CRHR. A resource is generally considered to be historically significant under CEQA if it meets the criteria for listing on the CRHR. These criteria are essentially the same as the eligibility criteria for the NRHP. In addition to being at least 50 years old, a resource must meet at least one (and may meet more than one) of the following four criteria:

- **Criterion 1**—It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- **Criterion 2**—It is associated with the lives of persons important to local, California, or national history;
- **Criterion 3**—It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master or possesses high artistic values; or
- **Criterion 4**—It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association.

Unique Archaeological Resources. Additionally, CEQA states that it is the responsibility of the lead agency to determine whether the Project will have a significant effect on "unique" archaeological resources. An archaeological artifact, object, or site can meet CEQA's definition of a unique archaeological resource even if it does not qualify as a historical resource (California Public Resources Code, Section 21083.2[g]; 14 CCR 15064.5[c][3]). An archaeological artifact, object, or site is considered a unique archaeological resource if "it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria" (California Public Resources Code, Section 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.
- If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place or provide mitigation measures.

Human Remains. California Public Resources Code, Sections 5097.98(b) and (e), require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until the landowner confers with the Native American Heritage Commission-identified Most Likely Descendants to consider treatment options. In the absence of Most Likely Descendants or of a treatment acceptable to all parties, the landowner is required to re-inter the remains elsewhere on the property in a location not subject to further disturbance. Section 5097.99 establishes as a felony the acquisition, possession, sale, or dissection with malice or wantonness Native American remains or funerary artifacts. Finally, Section 5097.991 establishes as state policy the repatriation of Native American remains and funerary artifacts.

California Health and Safety Code Section 7050 makes it a misdemeanor to mutilate, disinter, wantonly disturb, or willfully remove human remains found outside a cemetery and further requires a project owner to halt construction if human remains are discovered and to contact the county coroner.

California Assembly Bill 52. Signed into law in September 2014, California Assembly Bill 52 (AB 52) created a new class of resources – tribal cultural resources (TCRs) – for consideration under CEQA. TCRs may include sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American tribe that are listed or determined to be eligible for listing in the CRHR, included in a local register of historical resources, or a resource determined by the lead CEQA agency, in its discretion and supported by substantial evidence, to be significant and eligible for listing on the CRHR. AB 52 requires that the lead CEQA agency consult with California Native American tribes that have requested consultation for projects that may affect tribal cultural resources. The lead CEQA agency shall begin consultation with participating Native American tribes prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. Under AB 52, a project that has potential to cause a substantial adverse change to a tribal cultural resource constitutes a significant effect on the environment unless mitigation reduces such effects to a less-than-significant level.

3.6.2.3. Local Laws, Regulations, and Policies

Riverside County General Plan. The purpose of the Cultural Resources section of the Multipurpose Open Space Element of the Riverside County (County) General Plan is to protect and preserve cultural (both archaeological and historic) resources. The following policies included in the Multipurpose Open Space Element relate to the Project with regards to cultural resources (Riverside County 2015).

<u>Multi-Purpose Open Space Element:</u>

- **Policy OS 19.1.** Cultural resources (both prehistoric and historic) are a valued part of the history of the County of Riverside.
- **Policy OS 19.2.** The County of Riverside shall establish a Cultural Resources Program in consultation with tribes and the professional cultural resources consulting community that, at a minimum would address each of the following: application of the Cultural Resources Program to projects subject to environmental review; government-to-government consultation; application processing requirements; information database(s); confidentiality of site locations; content and review of technical studies; professional consultant qualifications and requirements; site monitoring; examples of preservation and mitigation techniques and methods; curation and the descendant community consultation requirements of local, state and federal law. (Action Item 144)
- **Policy OS 19.3.** Review proposed development for the possibility of cultural resources and for compliance with the cultural resources program.

- **Policy OS 19.4.** To the extent feasible, designate as open space and allocate resources and/or tax credits to prioritize the protection of cultural resources preserved in place or left in an undisturbed state. (Action Item 145)
- **Policy OS 19.5.** Exercise sensitivity and respect for human remains from both prehistoric and historic time periods and comply with all applicable laws concerning such remains.

Land Use Element:

- **Policy LU 9.1**. Provide for permanent preservation of open space lands that contain important natural resources, cultural resources, hazards, water features, water¬¬courses including arroyos and canyons, and scenic and recreational values.

The proposed Project and the County's government-to-government tribal consultation in accordance with AB 52 would be consistent with these County policies.

3.6.3. Methodology for Analysis

3.6.3.1. Cultural Resources Study Area

The study area for direct impacts to cultural resources is defined as all areas that would be subject to ground-disturbing activity associated with the development of the Project, which includes the 988 acres of private land in the Project area under County jurisdiction and 2,900 acres of land in the Project area managed by the BLM.

Indirect impacts may occur during construction, operation, maintenance, or the decommissioning of the Project. These impacts result from the introduction of visible, auditory, or atmospheric intrusions that affect the setting of the Project area. The indirect impacts study area includes a 1-mile radius around the ~~privately owned parcels within the~~ Project area.

The direct and indirect impacts areas for the ~~CEQA~~ analysis of cultural resources are referred to herein as the Cultural Resources Study Area.

Definitions of Cultural Resources

A cultural resource is defined as any object or specific location of past human activity, occupation, or use identifiable through historical documentation, inventory, or oral evidence. Cultural resources can be separated into four categories: archaeological, built environment, unique archaeological resources, and Tribal Cultural Resources.

Archaeological resources include both historic-era and prehistoric remains of past human activity. Historic-era resources can consist of structural remnants (such as cement foundations), historic-era objects (such as bottles and cans), and sites (such as refuse deposits or scatters). Prehistoric resources can include lithic scatters, ceramic scatters, quarries, habitation sites, temporary camps/rock rings, ceremonial sites, and trails.

Built environment resources consist of standing historic-era buildings and structures, the latter of which include canals, roads and trails, bridges, ditches, and cemeteries.

Pursuant to State CEQA Guidelines Section 5064.5, **historical resource** is a term used to define a prehistoric or historic-aged resource that is recommended eligible for, determined eligible for, or listed in the CRHR. Any resource that is determined eligible or listed on the NRHP is automatically eligible for listing in the CRHR and is considered a significant resource for the purpose of this analysis.

Unique archaeological resource, as defined above in Section 3.6.2, Regulatory Framework, is also considered a significant resource for the purpose of this analysis.

Within the State of California there are provisions in CEQA, its guidelines, and other provisions of the California Public Resources Code for the protection and preservation of significant cultural resources (i.e., "historical resources" and "unique archaeological resources"). The CEQA Guidelines provide three ways in which a resource can be a "historical resource," and thus a cultural resource meriting analysis: (1) the resource is listed on the CRHR; (2) the resource is included in a local register of historical resources (pursuant to Section 5020.1(k) of the California Public Resources Code), or identified as significant in an historical resources survey (meeting the criteria in Section 5024.1(g) of the California Public Resources Code); or (3) the lead agency determines the resource is "historically significant" by assessing CRHR listing guidelines that parallel the federal criteria (14 CCR 15064.5[a][1]-[3]). To qualify as a historical resource under (1) or (3), the resource must also retain the integrity of its physical identity that existed during its period of significance. Integrity is evaluated with regard to retention of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]). Finally, under California law, Native American human remains and associated grave goods are granted special consideration.

Mitigation of cultural resources that are found to be ineligible for CRHR listing is not required (Title 36 CFR Section 800 and 14 CCR 15064.5[c][4)]).

Tribal Cultural Resource (TCR)

As previously discussed, TCRs include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a Tribe. To qualify as a TCR, the resource must either: (1) be listed on, or be eligible for listing on, the California Register of Historical Resources or other local historic register; or (2) constitute a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC Section 21074(a)(2)). Native American tribes that are traditionally and culturally affiliated with a geographic area can provide lead agencies with expert knowledge of TCRs.

3.6.3.2. Previous Studies

The records search results indicate that at least ~~14~~ 39 previous investigations have been conducted within the Cultural Resources Study Area since 1973. ~~Five~~ Fourteen of these studies appear to include portions of or intersect the Project's direct impact area. ~~The~~ One of the most recent of these studies was conducted by PaleoWest in 2020 and 2021 for the Oberon Solar Project (Knabb et al. 2021). The Oberon Solar Project inventoried approximately ~~six~~ 49 percent (~~56~~ 1,922 acres) of the current Project area.

3.6.3.3. Previously Identified Resources

Results of the record search indicate that ~~183~~ 619 cultural resources have been previously recorded in the Cultural Resources Study Area. These resources include ~~11~~ 72 prehistoric sites, ~~73~~ 222 historic-period sites, ~~4~~ 11 multicomponent sites, ~~13~~ 37 built-environment resources, ~~2~~ 3 districts, ~~20~~ 117 prehistoric isolates, ~~56~~ 147 historic period isolated artifacts, and ~~4~~ 10 unknown resources. ~~Thirty-eight~~Eighty-two of these resources were documented in the Project's direct impact area. These resources include ~~4~~ 6 prehistoric sites, 22 historic-period sites, 1 multi-component sites, ~~1~~ 8 built-environment resources, 2 districts, 3 prehistoric isolated artifacts, and ~~31~~ 39 historic period isolated artifacts (Table 3.6-1).

Table 3.6-1. Previously Recorded Cultural Resources within the Project's Direct Impact Area

Primary No.	Trinomial No.	Age	Type	Description	Previous CRHR Eligibility Determination
33-006825		Historic	Site	Well, boiler, and cement reservoir	Not evaluated
33-006836	CA-RIV-10759H	Historic	Site	Desert Center Army Airfield	Individually not eligible; contributor to the DTCCL
33-015088		Historic	Site	Refuse scatter	Not evaluated
33-015089		Multi-component	Site	Prehistoric ceramics with DTC-related tank tracks and refuse	Individually not eligible; contributor to DTCCL; contributor to Prehistoric Trails Network Cultural Landscape (PTNCL)
33-015090		Historic	Site	Refuse scatter	Not evaluated
33-018242	CA-RIV-9381	Historic	Object	MWD survey marker	Not evaluated
33-018268		Prehistoric	Site	Quartz reduction locus	Individually eligible; contributor to PTNCL
33-018269	CA-RIV-9394	Prehistoric	Site	Lithic and ceramic scatter	Individually eligible; contributor to PTNCL
33-018270	CA-RIV-9395	Prehistoric	Site	Lithic scatter	Individually eligible; contributor to PTNCL
33-018391	CA-RIV-11903	Prehistoric	Site	DTC-related refuse	Not evaluated
33-018392	CA-RIV-11904	Historic	Site	DTC-related refuse scatter	Not evaluated
33-018404	CA-RIV-9483	Historic	Site	DTC-related refuse scatter	Not evaluated
33-018523		Prehistoric	Isolate	Quartz flake	Not evaluated
33-018530		Historic	Isolate	Tobacco can	Not evaluated
33-018612		Historic	Isolate	Hazel Atlas broken jar "16"	Not evaluated
33-018613		Historic	Isolate	Isolated brown glass bottle	Not evaluated
33-019415	CA-RIV-9854H	Historic	Structure	Blythe-Eagle Mountain Transmission Line	Not eligible
33-019419	CA-RIV-9858H	Historic	Structure	Mecca-Blythe-Ehrenberg Highway	Not evaluated
33-022247	CA-RIV-11584H	Historic	Site	Linear Berms	Not evaluated
33-022250		Historic	Isolate	Fragment of green glass bottle	Not eligible
33-022251		Historic	Isolate	Metal storage can with pain can-style lid	Not eligible
33-022252		Historic	Isolate	Metal hole-in-top can with a lap seam	Not eligible
33-022254		Historic	Isolate	Crushed metal vent hole can	Not eligible
33-022255		Historic	Isolate	Metal hole-in-top can	Not eligible
33-022256		Historic	Isolate	Metal hole-in-top can	Not eligible
33-022257		Historic	Isolate	Metal hole-in-top can	Not eligible
33-022258		Historic	Isolate	Metal can with lap seams	Not eligible
33-022259		Historic	Isolate	Metal hole-in-top can	Not eligible
33-022260		Historic	Isolate	Pick opened metal hole-in-top can	Not eligible

Primary No.	Trinomial No.	Age	Type	Description	Previous CRHR Eligibility Determination
33-022261		Historic	Isolate	Green glass Coca-Cola bottle fragment	Not eligible
33-022262		Historic	Isolate	Green glass Coca-Cola bottle	Not eligible
33-022263		Historic	Isolate	Two green glass Coca-Cola bottles	Not eligible
33-022264		Historic	Isolate	Clear glass Coca-Cola bottle with a screw-on cap	Not eligible
33-022265		Historic	Isolate	Metal hole-in-top can	Not eligible
33-022266		Historic	Isolate	Metal hole-in-top can	Not eligible
33-022267		Historic	Isolate	Metal hole-in-top can	Not eligible
33-022268		Historic	Isolate	Metal hole-in-top can	Not eligible
33-022269		Historic	Isolate	Metal knife cut hole-in-top can	Not eligible
33-022270		Historic	Isolate	Metal hole-in-top can	Not eligible
33-022271		Historic	Isolate	Metal hole-in-top can with lap seams	Not eligible
33-022272		Historic	Isolate	Punched open metal hole-in-top can	Not eligible
33-022273		Historic	Isolate	Two metal hole-in-top cans	Not eligible
33-022274		Historic	Isolate	Cut open metal hole-in-top can	Not eligible
33-022275		Historic	Isolate	Weathered green glass Coca-Cola bottle	Not eligible
33-022276		Historic	Isolate	Weathered green glass Coca-Cola bottle	Not eligible
33-022279		Historic	Isolate	Picked open metal hole-in-top can	Not eligible
33-022280		Historic	Isolate	Knife cut metal hole-in-top can	Not eligible
33-022281		Historic	Isolate	Weathered green glass Coca-Cola bottle	Not eligible
33-022282		Historic	Isolate	Punched open metal hole-in-top can	Not eligible
33-022283		Historic	Isolate	Church key-opened round metal hole-in-top can	Not eligible
33-023675	CA-RIV-11595	Historic	Site	DTC/AMA-C Habitation Site (496th Medium Ordnance Company Camp)	Individually eligible; contributor to the DTCCL
33-023700	CA-RIV-12889	Historic	Site	DTC-related bivouac or temporary camp, possibly 18th Ordnance Battalion Camp	Individually not eligible; contributor to DTCCL
33-028640	CA-RIV-12890	Historic	Site	Refuse scatter	Individually not eligible; contributor to DTCCL
		Prehistoric	District	Prehistoric Trails Network Cultural Landscape (PTNCL)	Eligible
		Historic	District	Desert Training Center Cultural Landscape (DTCCL)	Eligible
	19-387-EM-020H	Historic	Site	Fire ring and tank and armored vehicle tracks	Individually not eligible; contributor to DTCCL

Primary No.	Trinomial No.	Age	Type	Description	Previous CRHR Eligibility Determination
	19-387-EM-023H	Historic	Structure	Road remnant	Not evaluated
	19-387-EM-024H	Historic	Structure	Road remnant	Not evaluated
	19-387-EM-025	Prehistoric	Site	Lithic scatter	Not evaluated
	19-387-KH-014H	Historic	Site	DTC foxhole	Individually not eligible; contributor to DTCCL
	19-387-KH-016	Prehistoric	Site	Lithic scatter	Individually eligible, contributor to PTNCL
	19-387-KJ-001H	Historic	Site	Artifact scatter, rock feature, and tank tracks	Not evaluated
	19-387-KJ-002H	Historic	Site	DTC-related ammunition debris scatter	Not evaluated
	19-387-KJ-003H	Historic	Site	DTC-related ammunition debris and depression	Not evaluated
	19-387-KJ-004H	Historic	Site	Military-related artifact scatter	Not evaluated
	19-387-KJ-005H	Historic	Site	Military-related artifact scatter	Not evaluated
	19-387-KJ-006H	Historic	Site	WWII-era munitions debris scatter	Not evaluated
	19-387-KJ-008H	Historic	Site	DTC-related munition debris	Not evaluated
	19-387-KJ-010	Prehistoric	Site	Lithic scatter	Not evaluated
	19-387-KJ-BE-009H	Historic	Object	County survey marker (iron pipe with brass cap)	Not evaluated
	19-387-WH-008H	Historic	Site	DTC-related artifact concentration	Not evaluated

3.6.3.4. Phase I Cultural Resource Survey

Chronicle Heritage conducted ~~a Phase I survey of the portion of the Project area under County jurisdiction~~cultural resources surveys between March 20, 2023, and April 27, 2023, with a follow-up survey completed November 21, 2023. Survey crews conducted an intensive pedestrian survey of the ~~932~~ 1,966 acres of the Project area, consisting of approximately 1,030 acres of BLM-managed lands and 932 acres of privately owned lands. The remaining 1,922~~56~~ acres ~~of private land~~ had been previously surveyed by PaleoWest in 2020 and 2021 as part of the Oberon Solar Project (Knabb et al. 2021). The surveys documented ~~25~~ 73 cultural resources in the direct impacts area that included ~~4~~ 31 archaeological sites, ~~2~~ 8 historic built-environment resources, 2 districts, and ~~17~~ 32 isolated occurrences (Table 3.6-2).

Assessments of significance found that ~~four~~ eight cultural resources (Prehistoric Trails Network Cultural Landscape [PTNCL], the Desert Training Center Cultural Landscape [DTCCL], P-33-015089, 33-023700, 19-387-EM-020H, 19-387-KH-014H, the Desert Center Army Airfield [P-33-006836], and the 496th Medium Ordinance Company [P-33-023675] are eligible for listing on the CRHR either individually or as contributors to historic districts. These cultural resources can be considered historical resources under CEQA. Resources identified during surveys portions of the Project on BLM-managed lands were evaluated for eligibility for listing on the NRHP but were unevaluated for eligibility for listing on the CRHR as part of the current study. None of the resources identified on BLM-managed lands were recommended eligible for the NRHP. A summary of each identified resource is provided below.

Table 3.6-2. Cultural Resources Documented in the Project's Direct Impact Area.

Primary No.	Trinomial/ Temp. No.	Age	Type	Description	CRHR Eligibility
33-006825		Historic	Site	Well, boiler, and cement reservoir	Not Eligible*
33-006836	CA-RIV-10759H	Historic	Site	Desert Center Army Airfield	Individually not eligible; contributor to the DTCCL*
33-015088		Historic	Site	Refuse scatter	Not evaluated*
33-015089		Historic	Site	DTC-related tank tracks and refuse	Individually not eligible, contributor to DTCCL*
33-015090		Historic	Site	Refuse scatter	Not evaluated*
33-018242	CA-RIV-9381	Historic	Object	MWD survey marker	Not evaluated*
33-018268		Prehistoric	Site	Quartz reduction locus	No longer present*†
33-018269	CA-RIV-9394	Prehistoric	Site	Lithic and ceramic scatter	No longer present*†
33-018270	CA-RIV-9395	Prehistoric	Site	Lithic scatter	No longer present*†
33-018391	CA-RIV-11903	Prehistoric	Site	DTC-related refuse	Not evaluated*
33-018392	CA-RIV-11904	Historic	Site	DTC-related refuse scatter	Not evaluated*
33-018404	CA-RIV-9483	Historic	Site	DTC-related refuse scatter	Not evaluated*
33-018523		Prehistoric	Isolate	Quartz flake	Not evaluated*
33-018530		Historic	Isolate	Tobacco can	Not evaluated*
33-018612		Historic	Isolate	Hazel Atlas broken jar "16"	Not evaluated*
33-018613		Historic	Isolate	Isolated brown glass bottle	Not evaluated*
33-019415	CA-RIV-9854H	Historic	Structure	Blythe-Eagle Mountain Transmission Line	Not eligible*
33-019419	CA-RIV-9858H	Historic	Structure	Mecca-Blythe-Ehrenberg Highway	Not evaluated*
33-022247	CA-RIV-11584H	Historic	Site	Linear Berms	Not Eligible*
33-022255		Historic	Isolate	Metal hole-in-top can	Not Eligible*
33-022256		Historic	Isolate	Metal hole-in-top can	Not Eligible*
33-022258		Historic	Isolate	Metal can with lap seams	Not Eligible*
33-022259		Historic	Isolate	Metal hole-in-top can	Not Eligible*
33-022261		Historic	Isolate	Green glass Coca-Cola bottle fragment	Not Eligible*
33-022262		Historic	Isolate	Green glass Coca-Cola bottle	Not Eligible*
33-022263		Historic	Isolate	Two green glass Coca-Cola bottles	Not Eligible*
33-022265		Historic	Isolate	Metal hole-in-top can	Not Eligible*
33-022266		Historic	Isolate	Metal hole-in-top can	Not Eligible*
33-022267		Historic	Isolate	Metal hole-in-top can	Not Eligible*
33-022270		Historic	Isolate	Metal hole-in-top can	Not Eligible*
33-022273		Historic	Isolate	Two metal hole-in-top cans	Not Eligible*
33-022280		Historic	Isolate	Knife cut metal hole-in-top can	Not Eligible*

Primary No.	Trinomial/ Temp. No.	Age	Type	Description	CRHR Eligibility
33-023675	CA-RIV-11595	Historic	Site	DTC/AMA-C Habitation Site (496th Medium Ordnance Company Camp)	Individually eligible; contributor to the DTCCL*
33-023700	CA-RIV-12889	Historic	Site	DTC-related bivouac or temporary camp, possibly 18th Ordnance Battalion Camp	Individually not eligible, contributor to DTCCL*
		Prehistoric	District	Prehistoric Trails Network Cultural Landscape (PTNCL)	Eligible
		Historic	District	Desert Training Center Cultural Landscape (DTCCL)	Eligible
	19-387-EM-020H	Historic	Site	Fire ring and tank and armored vehicle tracks	Individually not eligible, contributor to DTCCL*
	19-387-EM-023H	Historic	Structure	Road remnant	Not evaluated*
	19-387-EM-024H	Historic	Structure	Road remnant	Not evaluated*
	19-387-EM-025	Prehistoric	Site	Lithic scatter	Not evaluated*
	19-387-KH-014H	Historic	Site	DTC foxhole	Individually not eligible, contributor to DTCCL*
	19-387-KH-016	Prehistoric	Site	Lithic scatter	No longer present*†
	19-387-KJ-001H	Historic	Site	Artifact scatter, rock feature, and tank tracks	Not evaluated*
	19-387-KJ-002H	Historic	Site	DTC-related ammunition debris scatter	Not evaluated*
	19-387-KJ-003H	Historic	Site	DTC-related ammunition debris and depression	Not evaluated*
	19-387-KJ-004H	Historic	Site	Military-related artifact scatter	Not evaluated*
	19-387-KJ-005H	Historic	Site	Military-related artifact scatter	Not evaluated*
	19-387-KJ-006H	Historic	Site	WWII-era munitions debris scatter	Not evaluated*
	19-387-KJ-008H	Historic	Site	DTC-related munition debris	Not evaluated*
	19-387-KJ-010	Prehistoric	Site	Lithic scatter	Not evaluated*
	19-387-KJ-BE-009H	Historic	Object	County survey marker (iron pipe with brass cap)	Not evaluated*
	19-387-WH-008H	Historic	Site	DTC-related artifact concentration	Not evaluated*
	CB-SITE-001	Historic	Site	Refuse scatter	Not evaluated*
	CB-SITE-002	Historic	Site	Refuse scatter	Not evaluated*
	HL-SITE-001	Historic	Site	Refuse scatter	Not evaluated*
	HL-SITE-002	Historic	Site	Refuse scatter	Not evaluated*
	EA-2023-S-01	Historic	Site	Refuse scatter	Not evaluated*
	HL-BE-004H	Historic	Structure	Trailer Park	Not Eligible*
	HL-BE-005H	Historic	Structure	Wastewater treatment facility	Not evaluated*

Primary No.	Trinomial/ Temp. No.	Age	Type	Description	CRHR Eligibility
	CB-ISO-001	Prehistoric	Isolate	One tertiary chert flake	Not Eligible*
	HL-ISO-001	Prehistoric	Isolate	One basalt flake	Not Eligible*
	MH-ISO-003	Prehistoric	Isolate	One quartz flake	Not Eligible*
	MH-ISO-004	Prehistoric	Isolate	One basalt flake	Not evaluated*
	MH-ISO-006	Historic	Isolate	Metal water container	Not evaluated*
	MH-ISO-06	Prehistoric	Isolate	Single reduction locus with five flakes	Not evaluated*
	MS-ISO-001	Prehistoric	Isolate	Ceramic plain ware sherd	Not evaluated*
	MS-ISO-002	Prehistoric	Isolate	One piece of brown jasper shatter	Not Eligible*
	MS-ISO-03	Historic	Isolate	Amber beer bottle	Not evaluated*
	EA-2023-I-01	Prehistoric	Isolate	One CCS tested cobble	Not evaluated*
	EA-2023-I-02	Prehistoric	Isolate	One quartzite flake	Not evaluated*
	EA-2023-I-03	Prehistoric	Isolate	One CCS core	Not evaluated*
	EA-2023-I-04	Historic	Isolate	Two amber beer bottles	Not evaluated*
	EA-2023-I-05	Historic	Isolate	Amber beer bottle	Not evaluated*
	EA-2023-I-06	Historic	Isolate	Amber beer bottle	Not evaluated*

*Determined not eligible for the NRHP, with SHPO concurrence
†Previously identified CRHR-eligible resource collected by BLM as part of the Oberon Renewable Energy Project

Archaeological Sites

P-33-006825 is a historic period site that was originally recorded in the early 1980s by the Riverside County Historical Committee (1982). The resource was reported to consist of a well, boiler, and concrete-lined reservoir or watering trough that represent the remains of a desert watering locale known as “Boulder Well”. At the time P-33-006825 was documented, all three features contained or were covered in sand and wood debris. The features that comprise P-33-006825 appear to reflect activities related to mining and ranching activities that took place in the area in the late nineteenth and early twentieth centuries.

The site was revisited by Chronicle Heritage on March 30, 2023. Although the boiler and possible well head were relocated, no evidence of the cement-lined reservoir was found. A kidney-shaped depression was also identified that may represent the remains of the previously documented reservoir that has either been completely buried or was dismantled since 1982. Additional features documented at P-33-006825 include two pairs of concrete foundations and a concrete standpipe.

As one of the few reliable wells in the area, the site played a key role in the development of the historic mining, ranching, and transportation-related activities in the Chuckwalla Valley. The wells association with broad patterns of local or regional history meets the requirements for eligibility in the CRHR under Criterion 1. Site features cannot be associated with the lives of local, state, or nationally important persons and it does not embody distinctive characteristics of a type, period, method of construction, or represent the work of a master. Therefore, this site is not eligible for listing in the CRHR under Criteria 2 and 3. Additional study of the site is unlikely to yield important additional information regarding historic mining, ranching, or transportation related activities in the Chuckwalla Valley. Therefore, this site is not eligible for listing in the CRHR under Criterion D.

An evaluation of integrity indicates that Site P-33-006825 can no longer convey its significance as a historical resource. Most of the structures that were once present at the site have been dismantled and removed. The site is in fair condition with impacts including wind-blown sand that has partially buried many of the features and the deposition of modern refuse. Although the site meets Criterion 1 for listing on the CRHR, it lacks integrity and is therefore not eligible for the CRHR.

P-33-006836 consists of the historic-era remains of the Desert Center Army Airfield. The site covers an approximately 190-acre area, most of which lies east of SR-177/Rice Road and north of the Blythe-Eagle Mountain Transmission Line (P-33-019415). The airfield has been documented as an archaeological resource but contains both archaeological and built-environment components (Hanes et al. 2019a, 2019b). Visible evidence of activities associated with the Desert Training Center include foundation remnants, discarded equipment, and modern refuse. The runway is barely discernible from the ground, and most of the original buildings have been removed (Dyste et al. 2018).

During a Phase I survey in April 2023, Chronicle Heritage revisited portions of P-33-006836. A low density of historic and modern refuse and several informal dirt roads were identified within the site boundary east of SR-177/Rice Road. However, no cultural remains associated with the airfield were documented in the small portion of P-33-006836 that extends into the Project's direct impact area. The Desert Center Army Airfield was previously determined by the BLM as not eligible for listing in the NRHP with concurrence from the State Historic Preservation Officer (2019). Although the County has also determined that the resource was not individually eligible for listing in the CRHR, the airfield was identified as a contributor to the DTCCL historic district (Riverside County Planning Department 2019).

P-33-015088 consists of a historic-era refuse scatter that was originally documented in 2006 by Æ (McLean and Maeyama 2006). Site P-33-015088 is 39 by 20 ft in area and consists of more than 130 artifacts, including metal cans, ceramic fragments, and bottle glass fragments. Diagnostic condensed milk cans found at the site suggests the remains may date to the 1920s and 1930s. No evidence was found to indicate that significant subsurface remains were present. The site was later revisited by PaleoWest in 2021 during the Class III survey for the Oberon Solar Project (Knabb et al. 2021). PaleoWest found the site largely unchanged since 2006 and concluded that the scatter likely represents secondary deposits of household refuse that were opportunistically dumped in the area by local residents traveling along the road.

In March 2023, the site was again revisited by Chronicle Heritage during Class III surveys for the Project. No notable changes in the condition of the site were observed during the revisit.

Located on federally managed BLM land, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

P-33-015089 consists of a previously recorded multicomponent site that was first documented in 2006 by Æ (McLean and Maeyama 2006). The site was later revisited in 2010 and 2012 by ECORP Consulting (Chandler et al. 2010; ECORP Consultants 2012) and in 2020 by PaleoWest (Knabb et al. 2021). Site P-33-015089 was recorded as being 875 by 155 ft in area and containing five prehistoric ceramic sherds, three sets of historic period tank tracks, and three concentrations of historic period refuse. The prehistoric sherds are from a single brownware vessel and appear to represent a pot drop. The artifact concentrations are composed of a variety of domestic refuse that includes metal cans, glass fragments, ceramic dishware fragments, and miscellaneous items. A maker's mark identified on a glass bottle base suggests the remains may date to the 1920s and 1930s. Finally, the tank tracks are associated with training activities that took place in the Chuckwalla Valley during WWII. No evidence was found to indicate that significant subsurface remains are present at the site. Given the proximity of a scatter to Resource P-33-019419 to the three artifact concentrations, it is likely that these remains represent secondary deposits of household refuse that were opportunistically dumped in the area over a period of time by local residents traveling along the road.

In April 2023, the site was again revisited by Chronicle Heritage during Class III surveys for the Project. The site has been heavily disturbed by the grading of an access road for the adjacent Oberon Solar Project. An intact can concentration is still present in the southern extent of the site. Additionally, a second intact can concentration was found along the northern edge of the access road that bisects the site.

Previously identified as a contributor to both the PTNCL and DTCCL for the CRHR (RWQCB 2021), the site no longer contains any association with the PTNCL, as its prehistoric components have disappeared. The site, however, does maintain its association with the DTCCL. Located on federally managed BLM land not subject to County jurisdiction, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

P-33-015090 consists of a historical refuse scatter that was first documented in 2006 by Æ (McLean and Maeyama 2006) with a later revisit in 2020 by PaleoWest (Knabb et al. 2021). The site is a historic period refuse scatter that is approximately 25 by 25 ft in area and consists of more than 50 artifacts, including metal cans, window glass, and an aluminum toothpaste tube. The artifacts date from the 1910s to the 1930s. A review of historical maps and BLM GLO (2021) records found no evidence that the land in the vicinity of the refuse scatter had been homesteaded prior to WWII. The proximity of the scatter to the historic Mecca-Blythe Highway (Resource P-33-019419) suggests that that the refuse scatter represents a secondary deposit of household trash that was opportunistically dumped in the area by local residents traveling along the road. The recorders noted that although some artifacts at Site P-33-015090 are partially buried, there is little potential for the site to contain subsurface cultural deposits.

In March 2023, the site was again revisited by Chronicle Heritage during Class III surveys for the Project. No notable changes in the condition in Site P-33-015090 were observed during the revisit.

Located on federally managed BLM land, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

P-33-018268 consists of a sparse prehistoric lithic scatter that was originally documented in 2010 by ECORP Consultants (Chandler et al. 2010) with a revisit conducted in 2021 by PaleoWest (Knabb et al. 2021). The site is a prehistoric lithic scatter that is 2 by 1 m in size. Identified artifacts consisted of 21 flaked stone artifacts and a quartzite hammerstone with pecking marks. The flaked stone debitage included eight white quartz primary flakes, five white quartz secondary flakes, one white quartz tertiary flake, and seven pieces of white quartz shatter. The site is on desert pavement with little to no potential for the subsurface remains.

In April 2023, the site was again revisited by Chronicle Heritage during Class III surveys for the Project. No notable changes in the condition in Site P-33-018268 were observed during the revisit.

The site was previously identified as a contributor to the PTNCL for the CRHR as part of the Oberon Renewable Energy Project (RWQCB 2021). Located on federally managed BLM land not subject to County jurisdiction, the site was collected at the request of BLM and is no longer extant. As a result, the site cannot clearly convey its significance as a PTNCL-associated resource. The site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

P-33-018269 consists of a prehistoric artifact scatter that was first documented in 2010 by ECORP Consulting (Chandler et al. 2010) with an update undertaken in 2020 by PaleoWest (Knabb et al. 2021). The site was originally recorded in 2010 as scatter measuring 80 by 70 m in area with two concentrations of artifacts that include 15 quartz, quartzite, and chert flakes and shatter, 1 granite mano, and 3 plainware ceramic sherds. The revisit conducted by PaleoWest in 2020 found that Site P-33-018269 had been disturbed by alluvial sheetwash flooding, which has washed away, buried, or otherwise displaced many of the previously recorded surface artifacts. At the time of the revisit, only six flaked stone artifacts could be observed, including five quartzite flakes (two primary flakes, two secondary flakes, and one tertiary flake) and one piece of quartz shatter. Due to the change in conditions, PaleoWest reduced the site boundary to a 56 by 15 m area. Although it is possible that some artifacts have been buried, no evidence for the presence of substantial subsurface deposits were found at the site.

In April 2023, Site P-33-018269 was revisited by Chronicle Heritage during Class III surveys for the Project. The scatter has been heavily disturbed by construction activities related to the Oberon Solar Project. Only one artifact (A9) was relocated.

Previously identified as a contributor to the PTNCL (RWQCB 2021), the site no longer retains any clear association with the PTNCL, as its prehistoric components have disappeared, except one, isolated flake. Located on federally managed BLM land not subject to County jurisdiction, the site was collected at the request of BLM and is no longer extant. As a result, the site cannot clearly convey its significance as a PTNCL-associated resource. The site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

P-33-018270 is a previously recorded sparse prehistoric lithic scatter that was first documented in 2010 by ECORP Consultants (Chandler et al. 2010) with a revisit in 2020 by PaleoWest (Knabb et al. 2021). The site was initially described as a lithic scatter measuring 45 by 32 m in size. Identified artifacts included three quartz flakes and one quartzite flake, which include one edge modified flake, two primary flakes, and one tertiary flake. The site was noted as being in poor condition with a dirt road bisecting the site and the eastern portion of the scatter in an ephemeral wash. PaleoWest's revisit to Site P-33-018270 in 2020 found that the conditions of the resource were largely unchanged since 2010. During the revisit, two of four previously identified flaked stone artifacts were observed.

In April 2023, Site P-33-018269 was revisited by Chronicle Heritage during Class III surveys for the Project. None of the flaked stone artifacts that had been previously documented at Site P-33-018270 were observed. The site is in a seasonal drainage and alluvial activity may have either buried or displaced the artifacts.

Previously identified as a contributor to the PTNCL (RWQCB 2021), the site no longer retains any clear association with the PTNCL, as the site is no longer extant, its prehistoric components having disappeared. As a result, the site cannot clearly convey its significance as a PTNCL-associated resource. The site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

P-33-018391 consists of a historic-period refuse scatter that was first documented in 2010 by ECORP Consulting (Chandler et al. 2010) with a revisit in 2020 by PaleoWest (Knabb et al. 2021). The site was initially described is a sparse scatter of spent military ordinance, metal lids, and other metal debris within a 472 by 121-ft area. Identified artifacts included over 25 artillery shell lids and lid fragments, along with shotgun shell casings associated with military activities during WWII. Minor disturbances were noted at the site from eolian and alluvial erosion, with some artifacts having been partially buried. PaleoWest's revisit to Site P-33-018391 in 2020 found that the current conditions were largely unchanged since 2010. No evidence was found to indicate that substantial subsurface deposits were present at the site.

In March 2023, Site P-33-018391 was revisited by Chronicle Heritage during Class III surveys for the Project. The scatter was found to be in fair condition with some disturbances from aeolian and alluvial processes. Although the metal lids were observed, the spent ordnance was not identified during the revisit.

Located on federally managed BLM land, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

P-33-018392 consists of a historic period refuse scatter that was first documented in 2010 by ECORP Consulting (Chandler et al. 2010). Later revisits to Site P-33-018392 were conducted in 2011 by ECORP Consulting (Chandler et al. 2011) and in 2020 by PaleoWest (Knabb et al. 2021). The site was initially recorded as an 85 by 62-ft refuse scatter composed of DTC-related munition debris totaling over 200 artifacts, which was dominated by container lids. Artifacts were noted to include munition container lids for both M87 and 75 mm rounds, cut wire nails, screws, and a metal belt buckle. During the 2011 revisit, scattered piles of plastic tubing, likely from discarded irrigation drip lines from nearby agricultural fields, indicating a secondary and recent deposit, as well as evidence of off-road vehicle activity were documented within the site boundary.

PaleoWest's revisit to Site P-33-018392 in 2020 resulted in formal documentation of two of the associated tank tracks recorded in 2011, as well as the identification of possible additional historic refuse consisting of munitions debris. This historic refuse stretched beyond the previously recorded boundaries, resulting in Site P-33-018392 being expanded. The boundaries grew to cover an area of 160 by 180 ft, more than double the size of the initial recording. Whether the debris, largely container lids, could be considered new constituents to the site or the debris represented elements of the previously recorded artifact concentrations redeposited by a combination of natural alluvial and eolian processes, was not directly expressed. However, during the 2020 documentation, PaleoWest archaeologists noted that some artifacts appeared partially buried or embedded in alluvium. No evidence was found to indicate significant subsurface deposits are present at the site.

In March 2023, the site was revisited by Chronicle Heritage during Class III surveys for the Project. Upon revisit, Chronicle Heritage archaeologists found the integrity of this resource to be compromised to a degree that it does not retain the characteristics that would permit it to be considered eligible under Criterion A, as it was previously determined eligible for listing in the NRHP under. As a result, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP under any criterion.

P-33-018404 consists of a historic period refuse scatter that was first documented in 2010 by ECORP Consulting (Chandler et al. 2010) with a revisit in 2020 by PaleoWest (Knabb et al. 2021). The site was initially recorded as a scatter containing variety of cans and glass bottle fragments within a 132 by 49-ft area. One concentration of artifacts measuring 13 by 12 ft was identified that includes 4 meat cans, 1 glass bottle base, more than 20 clear glass fragments, more than 10 crushed sanitary cans, and 2 matchstick-filler cans. A marker's mark on one glass bottle suggests the deposits date to the 1930s. PaleoWest's revisit to Site P-33-018404 in 2020 found that the current conditions of the site were largely unchanged since 2010 (Knabb et al. 2021).

The refuse scatter is adjacent to a historic road (Resource P-33-019419) that was present as early as the 1950s. Although an ephemeral wash bisects the site, it appears to have minimally impacted the condition of the cultural deposits. No evidence was found to indicate subsurface remains are present at Site P-33-018404. Given the proximity of the site to the historic road, PaleoWest (Knabb et al. 2021) concluded that the scatter represents a secondary deposit of household refuse that was opportunistically dumped in the area by local residents traveling along the road.

In April 2023, the site was revisited by Chronicle Heritage during Class III surveys for the Project. No notable changes in the condition of the resource were observed during the revisit.

Located on federally managed BLM land, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

P-33-022247 consists of a series of seven earthen linear berms that were first documented in 2012 by FirstCarbon Solutions (Dice 2013) with a revisit completed in 2020 by PaleoWest (Knabb et al. 2021). The lengths of the berms range in size from 0.75 to 2 miles with an average width of 10 feet. No artifacts were found in association with the linear berms and no evidence was found to suggest subsurface deposits are present at the site. During the Phase I survey, a previously undocumented reservoir feature was identified at the southern end of a north-south oriented berm. Two abandoned metal water tanks lie along the southern edge of the reservoir. Additionally, a concentration of modern refuse, which includes various wood, metal, and plastic objects that appear to represent construction debris, is adjacent to the water tanks. Although some of the earthen berms associated with Site P-33-022247 may have been constructed by soldiers during military training in the Chuckwalla Valley Maneuver Area, others appear to date later in time and were associated with jojoba farming. It is unclear which portions of the site date to the 1940s and which parts were constructed in the 1960s.

Although P-33-022247 is associated with activities related to the military and agriculture in the Chuckwalla Valley during WWII and the post-WWII era, there is no clear associative values beyond its general association with the DTC/C-AMA and farming. Therefore, P-33-022247 is not significant under Criterion 1. General George Patton and General Alvan Gillem are associated with the DTC/C-AMA, however, the earthen berms that comprise this site does not convey the significance of any specific decision made by these individuals, or by individuals important to the development of agriculture and jojoba farming. This site is therefore not significant under Criterion 2. P-33-022247 lacks any distinct architectural, techno-logical, or engineering qualities that relate to the period of significance and does not have the distinctive characteristics of a type, period, or method of construction, is not the work of a master craftsman, or have properties possessing high artistic value. It is thus not eligible under Criterion 3. Finally, earthen berms and other earthworks are common throughout the Chuckwalla Valley, and additional study of the site is unlikely to contribute important information on either the DTC/C-AMA or jojoba farming. Therefore, P-33-022247 is not eligible under Criterion 4. P-33-022247 does not meet the requirements under any criteria, and is therefore recommended not eligible both individually or as a contributor to the DTCCL for listing in the CRHR.

P-33-023675 contains the remains of a camp associated with the 496th Medium Ordinance Company and a possible bivouac area related to DTC activities. The resource encompasses a 19-acre area and was first documented in 2014 by SWCA Environmental Consultants (Millington et al. 2013). As part of the Phase I study for the Oberon Solar Project (Knabb et al. 2021), PaleoWest visited P-33-023675 in 2021 and mapped the entire resource using a combination of aerial drone photogrammetry and ground truthing. At least 20 burned areas, 9 refuse concentrations, and two large refuse dumps were identified across the site and contain various refuse items (e.g., cans, bottles, wood, etc.). These features represent different forms of refuse disposal, ranging from opportunistic dumping to more formal types of waste disposal. Numerous rock alignment features were identified that represent the formal alignment and built structure of the camp, including the remnants of walkways and potential tent pads.

Similarly, five roads were documented which were lined with an imported purple and green rock that had been ground into gravel. Eleven berms, four dugout depressions, and an earthen mound were mapped and likely represent small unit training areas or defensive positions for protection of the camp. Overall, the features mapped by PaleoWest appear to reflect various aspects of the functioning of the camp, including its planning and construction, daily operation, and decommissioning. As part of the 2021 update, a previously recorded historic period survey marker (P-33-020570), which was within the site boundary of P-33-023675, was included as part of the resource. The marker is a U.S. Coast and Geodetic Survey marker east of SR-177/Rice Road. The historic object exhibits a 1945 stamp.

During the Phase I survey of the Project area, 11 additional rock features and an artifact concentration were identified adjacent to the southeastern boundary of the site to the east of SR-177/Rice Road. Other artifacts identified within the vicinity of the rock features include two historic period glass bottles and four prehistoric pieces of debitage consisting of a tertiary chert flake, a tertiary rhyolite flake, a primary quartzite flake, and a tertiary basalt flake. As a result of these discoveries, the existing boundary of P-33-023675 was expanded to encompass the newly identified cultural remains. No cultural remains associated with P-33-023675 were identified by Chronicle Heritage in the Project's direct impact area.

The historic period remains at P-33-023675 were previously determined eligible for listing in the CRHR under Criterion 1 because of the camp's direct association with important events associated with the DTC/C-AMA between 1942 and 1944 (RWQCB 2021). Additionally, the resource was determined eligible for the CRHR under Criterion 4 for its potential to contribute to a better understanding of training activities conducted at the DTC/C-AMA. The resource was also identified as a contributor to the DTCCL historic district (RWQCB 2021). The newly identified historic period cultural remains in the expanded boundary of P-33-023675 contribute to the overall eligibility of the resource for listing in the CRHR.

The newly identified prehistoric component consisting of five flaked stone artifacts do not contain temporally diagnostic artifacts or any materials suitable for chronometric dating. This means the temporal and cultural components cannot be defined and the prehistoric artifacts cannot be associated with specific events or persons that have made a significant contribution to the broad patterns of history, and do not embody the distinctive characteristics of a type, period, or method of construction. Therefore, the prehistoric component of P-33-023675 is not recommended as eligible for listing under Criterion 1, 2, or 3. Given the small quantity of artifacts and lack of assemblage diversity, it is unlikely that additional study of the flaked stone artifacts will provide important information valuable to our understanding of the past. Therefore, the prehistoric component of P-33-023675 is not considered eligible under Criterion 4. The prehistoric component at P-33-023675 is therefore recommended not eligible for listing in the CRHR.

P-33-023700 consists of a historic period site comprising the remains of a camp associated with the 496th Medium Ordinance Company and a possible bivouac area related to DTC activities. The resource was first documented in 2014 by SWCA Environmental Consultants (Millington et al. 2013). As part of the Class III study for the Oberon Solar Project (Knabb et al. 2021), PaleoWest revisited P-33-023675 in 2021 and remapped the entire resource using a combination of aerial drone photogrammetry and ground truthing. Fourteen different feature types were identified at the site by PaleoWest, including burned areas; refuse concentrations; rock alignment features; berms; piles of concrete; depressions; dugout pits; milled wood concentrations; mounds; pits; refuse dumps; rock features; roads; and loose lumber pieces. At least 20 burned areas, 9 refuse concentrations, and two large refuse dumps were identified across the site and contain various refuse items (cans, bottles, wood, etc.). These features represent different forms of refuse disposal, ranging from opportunistic dumping to more formal types of waste disposal. Numerous rock alignment features were identified that represent the formal alignment and built structure of the camp, including the remnants of walkways and potential tent pads. Similarly, five roads were documented which were lined with an imported purple and green rock that had been ground into gravel; these roads provided vehicle access to, from, and within the site and beyond. Eleven berms, four dugout depressions, and an earthen mound were mapped and likely represent small unit training areas or defensive positions for protection of the camp. Two concrete piles, one milled wood concentration, 24 rock pile features, and 16 loose lumber pieces were documented that may represent temporary storage areas for materials during the construction of the site. A single large depression was in the center of the site that is of unknown function. Overall, the features mapped by PaleoWest appear to reflect various aspects of the functioning of the camp, including its planning and construction, daily operation, and decommissioning.

As part of the 2021 update, a previously recorded historic period survey marker (Resource P-33-020570), which was within the site boundary of Site P-33-023675, was included as part of the resource. The marker is a US Coast and Geodetic Survey marker east of State Route 177/Rice Road. The historic object exhibits a 1945 stamp.

In April 2023, Site P-33-023675 was again revisited by PaleoWest for the current Project. Eleven additional features and artifacts were identified adjacent to the southeastern boundary of Site P-33-023675. As a result of these discoveries, the existing boundary of Site P-33-023675 was expanded to encompass the newly identified remains. Because the adjacent site of Site 19-387-WH-037H was found to lie less than 30 m from the newly expanded boundary, the two rock features that comprise this latter site were incorporated into Site P-33-023675.

Site 19-387-WH-037H was originally recorded by PaleoWest in 2021 (Knabb et al. 2021). The site was described as consisting of two small circular rock features (Features 1 and 2) that were either historic or modern in age. No artifacts were identified in association with the two rock features.

Located on federally managed BLM land, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

19-387-EM-020H consists of a historic period site recorded in 2021 by PaleoWest as a rock ring that was likely used as a fire pit or campfire (Knabb et al. 2021). The feature is approximately 3 by 3 ft in area and is composed of large cobbles and small boulders of granite and quartzite. No artifacts were found in association with the fire pit. The area surrounding the site contains extensive tank and armored vehicle tracks. The site appears to largely be surficial, with no evidence found to suggest there are substantial buried deposits.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Easley Project. The site was found to be unchanged since 2021.

Previously determined individually not eligible for listing in the CRHR, the site was identified as a contributor to the DTCCL as part of the Oberon Renewable Energy Project (RWQCB 2021). The site was found to maintain its association with the DTCCL. Located on federally managed BLM land not subject to County jurisdiction, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

19-387-EM-025 consists of a small prehistoric lithic scatter originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site is 65 by 27 m and contains three quartz knapping stations and a few scattered flakes. The three knapping stations appear to be early-stage reduction loci that consist of primary, secondary, and tertiary flakes with some shatter; there are no cores or formed tools present. The site components appear to largely be surficial, with no evidence found to suggest there are substantial buried deposits.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Easley Project. The site was found to be unchanged since 2021.

Located on federally managed BLM land, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

19-387-KH-014H a DTC-related foxhole originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The resource consists of a single foxhole that is 6 by 7 ft in area with a depth of 1 ft. The berm surrounding the edge of the foxhole is 2 to 3 ft thick and approximately 6 in tall. No artifacts were found associated with the site. The feature appears to largely be surficial, with no evidence found to suggest there are substantial buried deposits. The presence a foxhole suggests that the site dates to the 1940s and is associated with activities of the DTC/C-AMA.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

Previously determined individually not eligible for listing in the CRHR, the site was identified as a contributor to the DTCCL as part of the Oberon Renewable Energy Project (RWQCB 2021). The site was found to maintain its association with the DTCCL. Located on federally managed BLM land not subject to County jurisdiction, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

19-387-KH-016 consists of a prehistoric lithic scatter within the proposed gen-tie alignment of the Project's direct effects APE. The resource was originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site is 5 by 5 m and contains approximately 40 white quartzite artifacts including 10 primary flakes, 7 secondary flakes, and 23 miscellaneous debitage pieces. The assemblage appears to be largely surficial, with no evidence to suggest the presence of substantial buried deposits.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

The site was previously identified as a contributor to the PTNCL for the CRHR as part of the Oberon Renewable Energy Project (RWQCB 2021). Located on federally managed BLM land not subject to County jurisdiction, the site was collected at the request of BLM and is no longer extant. As a result, the site cannot clearly convey its significance as a PTNCL-associated resource. The site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

19-387-KJ-001H consists of a historic period refuse scatter, rock feature, and tank tracks originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site is approximately 246 by 207 ft and consists of two concentrations of historic period refuse, an irregular-shaped rock feature, and tank tracks. The refuse scatter contains approximately 30 cans and 50 fragments of bottle glass. The cans at the site include various bimetal cans and aluminum cans. The rock feature consists of 40 cobbles clustered in an irregular shape; the feature is 10 ft by 5 ft with a width of 10 in. No temporally diagnostic artifacts are associated with the feature. Tank tracks run through the middle of the site in a northeast-southwest orientation. The scatter appears to largely be surficial and its location on weakly developed desert pavement suggests buried deposits are unlikely. The presence of bimetal cans suggests that the scatter dates to the post-WWII era.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

Located on federally managed BLM land, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

19-387-KJ-002H consists of a historic period refuse scatter originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site is approximately 427 by 256 ft and consists of at least 200 artifacts, including wing nuts, washers, munition tags, rifle grenade stabilizer tails, munitions container lids, nuts, wire, Howitzer plugs, green bottle glass, and other items. Diagnostic artifacts at the site include 5 metal smoke-less powder tags, 2 rifle grenade stabilizer tails, 10 105 mm Howitzer container lids, 8 37 mm M4 container lids, and 2 60 mm mortar lids. The scatter appears to largely be surficial and its location on weakly developed desert pavement suggests buried deposits are unlikely. The presence of munitions debris related to the Howitzer, M4, and 60 mm mortar, which are known to have been used at DTC training camps, suggests that the scatter is associated with WWII training activities.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

Located on federally managed BLM land, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

19-387-KJ-003H consists of a historic period refuse scatter originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site is approximately 43 by 36 ft and consists of 50 artifacts, including metal container lids for large munition rounds, embossed sheet metal tags, shell casings, friction lid tins, and clear glass. The diagnostic artifacts include munitions propellant tags, container lids for 105 mm Howitzer rounds, and two .30-06 cartridge casings stamped with “F A 42.” A round depression was identified at the site that may represent a detonation crater 3 ft In diameter and 1.5 ft deep. The scatter appears highly disturbed by the possible detonation crater and no evidence was found to suggest there are intact buried deposits. The presence of munitions debris related to the Howitzer and other ammunition, which are known to have been used at DTC training camps, suggests that the scatter is associated with WWII-training activities.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

Located on federally managed BLM land, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

19-387-KJ-004H consists of a historic period refuse scatter originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site is approximately 150 by 100 ft and consists of 65 munition canister lids, metal brackets, and two pieces of milled lumber. The scatter appears to largely be surficial, with no evidence found to suggest there are substantial buried deposits. The presence of munitions debris suggests that the scatter is associated with DTC training activities.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

Located on federally managed BLM land, the site was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP.

19-387-KJ-005H consists of a historic period refuse scatter originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site consists of two concentrations of 105-mm Howitzer containers and lids surrounded by a dispersed artifact scatter. The site is approximately 610 by 115 feet and contains a total of approximately 110 container lids and rings The lids are 5 1/8 in in diameter and are embossed with “105 MM How M2 / Container 105 MM, M39A1.” The scatter appears to largely be surficial with no evidence found to suggest there are substantial buried deposits. The presence of munitions debris related to the Howitzer, which is known to have been used at the DTC training camps, suggests that the scatter is associated with WWII-training activities.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

19-387-KJ-006H consists of a historic period refuse scatter originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site is approximately 390 by 100 ft and consists of four artifact concentrations surrounding by a more dispersed artifact scatter. Surface remains consist of approximately 180 container lids and rings for 105 mm Howitzer rounds, two munition tags, two brass brackets, and a washer. One of the tags reads “AMMUNITION CANNON WITH / EXPLOSIVE PROJECTILE / 14 LBS.” The scatter appears to largely be surficial with no evidence found to suggest there are substantial buried deposits. The presence of munitions debris related to the Howitzer, which is known to have been used at the DTC training camps, suggests that the scatter is associated with WWII-training activities.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

19-387-KJ-008H consists of a historic-period refuse scatter originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site is approximately 56 by 46 ft and consists of 25 container lids and rings for 105 mm Howitzer rounds and a metal rod. The lids measure 5 1/8 in in diameter and are embossed with “105 MM How M2 / Container 105 MM, M39A1.” The scatter appears to largely be surficial with no evidence found to suggest there are substantial buried deposits. The presence of munitions debris related to the

Howitzer, which is known to have been used at the DTC training camps, suggests that the scatter is associated with WWII-training activities.

At the time the site was initially documented, several redeposited metal cans were noted in the vicinity of Site 19-387-KJ-008H. Due to alluvial actions in existing washes, these materials appeared to be in secondary contexts and had been significantly displaced and redeposited. PaleoWest did not record these materials as part of the site.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

19-387-KJ-010 consists of a small prehistoric lithic scatter originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site is 7 by 3 m. It contains a total of 28 flaked stone artifacts that includes 14 primary flakes and 14 tertiary flakes, all of which appear to derive from the same black quartzite raw material.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

19-387-WH-008H consists of a historic period refuse scatter within the proposed solar array portion of the Project's direct impact area. The resource was originally recorded in 2021 by PaleoWest (Knabb et al. 2021). The site is 249 by 187 ft and consists of approximately 50 C-ration cans, bottle glass, charcoal, a metal crankshaft engine pulley, and a shovel blade. Diagnostic artifacts include a glass bottle with an Owens-Illinois stamp and a glass jar base with an Anchor Hocking maker's mark. The scatter appears to largely be surficial with no evidence found to suggest there are substantial buried deposits. The presence of military ration cans suggests that the scatter dates to the 1940s and is associated with DTC activities.

Chronicle Heritage revisited the site in April 2023 during Class III surveys for the Project. The site was found to be unchanged since 2021.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

CB-SITE-001 consists of a historic period refuse scatter within the proposed solar array portion of the Project's direct impact area. The site was documented in April 2023. It is 140 by 50 ft and consists of approximately 50 metal cans (hole-in-top and church key-opened), 15 pieces of milled wood, glass fragments, concrete pieces, and miscellaneous metal objects that represent the remnants of a stove. One Owens-Illinois bottle base was present, which exhibited a maker's mark with a manufacturing date ranging between 1954 and the present (Toulouse 1971).

The refuse scatter is adjacent to a two-track dirt road that runs in a northeast to southwest direction from a nearby abandoned jojoba field. The age of the road is not known, as it is not depicted on any historic or modern topographic maps or aerial images (NETROnline 2023). The proximity of the refuse scatter to the road suggests Site CB-SITE-001 is the result of an episode of opportunistic roadside dumping of household refuse by local residents or farmers in the latter half of the twentieth century. Although some artifacts have been partially buried by aeolian and alluvial processes, the site largely appears to be surficial. No evidence found to suggest there are substantial buried deposits.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

CB-SITE-002 consists of a historic period refuse scatter within the proposed solar array portion of the Project's direct effects APE. The site was documented in April 2023. It is 10 by 8 ft and consists of approximately 20 pieces of milled lumber, 5 metal cans, and miscellaneous objects including rubber tubing, metal conduit and wire, and a several metal coils. No temporally diagnostic artifacts were identified in the scatter.

The site is approximately 50 ft north of a two-track dirt road that runs in a northeast to southwest direction from a nearby abandoned jojoba field. The age of the road is not known, as it is not depicted on any historic or modern topographic maps or aerial images (NETROnline 2023). The proximity of the refuse scatter to the road suggests Site CB-SITE-002 is the result of a single episode of opportunistic roadside dumping of refuse by local residents or farmers in the latter half of the twentieth century. Although some artifacts have been partially buried by aeolian and alluvial processes, the site largely appears to be surficial. No evidence found to suggest there are substantial buried deposits.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

HL-SITE-001 consists of a historic period refuse scatter within the proposed solar array portion of the Project's direct effects APE. The site was documented in April 2023. It is approximately 135 by 50 ft and consists of approximately 100 artifacts, most of which are metal cans of various types (e.g., beverage, food, dry goods). Smaller quantities of beverage bottles (amber, clear, and green glass) are also present. Three bottles were identified that exhibit maker's marks. These include a green bottle base with a GLASS CONTAINER CORPS (ca. 1934–1968) mark, a brown bottle base with an OBEAR-NESTER GLASS CO. (ca. 1915–1978) mark, and a brown bottle base with an Anchor Hocking Glass Corps (ca. 1938–1980) (Toulouse 1971).

The refuse scatter is approximately 500 ft south of Boulder Well (Site P-33-006825) and adjacent to a linear berm (Site P-33-022247). The proximity of the refuse scatter to the historic period watering hole and agricultural features suggests Site HL-SITE-002 is the result of an episode of opportunistic roadside dumping of household refuse by local residents or farmers in the early to mid-twentieth century. Although some artifacts have been partially buried by aeolian processes, the site largely appears to be surficial. No evidence found to suggest there are substantial buried deposits.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

HL-SITE-002 consists of a historic period can dump within the proposed solar array portion of the Project's direct effects APE. The site was documented in April 2023. It is approximately 5 by 5 ft in area and consists of 16 metal cans and 1 colorless glass bottle with a screw top lid. The cans are predominantly food-related and many exhibit knife cut openings. No visible maker's marks were observed on the glass bottle.

The refuse scatter is in the vicinity of a number of unnamed two-track dirt roads. None of these roads are depicted on any modern or historic topographic maps or aerial images (NETROnline 2023). The proximity of the refuse scatter to these roads suggests Site HL-SITE-002 is the result of a single episode of opportunistic roadside dumping of refuse by local residents or farmers in the sometime in the mid to late-twentieth century. Although some cans have been partially buried by aeolian processes, the site largely appears to be surficial. No evidence found to suggest there are substantial buried deposits.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

EA-2023-S-01 consists of a historic period refuse scatter within the proposed solar array portion of the Project's direct effects APE. The site was documented in November 2023 as part of follow-up surveys. It is approximate 7 x 6 m in area and contains several crushed metal cans, glass fragments, and miscellaneous metal pieces. Glass fragments include amber, green, olive, and milk colored coloration. Two bottle fragments were identified that exhibit maker's marks. These include three fragments of a green bottle base with a GLASS CONTAINER CORPS (ca. 1934–1968) mark and a clear bottle base fragment with a Latchford Glass Co (ca. 1957–1989) mark (Toulouse 1971). Additionally, surveyors noted a group of rocks representing a possible hearth feature. Upon closer examination by PaleoWest personnel, none of the rocks were found to exhibit evidence of having been fire-affected, with no ash or charcoal observed in the vicinity.

The refuse scatter is approximately 70 m north of Site HL-SITE-001 and adjacent to a linear berm (Site P-33-022247). The proximity of the refuse scatter to the historic period agricultural features suggests Site EA-2023-S-01 is the result of episodic opportunistic roadside dumping of household refuse by local residents or farmers in the early to mid-twentieth century. Although some artifacts have been partially buried by aeolian processes, the site largely appears to be surficial. No evidence found to suggest there are substantial buried deposits.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

Isolated Artifacts

~~Seventeen~~ Thirty-two isolated artifacts are present in the Project's direct impact area (Table 3.6-2). ~~Four~~ Ten of the isolated finds date to the Prehistoric Period and consist of single or small numbers of flaked stone or ceramic sherds~~single pieces of flaked stone debitage~~. The remaining isolates consist of historic period metal cans or glass bottles. Isolated occurrences are generally considered not eligible for inclusion in the CRHR unless they possess unique or substantial qualities to warrant their listing. All isolated occurrences are recommended not eligible for inclusion in the CRHR under any criteria.

Historic Built-Environment Resources

P-33-018242 is a historic-era object within the proposed solar array portion of the Project's direct effects APE. It was originally recorded in 2010 by ECORP Consulting (Chandler et al. 2010) with a later revisit conducted in 2020 by PaleoWest (Knabb et al. 2021). Resource P-33-018242 consists of a metal MWD station marker that has been embedded in concrete to the east of Kaiser Road. The marker is stamped "The Metropolitan Water District of Southern California Triangulation Station/Do Not Disturb This Mark" The marker contains a date stamp of 1931. The object is likely associated with the construction of the CRA that took place throughout the 1930s.

Located on federally managed BLM land, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

P-33-019415 (also recorded as P-33-022249 and P-33-023910) is a complex of historic-era structures, a portion of which intersect the Project's direct impact area. The resource consists of the 161 kV Blythe-Eagle Mountain Transmission Line, an associated access road, and a three-wire domestic voltage power-line. The 161 kV transmission line runs from Eagle Mountain, near Desert Center, to Blythe. Approximately 45 to 50 feet in width, the Blythe-Eagle Mountain Transmission Line consist of a series of double pole, wood towers supporting three transmission lines.

The Blythe-Eagle Mountain Transmission Line was previously evaluated for listing on CRHR in 2011 and recommended not eligible under all criteria. The California Public Utilities Commission (CPUC) concurred with the eligibility recommendation in their certification of the EIS prepared for the Desert Sunlight Solar Project (BLM 2011; CPUC 2011). Further, the County determined that the resource again was not individually eligible for listing in the CRHR in 2019 (County of Riverside 2019). Chronicle Heritage revisited the portion of P-33-019415 within the current Project area in April 2023 and found that the current condition of the transmission line, access road, and domestic powerline are unchanged since 2021 and the previous determination remains valid. Therefore, Chronicle Heritage supports the previous determination of P-33-019415 as not eligible for listing in the CRHR.

P-33-019419 (also recorded as P-33-029056/CA-RIV-12980) consists of the Mecca-Blythe Highway that intersects the gen-tie portion of the Project's direct effects APE. The highway is a historic-period automobile road that traverses the Chuckwalla Valley. Multiple segments of the road were previously recorded by Æ (Hanes et al. 2019b) and PaleoWest (Knabb et al. 2021). Historic maps indicate that by 1918, the highway ran in a roughly east-west direction across the valley floor for distance of approximately 95 mi. The State of California took control of the Mecca-Blythe Highway in 1925, with portions of the route eventually incorporated into U.S. Highway 60/70. Historic records indicate that portions of the road were later re-used during WWII to support DTC/C-AMA military training activities in the Chuckwalla Valley (Hanes et al. 2019b).

Chronicle Heritage's revisit to Resource P-33-019419 found that the portion of the historic-era structure within the direct impact area consists of a two-track dirt road that is 20 to 25 ft wide. The condition of the resource is unchanged since 2021.

The resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

19-387-EM-023H is a historic period unimproved dirt road within the direct impact area of the proposed gen-tie corridor. The structure was initially recorded in 2021 by PaleoWest (Knabb et al. 2021) as an approximately 2.4-mi-long road and runs from I-10 in a roughly northeast direction to Comanche Trail. The road was recorded as between 10 and 12 ft wide with low berms (less than 3 ft high) running along both the east and west sides. No artifacts were identified that appeared to be associated with the road alignment. Historical aerial images of the area indicate that Resource 19-387-EM-023H was in use as early as 1953 (UCSB 2021).

Chronicle Heritage's revisit to Resource 19-387-EM-023H found that the portion of the road within the direct impact area is currently being used as an access road for the Oberon Solar Project. The road has been widened to a width of approximately 30 ft, with the roadbed showing signs of recent grading and compaction.

Unevaluated for listing in the CRHR, recorded portions of the resource being located on federally managed BLM land not subject to County jurisdiction, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

19-387-EM-024H is a historic period unimproved dirt road within the direct impact area of the proposed gen-tie corridor. The structure was initially recorded in 2021 by PaleoWest (Knabb et al. 2021) as an approximately 2.0-mi-long road that runs in a northeast direction from a point north of I-10 to Comanche Trail. The dirt road was recorded as between 10 and 12 ft wide and in relatively good condition. Historical aerial images of the area indicate that Resource 19-387-EM-024H was constructed by the early 1950s (UCSB 2021).

Chronicle Heritage's revisit to Resource 19-387-EM-024H found that the portion of the road within the direct impact area is currently being used as an access road for the Oberon Solar Project. The road has been widened to a width of approximately 30 ft, with the roadbed showing signs of recent grading and compaction.

Unevaluated for listing in the CRHR, recorded portions of the resource being located on federally managed BLM land not subject to County jurisdiction, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

19-387-KJ-BE-009H is a historic period object within the proposed solar array portion of the Project's direct impact area. The resource consists of a County of Riverside (County) ROW marker that lies appropriately 80 ft east of Kaiser Road. It was initially recorded in 2020 by PaleoWest (Knabb et al. 2021). The object is described as an iron pipe with a brass cap which is embossed "RW/COUNTY/STA 240/ SURVEYOR/ 100.'" The marker appears to designate the edge of the County ROW associated with Kaiser Road.

Unevaluated for listing in the CRHR, recorded portions of the resource being located on federally managed BLM land not subject to County jurisdiction, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

HL-BE-004H consists of the historic-era Green Acres Mobile Home Park. The resource encompasses a 9.4-acre triangular-shaped parcel (APN 808-030-011) on the southeast side of SR-177/Rice Road. The park currently houses a mix of recreational vehicles, vehicle-pulled trailers, and mobile homes, but contains little permanent infrastructure. An L-shaped road (Capp Road) provides access to concrete pads where recreational vehicles and small trailers can be parked. A smaller road connecting both sides of Capp Road is fronted by several more permanent mobile homes. Utility lines along the southern and eastern sides of the parcel bring power to the site. The County of Riverside Assessor (2023) lists the construction date of the park as 1967. A review of aerial images indicates that aside from some minor changes in landscaping, the mobile home park has changed little since it was constructed.

Although the mobile home park is associated with historic settlement in the area, there is no evidence to indicate that the property is directly associated with any events that made a significant contribution to the broad patterns of our history. Furthermore, the mobile home park cannot be associated or linked with any particular person. Thus, the historic built-environment resource is not eligible for listing in the CRHR under Criteria 1 and 2. The permanent infrastructure associated with the mobile home park does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; therefore, HL-BE-004H is not significant under Criterion 3. Because additional study of the resource is unlikely to contribute important information on late twentieth-century settlement that occurred in the Chuckwalla Valley, the mobile home park is not significant under CRHR Criterion 4. Therefore, HL-BE-004H is recommended not eligible for listing in the CRHR under any criteria.

HL-BE-005H consists of a cluster of historic-era wastewater sewage ponds in the proposed solar array portion of the Project's direct effects APE. The resource is on a 40-acre parcel owned by the County (APN 808-230-005). The structure was documented in May 2023. The ponds are part of the sewage treatment plant in the County's Service Area 51 which serves the Desert Center, Lake Tamarisk, and Eagle Mountain area. The structure consists of eight rectangular-shaped earthen depressions within a 770 by 700 ft area. Some of the depressions are filled with water and appear to be used as evaporation/ percolation ponds. The entirety of the site is fenced. Historic documents indicate that the facility was constructed 1969 (Frankel and Juergens 1980).

Unevaluated for listing in the CRHR, as it is located on federally managed BLM land not subject to County jurisdiction, the resource was determined by BLM, with SHPO concurrence, to be not eligible for listing in the NRHP as part of the Project.

Historic Districts

The Prehistoric Trails Network Cultural Landscape/Historic District (PTNCL) is a historic district that encompasses the entirety of the Project area. The District consists of prehistoric resources and landforms associated with the Halchidoma (or Coco-Maricopa) Trail (P-33-000053). The boundary of the PTNCL extends along the length of the historically known route of the trail, from where it begins near Blythe at the Colorado River, continuing to the west through the Chuckwalla Valley towards modern Los Angeles.

The PTNCL has been designated as a noncontiguous cultural landscape that incorporates prehistoric archaeological sites associated with P-33-000053/CA-RIV-53T (CEC 2014). It can be broadly defined as having a width of approximately 10 miles that is centered along the I-10 corridor and within the viewshed of that vantage point. The Project sits entirely within the defined boundaries of the PTNCL.

PTNCL site types are divided into three categories: destinations, trails, and trail-associated sites or features (RWQCB 2021:C-27). Destinations are defined primarily as water sources, but also include residential, religious, and resource-collection sites (Bagwell and Bastian 2010). Trails are linear alignments that were either created by the repeated passage of feet or by formal construction. Trail-associated sites or features may include concentrations of ceramics/pot drops, cleared circles, rock rings, rock clusters, rock cairns, rock alignments, petroglyphs, and geoglyphs. In places where the trail itself is not preserved, its route may be approximately traced by distinctive patterns of the same trail-associated sites and features listed above. The period of significance is the entire prehistoric and early historic periods. The thematic associations include travel, trade, ritual, and resource exploitation, particularly the collection of stone tool and ground stone raw materials.

The PTNCL was previously determined eligible for listing on the CRHR under Criteria 1 and 4 for the Palen Solar Project (RWQCB 2021:C-27). No trail segments have been documented or known to exist within the Project area of direct impacts. No trail associated sites or features have been documented within the Project area of direct impacts. No destination sites, such as water sources, residential, religious, and resource-collection sites, have been documented or known to existing with the Project area of direct impacts. C~~No c~~ultural remains identified ~~associated with the PTNCL have been documented~~ in the Project's Cultural Resources Study Area may be associated with the PTNCL if they can be demonstrated to be trail-associated sites or features. However, the resources identified include isolated flaked stone artifacts, isolated ceramic sherds, or sparse lithic scatters lacking diagnostic constituents. These archaeological resources broadly relate to thematic associations but are not directly associated with any documented constituents of the PTNCL. The closest documented constituents in clear association with~~of~~ the PTNCL lie 5 meters south of the Project gen-tie, outside the area of direct impacts, ~~area~~and include rock rings, rock cairns, and cleared circles. Other documented constituents of the PTNCL would include trail segments/ linear alignments, however, none have been located within the area of direct or indirect impacts.

The Desert Training Center Cultural Landscape/Historic District (DTCCL) is a contiguous historic district that encompasses the entirety of the Project area. ~~Two~~ Six resources (P-33-006836,~~ and~~ P-33-0023675, P-33-015089, 33-023700, 19-387-EM-020H, and 19-387-KH-014H) located within the Project's direct impact area are eligible as contributors to this district. Additionally, nine resources associated with the DTCCL are located within the Project's direct impact area; however, these nine resources have been determined by BLM, with SHPO concurrence, to be not eligible for the NRHP but are unevaluated for the CRHR. The district resource consists of a collection of historical archaeological sites associated with the DTC/C-AMA in the Chuckwalla Valley and on the Palo Verde Mesa. The significance period is preliminarily defined as 1942–1944. The DTC/C-AMA was the largest and the only such military training facility in American military history. The BLM is in the process of preparing a NRHP Multiple Property Documentation Form (NPS 10-900-b) for DTC/C-AMA historic properties. In this draft document, the themes, trends, and patterns of history shared by the DTC/C-AMA properties are organized into historic contexts and the property types that represent those historic contexts are defined. The relevant themes include U.S. Preparation for WWII, U.S. Military Training, Gen. George S. Patton. Jr., and Gen. Walton Walker. Depots, airfields, ranges, bivouacs, maneuver areas, camps, and hospitals are among some of the property types included in the district. Most property types associated with the DTC/C-AMA, exist today as archaeological resources, such as refuse deposits, tank tracks, foxholes, and bivouacs.

The DTCCL was previously determined eligible for listing on the CRHR under Criterion 4 for the Palen Solar Project (Riverside County Planning Department 2019:3.6-24). ~~Two~~ Six historic-era resources in the Project area have been previously identified as contributors to the DTCCL. These include the Desert Center Army Airfield (P-33-006836/CA-RIV-10759H), ~~and~~ the historic-period component of 496th Medium Ordinance Company camp (P-33-023675/CA-RIV-11595), an archaeological site featuring tank tracks and associated refuse (P-33-015089), a temporary camp (P-33-023700), tank tracks and associated fire ring (19-387-EM-020H), and a foxhole (19-387-KH-014H). Nine additional archaeological sites (see table 3.6-2) associated with the district located on portions of the Project on BLM-managed lands have been determined not eligible for listing in the NRHP are unevaluated for listing in the CRHR.

Lake Tamarisk Desert Resort consists of the Lake Tamarisk community and mobile home and RV resort located near the intersection of Oasis and Kaiser roads, south of Eagle Mountain. Based upon research in historic building permits, the first construction at this site occurred in 1968. Although Lake Tamarisk Desert Resort is greater than 50 years of age, it does not possess sufficient historical significance to merit consideration as a historical resource as defined in Public Resource Code Section 5024.1 and the California Environmental Quality Act (CEQA). Neither the Lake Tamarisk Desert Resort community nor Eagle Mountain Mine have previously been identified as historical resources.

Development of this area began with the establishment of a gas station and café in the community known as Desert Center beginning in the 1920s.[1] The establishment of Desert Center occurred over 40 years before the establishment of Lake Tamarisk Resort Community. William Mulholland scouted the Desert Center area for the development of the Colorado River Aqueduct (CRA), which went online in the late 1930s. The Eagle Mountain Pumping Station is a component of the CRA and is located approximately 13 miles north of the Lake Tamarisk Resort Community. The CRA was built by and is managed by the Metropolitan Water District (MWD). As part of the construction of the CRA, MWD built support villages to house the maintenance crews and other services to maintain the CRA, including the Eagle Mountain Pumping Station, and features such as airports, roads, and other infrastructure.[2] The CRA was fully functioning more than 30 years prior to the establishment of Lake Tamarisk Resort Community. During World War II, the Desert Training Center, located between Desert Center and Eagle Mountain, General George Patton trained troops for deployment in desert conditions.[3] Desert Training Center was designated a California Point of Historical Interest in 1968 (No. 87).[4] Desert Training Center was an important training center during World War II, which ended in 1945, over 20 years prior to the establishment of Lake Tamarisk Resort Community.

Kaiser Steel was located in Fontana, California (California Point of Historical Interest No. 452).[5] Kaiser Steel acquired the Eagle Mountain Mine following the end of World War II for the purposes of providing raw iron ore to support its steel making factory in Fontana. The establishment of the Kaiser Eagle Mountain Mine has no association with World War II efforts as it came online after the end of the war. All accounts indicate Kaiser Steel, much like MWD, constructed a company town to provide comforts to its employees including housing, recreation facilities, and institutional facilities such as churches and schools. The Kaiser Steel Eagle Mountain Mine was a self-contained community that was constructed in the late 1940s, at least 20 years prior to the construction of Lake Tamarisk Resort Community. The Eagle Mountain Mine closed in 1982, virtually resulting in a ghost town for the mine's company town.[6]

Based upon a review of historical aerials, by 1978, the eastern mobile home portion of Lake Tamarisk Desert Resort was developed and only two residences had been constructed on the lakes within the

[1] https://www.latimes.com/local/lanow/la-me-eagle-mountain-20170807-htmlstory.html

[2] https://waterandpower.org/museum/Colorado%20River%20Aqueduct.html#:~:text=Historical%20Background,in%20western%20Riverside%20County%2C%20Calif.

[3] https://generalpattonmuseum.com/exhibits/desert-training-center/

[4] https://ohp.parks.ca.gov/ListedResources/Detail/P87

[5] https://ohp.parks.ca.gov/ListedResources/Detail/P452

[6] https://www.sfgate.com/travel/article/eagle-mountain-california-ghost-town-18096768.php

western portion of the community. The 2020 aerial indicates only approximately 50 percent of the western lake-side parcels were developed with residences.[7]

Based upon available evidence, the Lake Tamarisk Desert Resort community does not have a significant association with historic events to qualify as a historical resource. Any association with the Eagle Mountain Mine could not be substantiated through a review of the public record. The resort was developed nearly two decades after the significant development of Desert Center, the CRA, Desert Training Center, and the Eagle Mountain Mine. There is no evidence that the development of the Lake Tamarisk Desert Resort community has a demonstrably significant association with neighboring development. Persons who made demonstrably significant contributions to the history of the nation, state, or region are not known to be associated with the resort. As such, there is no evidence to indicate that the property is directly associated with any events that made a significant contribution to the broad patterns of our history. Furthermore, the mobile home park cannot be associated or linked with any particular person. Thus, the historic built-environment resource is not eligible for listing in the CRHR under Criteria 1 and 2. The Lake Tamarisk Desert Resort community primarily consists of mobile homes and modest Ranch-style residences; none of which are known to the work of a master nor possess artistic value. The permanent infrastructure associated with the Lake Tamarisk community does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; therefore, the Lake Tamarisk Desert Resort is not significant under Criterion 3. Due to significant site preparation for the establishment of man-made water features and residential lots, the Lake Tamarisk Desert Resort does not have the potential to yield important information in history. Because additional study of the resource is unlikely to contribute important information on late twentieth-century settlement that occurred in the Chuckwalla Valley, the mobile home park is not significant under CRHR Criterion 4. Therefore, the Lake Tamarisk Desert Resort community is not eligible for listing in the CRHR as a historic district pursuant to any criterion and has no known features that would make it qualify listing in any local, state, or national register as a historical resource as defined by CEQA.

Historical Resources in Indirect Impact Area

One identified historical resource, SR-177/Rice Road (P-33-025150; also recorded as P-33-023788/CA-RIV-11683), lies within the Project's indirect impact area. The historic roadway begins at I-10 near Desert Center and extends for 27 miles across the Chuckwalla Valley, eventually merging with SR 62. The MWD built the road in 1933 to facilitate the construction of the CRA. The road was originally known as Parker Dam Road or Aqueduct Road. It served as a trunk road from which branch roads were established to transport materials, equipment, and personnel to various points along the canal alignment. The road was added to the state highway system in 1972. The portion of the resource within the Cultural Resource Study area consists of a two-lane paved asphalt roadway that is 24 feet wide. The shoulders are unpaved with widths ranging from approximately 14 to 16 feet. The resource was previously determined eligible for inclusion in the CRHR under Criteria 1, 3, and 4.

3.6.3.5. AB 52 Native American Tribal Consultation

AB 52 states that once California Native American tribes have received the project notification letter, the tribe then has 30 days to submit a written request to consult (PRC § 21080.3.1(d)). Upon receiving a Tribe's written request to consult, the lead agency then has 30 days to begin tribal consultation. Consultation must include discussion of specific topics or concerns identified by tribes. Any information shared between the Tribes and the lead agency representatives is protected under confidentiality laws and not

[7] https://historicaerials.com/

subject to public disclosure (GC § 6254(r); GC § 6254.10) and can be disclosed only with the written approval of the Tribes who shared the information (PRC § 21082.3(c)(1-2)).

Consultation as defined in AB 52 consists of the good faith effort to seek, discuss, and carefully consider the views of others. Consultation between the lead agency and a consulting Tribe concludes when either of the following occurs: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists on a TCR; or (2) a consulting party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC § 21080.3.2(b)).

In compliance with AB52, notices regarding this Project were sent to all requesting tribes on July 12, 2022.

No response was received from Colorado River Indian Tribes, Quechan Indian Nation, Morongo Band of Mission Indians, Torres-Martinez Desert Cahuilla Indians, Twenty-Nine Palms Band of Mission Indians, Cahuilla Band of Indians, Ramona Band of Cahuilla Indians, Santa Rosa Band of Mission Indians, or Cabazon Band of Mission Indians.

The Augustine Band of Cahuilla Indians responded in an emailed letter dated July 13, 2022. The letter stated that the tribe is unaware of any specific cultural resources that may be affected by the Project. The tribe did not request consultation.

The Agua Caliente Band of Cahuilla Indians responded in an emailed letter dated August 22, 2022. A meeting was held on July 31, 2023, in which this Project was discussed. On November 2, 2023, the cultural report and the project conditions of approval were provided to the tribe. A subsequent letter was received from Agua Caliente dated November 17, 2023, stating that proper mitigation measures had been proposed by the County and that the concerns of the Agua Caliente Band of Cahuilla Indians, Tribal Historic Preservation officer had been addressed. The letter concluded consultation.

The Soboba Band of Luiseno Indians responded in a letter dated August 9, 2022, stating that the Project is situated within their Tribal Traditional Use Area and that there are existing sites in the area of the project. Soboba requested consultation and this was initiated on August 11, 2022. A meeting was held on June 28, 2023, in which this Project was discussed. No specific Tribal Cultural resources or impacts were identified by Soboba in this meeting. On November 2, 2023, the cultural report and the Project conditions of approval were provided to the tribe. Another follow-up email was sent to the tribe on January 4, 2024.

Although no specific physical impacts to Tribal Cultural Resources were identified Agua Caliente and Soboba expressed concerns that the Project has the potential for as yet unidentified subsurface tribal cultural resources. The tribes request that a Native American monitor be present during ground disturbing activities so any unanticipated finds will be handled in a timely and culturally appropriate manner.

The Project also will be required to adhere to State Health and Safety Code Section 7050.5 in the event that human remains are encountered and by ensuring that no further disturbance occur until the County Coroner has made the necessary findings as to origin of the remains. Furthermore, pursuant to Public Resources Code Section 5097.98 (b), remains shall be left in place and free from disturbance until a final decision as to the treatment and their disposition has been made. This is State Law and a standard condition of approval and is not considered a mitigation measure for the purposes of this project. Further, CEQA requires the Lead Agency to address any unanticipated cultural resources discoveries during Project construction. Therefore, a condition of approval that dictates the procedures to be followed should any unanticipated cultural resources be identified during ground disturbing activities has been placed on this Project. This is also a standard condition of approval and is not considered a mitigation measure for the purposes of this Project.

Other Tribal Comments

The Colorado River Indian Tribes (CRIT) provided a comment during the public review period of the original Draft EIR suggesting that the Chuckwalla Valley and its slopes and ridgelines have cultural significance to CRIT. While CRIT does not clearly take the position that the Chuckwalla Valley itself qualifies as a tribal cultural resource, the valley does not appear eligible to be a TCR. Under Public Resources Code section 21074 (a), "Tribal cultural resources" are either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

> (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
>
> (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Further, under subsection (b), "A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape."

The Chuckwalla Valley and its slopes and ridgelines are not included in the CRHR or in a local register of historical resources and have not been determined eligible for listing. The Chuckwalla Valley and its slopes and ridgelines also are broad, non-geographically defined terms and do not provide clear boundaries of the proposed "landscape." Additionally, although CRIT indicates the Valley are ancestral lands, previous efforts to define a period of significance for the Chuckwalla Valley found temporal association difficult to establish beyond Holocene occupations.[8] The geologic and geographic features of the valley are not associated with a distinct historic event, activity or person and do not embody particular cultural or aesthetic values that differentiate it from surrounding geographic features. Development within and around the valley has over time made it difficult to state that the valley as a whole maintains authenticity or historic integrity as a natural landscape. There is no record that valley is designated as a sacred site. Defining a landscape that encompasses Chuckwalla Valley would be unlikely to expand on this finding.

3.6.4. CEQA Significance Criteria

Section V of Appendix G to the State CEQA Guidelines addresses typical adverse changes in the significance of a historical resource and/or archaeological resource as defined under California Code of Regulations, Title 14, Chapter 3, Section 15064.5. The proposed Project would result in a significant impact under CEQA related to cultural resources and tribal cultural resources if the Project would:

a. *Cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations, Section 15064.5 (see Impact CUL-1).*

b. *Cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations, Section 15064.5 (see Impact CUL-2).*

[8] Ford Dry Lake Study Area National Register of Historic Places Eligibility Evaluation, Genesis Solar Energy Project (09-AFC-8C), Riverside County, California

c. *Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to California Code of Regulations, Section 15064.5 (see Impact CUL-3).*

d. *Disturb any human remains, including those interred outside of formal cemeteries (see Impact CUL-4).*

e. *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*

   i. *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) (see Impact TCR-2), or*

   ii. *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe (see Impact TCR-1).*

The County of Riverside's Environmental Assessment Form includes additional significance criteria, which were also used in the analysis. Almost all of the County of Riverside criteria for the issue area of Cultural and Tribal Cultural Resources are identical to existing the CEQA criteria for that issue area, except for the following criteria. The additional criteria differing from the above CEQA criteria that indicate that a project could have potentially significant impacts are:

f. *Alter or destroy a historic site (see Impact CUL-1).*

g. *Alter or destroy an archaeological site (see Impacts CUL-2 and CUL-3).*

Under all these criteria, adverse changes and impacts would be the following:

- Physical, visual, or audible disturbances resulting from construction and development that would affect the integrity of a resource or the qualities that make it eligible for the CRHR.
- Exposure of resources to vandalism or unauthorized collecting.
- A substantial increase in the potential for erosion or other natural processes that could affect resources.
- Neglect of a resource that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to a Native American tribe.
- Transfer, lease, or sale of a resource out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the resource's historic significance.

3.6.5. Proposed Project Impact Analysis

This section analyzes impacts to cultural resources identified within the Cultural Resource Study Area, which includes the ~~988~~ 3,888 acres of ~~private land that are under County jurisdiction~~lands comprising the Project area, both on private and BLM-managed lands, and surrounding 1-mile area. This section also includes an examination of the Project's cultural resources impacts per the County's Environmental Assessment Checklist identified above.

This analysis considers both direct and indirect impacts to cultural resources.

- **Direct impacts** to cultural resources are those associated with Project construction, operation, maintenance, and decommissioning. Construction usually entails surface and subsurface ground disturbance, and direct impacts to cultural resources may result from the immediate disturbance of the deposits, whether from vegetation removal, vehicle travel over the surface, earth-moving activities, excavation, or demolition of overlying structures. Construction can have direct impacts on historical built-environment resources when those buildings or structures must be removed to make way for new buildings or structures or when the vibrations of construction impair the stability of historical buildings or structures nearby. New buildings or structures can have direct impacts on historical built-environment resources when the new buildings or structures are stylistically incompatible with their neighbors and the setting, or when the new buildings or structures produce a harmful effect to the materials or structural integrity of the historical built environment resources, such as emissions or vibrations.
- **Indirect impacts** to cultural resources are those that may result from increased erosion due to site clearance and preparation or from inadvertent damage or outright vandalism to exposed resource components due to improved accessibility. Similarly, historical built environment resources can suffer indirect impacts when Project construction creates potentially damaging noise and vibration, improved accessibility and vandalism, or greater weather exposure. The long-term presence of solar panels, transmission lines, or towers also has the potential to result in indirect visual impacts to significant cultural resources where setting is a key contributor to the property's importance.

Additionally, unknown and/or potentially significant buried resources could be inadvertently unearthed during ground-disturbing activities during construction and decommissioning. Destruction of potentially significant cultural resources could be a significant impact.

The scoping effort conducted by the Riverside County Planning Department revealed several public concerns related to cultural and tribal cultural resources. The Native American Heritage Commission (NAHC) recommended early consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the Project, to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. The NAHC also recommends the following steps that have been incorporated into the Native American consultation processes and EIR mitigation measures herein:

- Contacting the appropriate regional California Historical Research Information System (CHRIS) Center, for an archaeological records search;
- Contacting the NAHC for a Sacred Lands File search and a Native American Tribal Consultation List;
- Preparation of a professional report detailing the findings and recommendations of the records search and field survey, if an archaeological inventory survey is required;
- Lead agencies should include provisions for the identification and evaluation of inadvertently discovered archaeological resources in their mitigation and monitoring reporting program plan, because the lack of subsurface evidence of archaeological resources does not preclude their subsurface existence;
- Monitoring all ground-disturbing activities by a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources; and
- Lead agencies should include in their mitigation and monitoring reporting program plans previsions for the disposition of recovered cultural items and for inadvertently discovered Native American remains.

Several commentors from the Lake Tamarisk Desert Resort expressed concerns about the General Patton Desert Training Center historical area and are concerned about impacts to the artifacts in the area. One commentor stated that the Project seems to conflict with the BLM objectives of preserving features at historically significant sites, such as the General Patton training area.

3.6.5.1. Cultural Resources

Impact CUL-1. The Project would cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations, Section 15064.5.

LESS THAN SIGNIFICANT WITH MITIGATION.

Direct Impacts. As stated in Section 3.6.3, Methodology for Analysis, there are no known CRHR-eligible historical resources (i.e., historic built-environment resources) in the Project's direct impact area for construction, operations, maintenance, and decommissioning. Therefore, the Project would not alter or destroy a historical resource.

The Project site has the potential to contain previously unknown archaeological deposits that may underlie the ground surface. Should buried archaeological deposits be uncovered during project implementation, and should such resources qualify as historical resources under CEQA, they could be subject to direct impacts as a result of Project construction. Direct effects to any newly identified resources would be addressed by the implementation of Mitigation Measures (MM) CUL-1 through MM CUL-6, which would reduce these impacts to less-than-significant levels by requiring cultural resources training for construction workers, archaeological monitoring during construction, and appropriate treatment of unearthed archaeological resources during construction.~~Because no historical resources would be subject to direct impacts from the implementation of the Project, no mitigation is necessary~~.

Indirect Impacts. One CRHR-eligible historical resource, SR-177/Rice Road (P-33-025150; also recorded as P-33-023788/CA-RIV-11683), lies adjacent to the Project in the indirect impact area. The historic roadway has been determined eligible for inclusion in the CRHR under Criterion 1, 3, and 4. The Project would be clearly visible from this historical resource. However, the visual changes would be in kind with the current nature and scale of existing visible developments. Visual impacts to the setting would be addressed by the following measures: Mitigation Measures AES-1 and AES-2, which would employ design elements that reduce the visual contrast to characteristics of the landscape. With implementation of these mitigation measures, the proposed Project would not compromise the integrity of the resource or materially alter in an adverse manner the characteristics of the resource that convey its historical significance and justify its eligibility for inclusion in the CRHR. As such, SR-177/Rice Road is not subject to significant indirect impacts from the construction, operation, maintenance, or the decommissioning of the solar and BESS facility and gen-tie line.

Mitigation Measures for Impact CUL-1

MM AES-1 **Surface Treatment of Project Structures and Building**s. See full text in Section 3.2 (Aesthetics).

MM AES-2 **Project Design.** See full text in Section 3.2 (Aesthetics).

Significance After Mitigation

This impact would be less than significant with implementation of mitigation.

Impact CUL-2. The Project would cause a substantial adverse change in the significance of an archaeological resource, pursuant to California Code of Regulations, Section 15064.5.

LESS THAN SIGNIFICANT WITH MITIGATION.

Direct Impacts. There are 3 known CRHR-eligible archaeological resources in the Project's direct impact area. The entirety of the Project area lies within the boundaries of two CRHR-eligible historic districts (PTNCL and DTCCL).

No PTNCL trail segments have been documented or known to exist within the Project area of direct impacts. No character defining features of the PTNCL have been documented or are known to exist with the Project area of direct impacts. ~~No prehistoric~~Prehistoric archaeological remains identified in the Project's direct impact area would be associated with the PTNCL if they were trail-associated sites or features. The prehistoric remains identified include isolated lithics and ceramics, and sparse lithic scatters that are not indicative of projectile point or diagnostic tool manufacture. While lithic and ceramic remains broadly relate to PTNCL themes surrounding resource procurement and manufacture, these resource types are ubiquitous throughout the Chuckwalla Valley. The prehistoric sites and isolates located within the Project's direct impact area are not associated with any character defining archaeological resources such as petroglyphs, pot drops, or webs of intersecting trails (CEC 2014). The archaeological resources are not individually CRHR-eligible and do not contribute to the historical significance of the PTNCL. Due to the widespread occurrences of the archaeological resource types and because of their lack of association with character defining features of the PTNCL, removal of these sites and isolates would not alter the PTNCL's ability to convey its historical significance and would not constitute an adverse impact to the PTNCL. ~~have been identified in the Project's direct impact area.~~

~~Two~~ Fifteen contributors to the DTCCL~~, P-33-006836 (Desert Center Army Airfield) and P-33-023675 (496th Medium Ordinance Company),~~ are mapped within the Project's direct impact area, only one of which, P-33-023675 (496th Medium Ordnance Company),~~. The latter of these sites~~ has also been previously determined eligible for individual listing in the CRHR under Criteria 1 and 4. Results of the Phase I survey found no evidence of archaeological remains associated with P-33-023675 within the Project's direct impact area, and, thus, would not be subject to direct impacts from the construction, operations, maintenance, or the decommissioning of the BESS and solar facility and gen-tie line. For the other 14 resources associated with the DTCCL, these resources are not eligible for the CRHR in their own right under any criteria, so are not subject to direct impacts. ~~Results of the Phase I survey found no evidence of archaeological remains associated with either P-33-006836 or P-33-023675 within the Project's direct impact area. Because no significant archaeological resources would be subject to direct impacts from the construction, operations, maintenance, or the decommissioning of the BESS and solar facility and gen-tie line, no mitigation is necessary.~~

The Project site has the potential to contain previously unknown archaeological deposits that may underlie the ground surface. Should buried archaeological deposits be uncovered during project implementation, and should such resources qualify as historical resources under CEQA, they could be subject to significant impacts. Direct effects to any newly identified resources would be addressed by the implementation of Mitigation Measures (MM) CUL-1 through MM CUL-6, which would reduce these impacts to less-than-significant levels.

Indirect Impacts. Portions of the PTNCL, DTCCL, and P-33-023675 are located within the Project's indirect impact area. The Project would be a prominent element on the landscape and would be clearly visible from these resources. However, the visual changes would be in kind with the current nature and scale of existing visible developments. Further, the PTNCL is primarily associated with destinations, trails, and trail-associated sites or features that relate to travel, trade, ritual, and resource exploitation, particularly the collection of stone tool and ground stone raw materials. The historical significance of those characteristics primarily relates to travelers going to or from a destination and is linear in nature. The closest documented constituents in clear association with the PTNCL lie 5 meters south of the Project gen-tie, outside the area of direct impacts, and include rock rings, rock cairns, and cleared circles. The Project elements closest to them (namely, the gen-tie line) would be in kind with existing infrastructure and, thus, views of the Project from these locations would not affect their historical significance or the historical significance of use associated with the PTNCL beyond the current conditions. There are no other documented character defining features associated with the PTNCL near the Project site which would be adversely impacted by views of the Project. Visual impacts to the setting would be addressed by the following measures: Mitigation Measures AES-1 and AES-2, which would employ design elements that reduce the visual contrast to characteristics of the landscape. Therefore, the proposed Project would not compromise the integrity of the resources or materially alter in an adverse manner any characteristics of the resources that convey their historical significance. As such, these archaeological resources would not be subject to significant indirect impacts from the construction, operation, maintenance, or the decommissioning of the BESS and solar facility and gen-tie line.

Mitigation Measures for Impact CUL-2

MM AES-1 **Surface Treatment of Project Structures and Buildings.** See full text in Section 3.2 (Aesthetics).

MM AES-2 **Project Design.** See full text in Section 3.2 (Aesthetics).

MM CUL-1 **Project Archaeologist and Cultural Resource Monitoring Plan**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-2 **Develop and Implement Cultural Resources Environmental Awareness Training.** See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-3 **Archaeological Monitoring**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-4 **Unanticipated ~~Discovery~~Resources**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-5 **Treatment of Human Remains**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-6 **Phase IV Monitoring Report.** See full text in Section 3.6.9 (Mitigation Measures).

Significance After Mitigation

This impact would be less than significant with implementation of mitigation.

Impact CUL-3. The Project would cause an adverse change in the significance of a unique archaeological resource pursuant to California Code of Regulations, Section 15064.5.

LESS THAN SIGNIFICANT WITH MITIGATION. No unique archaeological resources have been identified to date in the Project's direct or indirect impact areas. Therefore, the Project would not cause an adverse change in the significance of any known unique archaeological resources. Should a unique archaeological resource be identified during construction, operations, maintenance, and decommissioning of the Project, direct effects to any newly identified unique archaeological resources would be addressed by the implementation of Mitigation Measures CUL-1 through MM CUL-6, which would reduce potential impacts to a less-than-significant level.

Mitigation Measures for Impact CUL-3

MM CUL-1 **Project Archaeologist and Cultural Resource Monitoring Plan.** See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-2 **Develop and Implement Cultural Resources Environmental Awareness Training.** See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-3 **Archaeological Monitoring.** See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-4 **Unanticipated ~~Discovery~~Resources.** See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-5 **Treatment of Human Remains.** See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-6 **Phase IV Monitoring Report.** See full text in Section 3.6.9 (Mitigation Measures).

Significance After Mitigation

This impact would be less than significant with implementation of mitigation.

Impact CUL-4. The Project would disturb any human remains, including those interred outside of dedicated cemeteries.

LESS THAN SIGNIFICANT WITH MITIGATION. A review of the archaeological record searches and results of recent Phase I survey did not identify any human remains in the Project's direct or indirect impact areas. However, previously unidentified human remains could be found and potentially impacted (directly or indirectly) during Project construction and decommissioning. If human remains or related resources are discovered, such resources shall be treated in accordance with state and local regulations and guidelines that govern the disclosure, recovery, relocation, and preservation of human remains (14 CCR 15064.5[e]). With incorporation of MM CUL-5, any potential impacts on human remains would be less than significant.

Mitigation Measures for Impact CUL-4

MM CUL-5 **Treatment of Human Remains.** See full text in Section 3.6.9 (Mitigation Measures).

Significance After Mitigation

This impact would be less than significant with implementation of mitigation.

3.6.5.2. Tribal Cultural Resources

Impact TCR-1. The Project would cause adverse change in the significance of a Tribal Cultural Resource determined by the Lead Agency.

LESS THAN SIGNIFICANT WITH MITIGATION. The direct and indirect impacts of solar and BESS facility and gen-tie line construction, operations, maintenance, and decommissioning, ~~would~~ could potentially cause disturbance or damage to tribal cultural resources. ~~This would be a significant impact under criterion TCR-1 (adverse change in the significance of a tribal cultural resources identified through tribal consultation).~~ However, impacts are not anticipated because no tribal cultural resources ~~determined by the County~~ have been found in the Project area or identified through tribal consultation that are listed in the CRHR or have been determined to be eligible for such listed nor is there evidence on which the County could in its discretion determine that there are tribal cultural resources impacted by the Project. Should buried archaeological deposits be uncovered during project implementation, and should such resources qualify as tribal cultural resources under CEQA, they could be subject to significant impacts under criterion TCR-

1 (adverse change in the significance of a tribal cultural resources identified through tribal consultation). Direct effects to any newly identified resources would be addressed by the implementation of Mitigation Measures (MM) CUL-1 through MM CUL-6, MM TCR-1, and MM TCR-2, which would reduce these impacts to less-than-significant levels by requiring cultural resources training for construction workers, archaeological and Native American monitoring during construction, and appropriate treatment of unearthed archaeological resources during construction. A Native American Monitor is defined as an individual who is presented as a representative of a tribal government for one of the AB 52 Consulting Tribes for the Easley Project and who has received specialized training approved by that tribal government to serve as a monitor.

Mitigation Measures for Impact TCR-1

MM CUL-1 **Project Archaeologist and Cultural Resource Monitoring Plan**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-2 **Develop and Implement Cultural Resources Environmental Awareness Training.** See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-3 **Archaeological Monitoring**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-4 **Unanticipated ~~Discovery~~Resources**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-5 **Treatment of Human Remains**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-6 **Phase IV Monitoring Report.** See full text in Section 3.6.9 (Mitigation Measures).

MM TCR-1 **Native American Monitor**. See full text in Section 3.6.9 (Mitigation Measures).

MM TCR-2 **Artifact Disposition**. See full text in Section 3.6.9 (Mitigation Measures).

Significance After Mitigation

This impact would be less than significant with implementation of mitigation.

Impact TCR-2. The Project would cause adverse change in the significance of a Tribal Cultural Resource eligible for or listed on the CRHR or in a local register of historical resources as defined in Public Resources Code section 5020.1 (k).

LESS THAN SIGNIFICANT WITH MITIGATION. ~~The direct and indirect impacts of solar and BESS facility and gen-tie line construction, operations, maintenance, and decommissioning, could cause disturbance or damage to tribal cultural resources. This would be a significant impact under criterion TCR-2 (adverse change in the significance of a tribal cultural resources eligible or listed on the CRHR). However, no TCRs have been identified and therefore this project would have no impact.~~ As discussed above, no PTNCL trail segments have been documented or are known to exist within the Project area of direct impacts. Additionally, no other character defining features of the PTNCL have been documented or known to exist~~ing~~ with the Project area of direct impacts. The prehistoric archaeological resources identified on the Project site include isolated lithics and ceramics, and sparse lithic scatters. While these prehistoric archaeological resources broadly relate to the time period of the PTNCL, they are ubiquitous throughout the Chuckwalla Valley and are not associated with any destination sites or character defining features of the PTNCL. The resources are not individually CRHR-eligible and do not contribute to the significance of the PTNCL. Due to their widespread occurrences, removal of these sites and isolates would not alter the PTNCL's ability to convey its historical significance and would not constitute and an adverse impact to the PTNCL. Thus, the Project would not demolish or materially alter in an adverse manner any characteristics of the PTNCL that convey its historical significance and justify its eligibility for inclusion in the CRHR. Should a tribal cultural resource be identified during construction, operations, maintenance, and decommissioning of the Project, direct effects to the newly identified resource would be addressed by the implementation of Mitigation Measures CUL-1 through MM CUL-6, MM TCR-1, and MM TCR-2, which would reduce potential impacts to a less-than-significant level.

Mitigation Measures for Impact TCR-2

MM CUL-1 **Project Archaeologist and Cultural Resource Monitoring Plan**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-2 **Develop and Implement Cultural Resources Environmental Awareness Training.** See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-3 **Archaeological Monitoring**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-4 **Unanticipated ~~Discovery~~Resources**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-5 **Treatment of Human Remains**. See full text in Section 3.6.9 (Mitigation Measures).

MM CUL-6 **Phase IV Monitoring Report.** See full text in Section 3.6.9 (Mitigation Measures).

MM TCR-1 **Native American Monitor**. See full text in Section 3.6.9 (Mitigation Measures).

MM TCR-2 **Artifact Disposition**. See full text in Section 3.6.9 (Mitigation Measures).

Significance After Mitigation

This impact would be less than significant with implementation of mitigation.

****The impact analyses for all Project alternatives have been moved to EIR Section 5.****

3.6.6. Cumulative Impacts

Geographic Scope

Cultural cumulative impacts include the Project's impacts and those likely to occur as a result of other existing, proposed, and reasonably foreseeable projects (refer to Tables 3.1-1, Past and Present Projects or Programs in the Project Area, and 3.1-2, Probable Future Projects in the Project Area). The Desert Center area was selected as the geographic scope, because the archaeological and historical resources within this area are expected to be similar to those that occur on the Project site due to their proximity and because similar environments, landforms, and hydrology would result in similar land use and, thus, site types.

Most of these projects involved or will involve grading or other excavation activities that have the potential to impact cultural resources. If adopted, the proposed expansion of Joshua Tree National Park and creation of Chuckwalla National Monument would re-designate existing federal lands in the Project vicinity but would not create physical changes in the environment that would contribute to cumulative impacts. Such designations would afford additional protection to cultural and tribal cultural resources.

Cumulative Impact Analysis

As discussed under Impact CUL-1 the Project would not alter or destroy a historical resource, either directly or indirectly. There are no known CRHR-eligible historical resources in the Project's direct impact area. Because the visual changes resulting from the Project would be in kind with the current nature and scale of existing visible developments, the portion of SR-177/Rice Road (P-33-025150) within the indirect impact area would also not be impacted by the Project. Cumulative projects similarly would be in kind with the current nature and scale of existing visible developments and would be subject to similar measures designed to avoid and minimize impacts to historical resources. Therefore, cumulative impacts would be less than significant, and the Project would not make a cumulatively considerable contribution to cumulative impacts on ~~any known CRHR-eligible~~ historical resources.

As discussed under Impact CUL-2 the Project would not alter or destroy any CRHR-eligible archaeological resources, either directly or indirectly. No evidence of P-33-023675 or~~,~~ the PTNCL~~, or the DTCCL~~ were identified within the Project's direct impact area. Archaeological resources located within the Project's direct impact area are not associated with any sites or trail segments of the PTNCL and do not contribute to the historical significance of the PTNCL. Due to their widespread occurrences, removal of these sites and isolates would not alter the PTNCL's ability to convey its historical significance. ~~Furthermore, because~~However, while the visual changes resulting from the Project would be in kind with the current nature and scale of existing visible developments, the addition of more industrial components to the Chuckwalla Valley, as a result of the Project in combination with past projects, other current projects, and probable future projects, would contribute to adverse visual impacts to the PTNCL, particularly from character defining features within the PTNCL. The Project would implement Mitigation Measures CUL-1 through MM CUL-6, MM TCR-1, MM TCR-2, AES-1 and AES-2, which would avoid and minimize impacts to archaeological resources and employ design elements that reduce the Project's visual contrast to characteristics of the landscape, reducing project-level impacts to less than significant. Cumulative projects would likely be required to implement similar measures. However, cumulative visual impacts to the PTNCL would remain significant, and the Project's incremental contribution would be cumulatively considerable.~~the portion of these resources within the indirect impact area would also not be impacted by the Project. Therefore, the Project would not make a considerable contribution to cumulative impacts on any known CRHR-eligible archaeological resource.~~

As discussed under Impact CUL-3, the Project would not alter or destroy a unique archaeological resource, either directly or indirectly. There are no known unique archaeological resources in the Project's direct or indirect impact areas. Cumulative projects would be subject to measures designed to avoid and minimize impacts to archaeological resources. Therefore, cumulative impacts would be less than significant, and the Project would not contribute to cumulative impacts to any unique archaeological resource.

As discussed under Impact CUL-4, the Project would not disturb any human remains, including those interred outside of dedicated cemeteries. ~~This is because a~~A review of the archaeological record search and results of recent surveys did not identify any human remains, burial sites, or cemeteries in the Project area. If human remains or related resources are discovered, such resources shall be treated in accordance with state and local regulations and guidelines that govern the disclosure, recovery, relocation, and preservation of human remains (14 CCR 15064.5[e]) and in accordance with relevant mitigation measures. Cumulative projects would be subject to the same requirements. Therefore, cumulative impacts would be less than significant, and the Project ~~'s impacts combined with those of nearby projects~~ would not result in a cumulatively considerable impact on human remains, including those interred outside of dedicated cemeteries.

As discussed under Impacts TCR-1 and TCR-2, the Project would not cause adverse change in the significance of a tribal cultural resource determined by a lead agency or eligible for or listed on the CRHR or local register of historic resources and would be subject to various mitigation measures to avoid, minimize, or mitigate impacts to any tribal cultural resources identified during construction, operations, maintenance, and decommissioning of the Project. Cumulative projects would be subject to similar measures designed to avoid and minimize impacts to tribal cultural resources. ~~There are no tribal cultural resources that have been identified in the Projects direct or indirect impacts area. Therefore, the Project will not contribute to the cumulative impacts to any tribal cultural resource.~~However, as discussed above, the Project in combination with past projects, other current projects, and probable future projects would contribute to adverse visual impacts to the PTNCL, particularly from character defining features within the PTNCL. Cumulative visual impacts to the PTNCL would remain significant, and the Project's incremental contribution would be cumulatively considerable.

Mitigation Measures for Cumulative Impacts

Mitigation Measures MM AES-1, MM AES-2, MM CUL-1 through MM CUL-6, MM TCR-1, ~~and~~ MM TCR-2, MM AES-1, and MM AES-2 would be implemented to address potential cultural and tribal cultural resources impacts for the proposed Project. ~~No additional mitigation is required.~~

Significance After Mitigation

Cumulative visual impacts to the PTNCL would be significant and unavoidable, and the Project's incremental contribution to those visual impacts would be cumulatively considerable. All other cumulative cultural and tribal cultural resource impacts would be less than significant, and ~~T~~the Project's incremental contribution ~~to impacts to cultural and tribal cultural resources~~ would not be cumulatively considerable.

3.6.7. Mitigation Measures

~~The following MMs were developed to substantially lessen the potentially significant effects to cultural resources that could result in the event of an unanticipated discovery cultural or archaeological resources or human remains. The following MMs were developed to comply with the COAs provided by the County of Riverside (ADM, 2023; RCCOA, 2023):~~

MM CUL-1 **Project Archaeologist and Cultural Resource Monitoring Plan.** Prior to issuance of grading permits: The applicant/developer shall provide evidence to the County of Riverside Planning Department that a County certified professional archaeologist (Project Archaeologist) has been contracted to implement a Cultural Resource Monitoring. Program (CRMP). A Cultural Resource Monitoring Plan shall be developed that addresses the details of all activities and provides procedures that must be followed in order to reduce the impacts to cultural and historic resources to a level that is less than significant as well as address potential impacts to undiscovered buried archaeological resources associated with this project. A fully executed copy of the contract and a wet-signed copy of the Monitoring Plan shall be provided to the County Archaeologist to ensure compliance with this condition of approval.

Working directly under the Project Archaeologist, an adequate number of qualified Archaeological Monitors shall be present to ensure that all earth moving activities are observed and shall be on-site during all grading activities for areas to be monitored including off-site improvements. Inspections will vary based on the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined by the Project Archaeologist.

MM CUL-2 **Develop and Implement Cultural Resources Environmental Awareness Training.** Prior to issuance of a Notice to Proceed by the County and for the duration of ground disturbance (as defined in MM TCR-1), the Applicant shall provide Worker Environmental Awareness Program (WEAP) training to all workers prior to or on their first day of employment at the Project site. The training shall be prepared by the Cultural Resources Specialist (CRS), may be conducted by any member of the archaeological team, and may be presented in the form of an annotated and narrated digital slide show. Tribal representatives will be given the opportunity to participate in the WEAP training. The training shall be prepared in consultation with culturally affiliated Native Americans to incorporate the tribal knowledge and perspectives from these Native American groups into the presentation. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance is completed or suspended but must be resumed if ground disturbance resumes. Training shall include the following:

- A discussion of applicable laws and penalties under the law
- Samples or visuals of artifacts that might be found in the Project vicinity.
- A brief review of the cultural sensitivity of the Project and the surrounding area
- A discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed.
- A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits.
- Instruction that only the CRS, alternate CRS, and supervisory cultural resource field staff have the authority to halt ground disturbance in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS.
- Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their supervisor and the CRS or supervisory cultural resource field staff, and that redirection of work would be determined by the construction supervisor and the CRS.
- An informational brochure that identifies reporting procedures in the event of a discovery.
- An acknowledgment form signed by each worker indicating that they have received the training.
- A sticker that shall be placed on hard hats indicating that WEAP training has been completed.

This is a mandatory training, and all construction personnel must attend prior to beginning work on the Project site. A copy of the sign-in sheet shall be kept ensuring compliance with this measure. No ground disturbance shall occur prior to implementation of the WEAP training unless such activities are specifically approved by the County.

MM CUL-3 **Archaeological Monitoring.** A qualified lead archaeological monitor that meets the Secretary of the Interior's Professional Qualifications Standards (as defined in Title 36 Code of Federal Regulations Part 61), shall be present for initial grading activities in undisturbed soil. If additional archaeological monitors are needed, they do not need to have the same SOI qualifications but may work under the supervision of the lead archaeological monitor; in such cases the lead archaeological monitor must be on site. Any additional archaeological monitors will meet the qualifications of a bachelor's degree in anthropology/archaeology or completion of an archaeological field school and two or more years of archaeological project experience. Daily monitoring forms will be completed by the archaeological monitor(s) and the CRS will be responsible for retaining and/or editing them. The lead archaeological monitor will have the authority to increase or decrease the monitoring effort should the monitoring results indicate that a change is warranted.

MM CUL-4 **Unanticipated ~~Discovery~~Resources.** The developer/permit holder or any successor in interest shall comply with the following for the life of this permit. If during ground disturbance activities, unanticipated cultural resources* are discovered, the following procedures shall be followed:

All ground disturbance activities within 100 feet of the discovered cultural resource shall be halted and the Project archaeologist shall call the County Archaeologist immediately upon discovery of the cultural resource. A meeting shall be convened between the developer, the project archaeologist,** the Native American tribal representative, and the County Archaeologist to discuss the significance of the find. At the meeting with the aforementioned parties, a decision is to be made, with the concurrence of the County Archaeologist, as to the appropriate treatment (documentation, recovery, avoidance, etc.) for the cultural resource. Resource evaluations shall be limited to nondestructive analysis.

Further ground disturbance shall not resume within the area of the discovery until the appropriate treatment has been accomplished.

* A cultural resource site is defined, for this condition, as being a feature and/or three or more artifacts in close association with each other. ~~Tribal Cultural Resources are also considered cultural resources.~~

** If not already employed by the project developer, a County approved archaeologist ~~and a Native American Monitor from the consulting tribe(s)~~ shall be employed by the project developer to assess the significance of the cultural resource, attend the meeting described above, and continue monitoring of all future site grading activities as necessary.

MM CUL-5 **Treatment of Human Remains**. If human remains are found on this site, the developer/ permit holder or any successor in interest shall comply with State Health and Safety Code Section 7050.5. ~~Pursuant to State Health and Safety Code Section 7050.5, if human remains are encountered, no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resources Code Section 5097.98 (b), remains shall be left in place and free from disturbance until a final decision as to the treatment and their disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted by the Coroner within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "Most Likely Descendant". The Most Likely Descendant shall then make recommendations and engage in consultation with the property owner concerning the treatment of the remains as provided in Public Resources Code Section 5097.98~~.

MM CUL-6 **Phase IV Monitoring Report.** Prior to Grading Permit Final Inspection, a Phase IV Cultural Resources Monitoring Report shall be submitted that complies with the Riverside County Planning Department's requirements for such reports for all ground disturbing activities associated with this grading permit. The report shall follow the County of Riverside Planning Department Cultural Resources (Archaeological) Investigations Standard Scopes of Work posted on the TLMA website. The report shall include results of any feature relocation or residue analysis required as well as evidence of the required cultural sensitivity training for the construction staff held during the required pre-grade meeting and evidence that any artifacts have been treated in accordance to procedures stipulated in the Cultural Resources Monitoring Plan.

MM TCR-1 **Native American Monitor**. Prior to the issuance of grading permits, the developer/permit applicant shall enter into an agreement with the consulting tribe(s) for ~~at least one~~a

Native American Monitor~~ per archaeological monitor~~. The Native American Monitor(s) shall be on-site during all initial ground disturbing activities and excavation of each portion of the Project site including clearing, grubbing, tree removals, grading and trenching. In conjunction with the Archaeological Monitor(s), the Native American Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources. The developer/permit applicant shall submit a fully executed copy of the agreement to the County Archaeologist to ensure compliance with this condition of approval. Upon verification, the Archaeologist shall clear this condition. This agreement shall not modify any condition of approval or mitigation measure.

MM TCR-2 **Artifact Disposition.** Prior to Grading Permit Final Inspection,~~In the event cultural resources are identified during ground disturbing activities~~, the landowner(s) shall relinquish ownership of all cultural resources that are unearthed on the Project property during any ground-disturbing activities, including previous investigations and/or Phase III data recovery~~, (with the exception of sacred items, burial goods, and Human Remains) and Provide evidence to the satisfaction of the County Archaeologist that all archaeological materials recovered during the archaeological investigations (this includes collections made during an earlier project, such as testing of archaeological sites that took place years ago), have been handled through one of the following methods~~.

Historic Resources – all historic archaeological materials recovered during the archaeological investigations (this includes collections made during an earlier project, such as testing of archaeological sites that took place years ago), shall be curated at the Western Science Center, a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines.

Prehistoric Resources- One of the following treatments shall be applied:

(a) Reburial of the resources on the Project property. The measures for reburial shall include, at least, the following: Measures to protect the reburial area from any future impacts. Reburial shall not occur until all required cataloguing, analysis and studies have been completed on the cultural resources, with an exception that sacred items, burial goods and Native American human remains are excluded. Any reburial processes shall be culturally appropriate. Listing of contents and location of the reburial shall be included in the confidential Phase IV Report. The Phase IV Report shall be filed with the County under a confidential cover and not subject to a Public Records Request.

~~(a)~~(b) If reburial is not agreed upon by the Consulting Tribes, then the resources shall be curated at a culturally appropriate manner at the Western Science Center, a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the landowner to the County. There shall be no destructive or invasive testing on sacred items, burial goods and Native American human remains.

~~A fully executed reburial agreement with the appropriate culturally affiliated Native American tribe(s) or band(s). This shall include measures and provisions to protect the reburial area from any future impacts. Reburial shall not occur until all cataloguing, analysis and special studies have been completed on the cultural resources. Details of contents and location of the reburial shall be included in the Phase IV Report.~~

~~Curation at a Riverside County Curation facility that meets federal standards per 36 CFR Part 79 and therefore will be professionally curated and made available to other archaeologists/researchers and tribal members for further study. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees necessary for permanent curation. Evidence shall be in the form of a letter from the curation facility identifying that archaeological materials have been received and that all fees have been paid.~~

~~If more than one Native American Group is involved with the project and cannot come to a consensus as to the disposition of cultural resources, the landowner(s) shall then proceed with curation at the Western Science Center. The details of any disposition of artifacts shall be documented in the Phase IV report.~~

3.11. Hydrology and Water Quality

This section presents the existing local and regional water resources baseline for the Easley Renewable Energy Project (Project), the regulatory framework for water resources, and an assessment of the effects of the Project on groundwater and surface water sources. The Project area relevant to the analyses of water resources is the underlying Chuckwalla Valley Groundwater Basin (CVGB) and adjacent groundwater basins for groundwater resources and the Chuckwalla Valley Drainage Basin for surface water resources. The Easley Solar Project Hydrology Study by Westwood Professional Services (Westwood, 2023) is used as a primary source the surface water information in this section.

3.11.1. Environmental Setting

This section refers to certain laws and regulations that apply to water resources in this area. These laws and regulations are described in more detail in Section 3.11.2.

3.11.1.1. Surface Water

Drainage Characteristics

The Project site is in the Chuckwalla Valley of Riverside County near the community of Desert Center, California. Although in the Mojave Desert Geomorphic Province, the Project lies within the Sonoran Desert ecoregion consisting of isolated mountain ranges separated by expanses of desert plains. The site is within an interior enclosed drainage system, meaning there is no outlet to the ocean. Drainage is to shallow lake beds which, being dry most of the time, are known as dry lakes or playas. Figure 3.11-1 (Project Topography) shows the topography of the Project site.

The Project lies on wide, flat alluvial fans emanating from the Chuckwalla Mountains to the south and from the Eagle Mountains to the east. Alluvial flows from these two mountain ranges form a series of numerous shallow, inter-braided, small washes which enter along the western boundary of the Project and traverse the Project from southwest to northeast. The Big Wash originates in the Eagle Mountains and crosses along the north side of the Project to join with the Pinto Wash, originating from the Eagle Mountains and from the area north of the Eagle Mountains. The Pinto Wash passes northwest to southeast adjacent to the north and east side of the Project site. All these washes are similar in character (numerous shallow inter-braided washes flowing over a wide area).

The elevation of the Project site ranges from about 550 feet above mean sea level (amsl) on the northeastern boundary of the site to 740 feet amsl at the southwestern edge. The surrounding mountains rise to over 3,000 feet amsl. The Project's site is relatively flat to gently sloping to the northeast.

Climate and Precipitation

The Chuckwalla Valley is characterized by high aridity, low precipitation, hot summers, and cool winters. Average maximum temperature at the nearby Eagle Mountain Climate Station is 104.9 degrees Fahrenheit (ºF) in July. Average minimum temperature is 46.2ºF in December (WRCC, 2023). Average annual precipitation is approximately 3.67 inches at Eagle Mountain Climate Station and 3.39 inches at the Blythe Climate Station (NOAA, n.d.[a]; NOAA, n.d.[b]; WRCC, 2023). Most rainfall occurs during the winter months, or in association with summer tropical storms which tend to be of shorter duration and higher intensity than winter storms. Eastern Riverside County is currently (February 2023) classified by the U.S. Drought Monitor as being in a moderate drought (U.S. Drought Monitor, 2023). Due to the aridity of the region, natural surface water within the Project area is ephemeral. Natural drainage courses (the washes described above) remain dry most of the time, carrying flows only after rainfalls sufficient to produce runoff.

Flooding

At the location of the Project, the ephemeral desert watercourses exhibit characteristics of alluvial fans. Water from mountain canyons and drainages discharges onto the alluvial desert floor and spreads into a series of relatively unconsolidated channels and sheet flow which can inundate wide areas. Flood depths are generally (though not always) shallow resulting from the inability of the small, braided drainage channels to contain large flows. Flow patterns, as exhibited by visible watercourses, can shift over time, even within the duration of a single flood, as existing channels fill in and new channels are made.

The Federal Emergency Management Agency (FEMA) has not prepared flood insurance rate maps for the Project site; however, nearly all the site is within California Department of Water Resources (CDWR) Flood Awareness zones (Westwood, 2023) as shown in Figure 3.11-2 (DWR Flood Zones). These zones are approximate, for general information only, and are not intended as regulatory floodplains.

Westwood Professional Services (Westwood, 2023) has prepared a flood analysis appropriate for unconsolidated alluvial fan flooding on the Project site. Because of the complex and distributary nature of the flow path upstream and throughout the Project site, the Westwood study analyzed major sources of flooding in the area on a fixed-boundary terrain using a two-dimensional model grid with 50-foot cells. This study showed that much of the Project site would be subject to 100-year flooding as follows:

Flood depth < 0.5 feet = 64.9% of the Project site.
Flood depth 0.5 feet to 1 foot = 31.9% of the Project site.
Flood depth 1.01 feet to 1.5 feet = 2.5% of the Project site.
Flood depth 1.51 feet to 2 feet = 0.3% of the Project site.
Flood depth 2.01 feet to 2.5 feet = 0.1% of the Project site.
Flood depth 2.51 to 6+ feet <= 0.3% of the Project site.

Based on the above flood depths, and the nature of the alluvial terrain as already described, it is concluded that nearly every portion of the Project site could be subject to flooding, but most flood depths would be shallow (less than one foot). Figure 3.11-3 shows areas expected to be subject to flooding of more than one foot, which amount to roughly 3.2 percent of the site.

Flow velocities over most of the site range from 1 to 1.5 feet per second for the 100-year flood, with a few areas as much as 3 to 4 feet per second. Expected scour is mostly 1 to 1.5 feet. Highest velocities and scour would be associated with the deepest depths roughly shown in Figure 3.11-3.

The 100-year flood, used as a regulatory flood by FEMA and Riverside County, has a one percent chance of occurring in any year. Although the probability of occurrence remains the same (1 percent) for any given year, on average, a flood of this magnitude can be expected to occur once every 100 years. The flood limits shown in Figure 3.11-3 and described above are not regulatory floodplains. The purpose of the figure is to show the most-likely areas of worst-case 100-year flooding under current (year 2023) conditions. Because the flood model used a 50-foot grid, and because natural flow channels can shift through avulsion (the rapid abandonment of and the formation of new channels), there is a potential for the flood pattern shown in Figure 3.11-3 to change at some point in the future. Most flood depths over the Project site are likely to remain less than 1 foot as indicated in the Westwood study.

Water Quality

Historical beneficial uses of water within the Colorado River Basin Region have been determined by the Colorado River Basin Regional Water Quality Control Board (RWQCB) and are largely associated with irrigated agriculture and mining. Industrial use of water has become increasingly important in the Region, particularly in the agricultural areas (RWQCB, 2019). The RWQCB Water Quality Control Plan for the Colorado River Basin Region (Basin Plan) (RWQCB, 2019) lists specific beneficial uses for surface waters and groundwater. The surface waters on the Project site would be classified in the Basin Plan as washes (ephemeral streams) which have the following beneficial uses: Groundwater Recharge (GWR), Non-Contact Water Recreation (REC II), Warm Freshwater Habitat (WARM) (to be established on a case-by-case basis), and Wildlife Habitat (WILD).Beneficial uses of the groundwater in the CVGB are Municipal and Domestic Supply (MUN), Industrial Service Supply (IND), and Agriculture Supply (AGR).

None of the waters in or near the proposed Project are currently listed as impaired on the Clean Water Act (CWA) Section 303(d) list of impaired waters (SWRCB, 2020).

Jurisdictional Waters

Jurisdictional waters were delineated for the Project site in the Jurisdictional Waters Report by Ironwood Consulting (Ironwood, 2023; see EIR Appendix F). Potential areas of jurisdiction include waters of the U.S., administered by the U.S. Army Corps of Engineers (USACE) under the CWA, waters of the State, administered by the RWQCB, and waters subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW).

The Ironwood report concluded that there were 398.38 acres of unvegetated ephemeral wash and 0.6177 acres of anthropogenic wetlands which are unlikely to be jurisdictional under the Clean Water Act. There are 742.38 acres of dry desert wash woodland and 0.4495 acres of non-native riparian vegetation which are not jurisdictional under the Clean Water act. All these resources are either subject to or likely subject to RWQCB jurisdiction. All are subject to CDFW jurisdiction, necessitating approval of a Streambed Alteration Agreement.

Springs and seeps in the area include Corn Springs, Box Spring, Crystal Spring, Old Woman Spring, Cove Spring, Mitchell Caverns Spring, Bonanza Spring, Agua Caliente Spring, Kleinfelter Spring, Von Trigger Spring, Malpais Spring, and Sunflower Spring (RWQCB, 2021). All these springs are in the surrounding mountains, and none are located such that they could serve as water supply for or be affected by the Project.

3.11.1.2. Groundwater

The information presented below for groundwater resources and the CVGB is primarily from the Project's Water Supply Assessment (WSA), which is included as EIR Appendix G (GSI, 2024). References used are cited in the WSA (EIR Appendix G).

Groundwater Overview

The Project is located within the California Department of Water Resources (DWR) Bulletin 118 CVGB (Basin No: 7-5), which is in eastern Riverside County and encompasses an area of approximately 940 square miles (DWR, 2004) (see GSI, 2024, Figure 3 in Appendix G). Groundwater has been identified as the primary source of water in the CVGB. DWR has categorized the CVGB as a low-priority basin under the Sustainable Groundwater Management Act (SGMA) (DWR, 2020).

The CVGB is located within the Southern Mojave Watershed (Hydrologic Unit Code 8-18100100). The Chuckwalla Valley watershed, a subunit of the South Mojave Watershed, contributes to the CVGB via percolation of precipitation. Percolation of precipitation occurs within the Chuckwalla Valley watershed via runoff from the surrounding mountains and from precipitation to the Chuckwalla Valley floor (DWR, 2004; CEC, 2010).

There are no perennial streams in Chuckwalla Valley. Drainage in the CVGB is to the Palen and Ford Dry Lakes located in topographic low points (DWR, 2004). All surface water in the western portion of the CVGB, which includes the Project area, flows to Palen Dry Lake, located approximately 10 miles east of the community of Desert Center and roughly 7 miles east of the Project area. Surface water in the eastern portion of the Chuckwalla Valley flows to Ford Dry Lake, located approximately 10 miles southeast of the Palen Dry Lake (RWQCB, 2021). Documented springs and seeps in the area are in the surrounding mountains, and none are located such that they could serve as a water supply for the Project (Aspen, 2021).

The CVGB underlies the Palen and Chuckwalla Valleys. The CVGB is bounded by the consolidated rocks of the Chuckwalla, Little Chuckwalla, and Mule Mountains on the south; the Eagle Mountains on the west; and the Mule and McCoy Mountains on the east. Rocks of the Coxcomb, Granite, Palen, and Little Maria Mountains bound the valley on the north (DWR, 2004).

Water-bearing units of the CVGB include Pliocene to Quaternary age continental deposits divided into Quaternary alluvium, the Pinto Formation, and the Bouse Formation (DWR, 2004). Bedrock is as deep as 5,000 feet below ground surface in the eastern portion of the CVGB. Wells in the vicinity of the Project extend to depths of approximately 550 to 875 feet below ground surface, with water levels approximately 100 to 150 feet below ground surface (RWQCB, 2021; Shen et al., 2017).

The CVGB is located within the jurisdiction of the Colorado River Basin RWQCB and is subject to management direction of the Water Quality Control Plan for the Colorado River Basin (Region 7) (RWQCB, 2019). The CVGB is bordered by the Pinto Valley, Cadiz Valley, Rice Valley, and Ward Valley Groundwater Basins on the north; the Palo Verde Mesa Groundwater Basin on the east; the Arroyo Seco Valley and Chocolate Valley Groundwater Basins on the south; and the Orocopia Valley Groundwater Basin on the west.

The CVGB is an unadjudicated groundwater basin. Owners of property overlying the CVGB have the right to pump groundwater from the CVGB for reasonable and beneficial use, provided that the water rights are neither severed nor reserved. Groundwater production in the CVGB is not managed by a specific entity and a groundwater sustainability plan has not been prepared and ~~nor~~ is not required, per SGMA, to be submitted to DWR based on its basin prioritization (low priority) (DWR, 2020). An Urban Water Management Plan and an Integrated Regional Water Management Plan have not been developed for the area.

Groundwater Trends

The following sections summarize available groundwater level and groundwater quality data for the CVGB.

Groundwater Levels

Depths to groundwater are as deep as about 400 feet below ground surface in many parts of the CVGB (RWQCB, 2019). Based on groundwater contour data from 1961, 1979, and 1992 groundwater in the CVGB moves from the north and west toward the gap between the Mule and McCoy Mountains at the southeastern end of the Chuckwalla Valley (AECOM, 2010a; DWR, 2004). Available data indicate groundwater levels were stable as of 1963 and that a total groundwater extraction of 9,100 AFY was obtained in 1966 and 9,023 AF in 2019 (DWR, 2004; DWR 2020a).

The direction of groundwater movement is not expected to have changed since 1992, but there have been changes in groundwater levels, especially localized around areas of increased extraction. For example, data from wells within the Desert Center area show a period of water level decline from the mid-1980s through the early 1990s during periods of expanded agricultural operations. During the mid-1980s, combined pumping exceeded 21,000 AFY, which is well above historical water usage for the Desert Center area of the CVGB (AECOM, 2011; GEI, 2010).

The National Park Service has noted that groundwater levels throughout the CVGB appear to have been trending downward for several decades (BLM, 2012). Most wells in the CVGB have not been used for collecting monitoring data such as groundwater level trends since the 1980s. However, groundwater data collected from several wells for the past 25 years indicate that groundwater level trends have remained largely stable in the eastern CVGB, and that groundwater levels have risen gradually back towards pre-agricultural pumping groundwater levels in the western CVGB (where the Project is located), while dropping steadily in the central CVGB (Aspen, 2021). In 2012, the U.S. Geological Survey (USGS) installed monitoring wells in the eastern CVGB. Available water level data from these wells indicate generally rising groundwater levels over the period of data collection (USGS, 2023).

~~In general, h~~Available historical groundwater level data show ~~relatively~~generally stable groundwater levels in the CVGB, interrupted in the Desert Center area in the past mainly by relatively intensive agricultural pumping. Available ~~H~~historical groundwater level data from the Desert Center area indicate rising, or recovering, groundwater levels following the cessation of most agricultural usage since the 1980s (AECOM, 2010a).

Groundwater Quality

The Project is located in the jurisdiction of the Colorado River Basin RWQCB. The Water Quality Control Plan developed by the RWQCB establishes water quality objectives, including narrative and numerical standards, to protect the beneficial uses of surface and ground waters in the region. The Water Quality Control Plan describes implementation plans and other control measures designed to ensure compliance with Statewide plans and policies and documents comprehensive water quality planning.

Beneficial uses of waters, designated by the RWQCB, are of two types: consumptive and non-consumptive. Consumptive uses are those normally associated with people’s activities, primarily municipal, industrial, and irrigation uses that consume water and cause corresponding reduction and/or depletion of water supply. Non-consumptive uses include swimming, boating, waterskiing, fishing, hydropower generation, and other uses that do not significantly deplete water supplies. Historical beneficial uses of water within the Colorado River Basin Region have largely been associated with irrigated agriculture and mining. Industrial use of water has become increasingly important in the Region, particularly in the agricultural areas (RWQCB, 2019). The RWQCB Water Quality Control Plan for the Colorado River Basin Region (RWQCB, 2019) lists specific beneficial uses for groundwater. Beneficial uses of the groundwater in the CVGB are Municipal and Domestic Supply (MUN), Industrial Service Supply (IND), and Agriculture Supply (AGR).

Total dissolved solids (TDS) concentrations across the CVGB range from 274 milligrams per liter (mg/L) to 12,300 mg/L. The lowest TDS concentrations are in the western portion of the CVGB, where TDS concentrations range from 275 to 730 mg/L (DWR, 2004). In the northwest portions of the CVGB, arsenic concentrations have ranged from 9 micrograms per liter (ug/L) to 25 ug/L (GEI, 2010). Water quality in the CVGB has concentrations of sulfate, chloride, fluoride, and TDS that are higher than recommended levels for drinking water use. Likewise, elevated concentrations of boron, TDS, and percent sodium impair groundwater for irrigation use. In general, groundwater in the CVGB is sodium chloride to sodium sulfate-chloride in character (DWR, 2004).

Recent available water quality data near the proposed Project is limited to four wells, with nitrate being the only constituent analyzed in three of the four wells. Reported nitrate concentrations in all four wells were below the federal and California Maximum Contaminant Level of 10 mg/L (nitrate measured as nitrogen).

Groundwater Storage Capacity

Total groundwater storage capacity of the CVGB is estimated to be from 9,100,000 AF to 15,000,000 AF (DWR, 2004). A project-specific 2013 analysis estimated the storage capacity of the CVGB to be about 10,000,000 AF (SWRCB, 2013).

Groundwater Recharge

Recharge to the CVGB occurs from subsurface inflow from other groundwater basins, infiltration of precipitation, irrigation return flow, and wastewater return flow. Leakage from the Colorado River Aqueduct has also been identified as a possible source of inflow.

Subsurface Inflow and Mountain Front Recharge

Groundwater in the CVGB generally flows west to east. Subsurface inflow originates from the Pinto Valley and Orocopia Valley Groundwater Basins, which are west of the CVGB (DWR, 2004; BLM, 2011). The amount of inflow from the Pinto Valley and Orocopia Valley Groundwater Basins is ~~highly~~ uncertain, and there have been a ~~wide~~ range of estimates from different publications ranging from a low of 372 AFY to a high of 6,575 AFY (Aspen, 2021; Fang et al., 2021).

Two groundwater budgets were developed for the Project WSA (GSI, 2024). The first (Table 3.11-1) is a best estimate using data that have been widely reported and used in previous ~~WSA~~ studies (see Section 3.11.1.2 and GSI, 2024, Sections 5.7 and 5.8). The second water budget analysis (Table 3.11-2) uses lower input estimates (see Section 3.11.1.2 and GSI, 2024, Sections 5.7 and 5.8). The first, or "normal conditions" groundwater budget developed for the Project WSA uses 877 AFY as established in Fang et al. (2021) as the upper bound ~~as~~of the amount of natural groundwater recharge from subsurface inflow from the Pinto Valley Groundwater Basin. ~~This was the upper range of the groundwater inflow estimates from the Pinto Valley Groundwater Basin.Groundwater budgets in WSAs for nearby projects in the recent past have used 3,500 AFY (RWQCB, 2021), which is approximately in the middle of the range of estimates.~~ The second, or "reduced recharge", groundwater budget uses 372 AFY as the amount of natural groundwater recharge from subsurface inflow, which was developed by Fang et al. (2021) as the lower bound. ~~These mountain front recharge volumes represent the upper and lower bounds in Fang et al. (2021).~~Notably, the upper bound of subsurface inflow used in the WSA (877 AFY) represents a conservative assumption, as g~~G~~roundwater budgets in WSAs for nearby projects in the recent past have used 3,500 AFY (Aspen, 2021), which is approximately in the middle of the range of estimates.

Mountain front recharge is recorded as lateral subsurface flow that passes from thin mountain soil to the aquifer at the mountain foot (Fang et al., 2021). The Project WSA (GSI, 2024) groundwater budget uses 210 AFY for mountain front recharge. The analysis also applies ~~the~~ 107 AFY for the reduced groundwater recharge scenario. These mountain front recharge volumes represent the upper and lower bounds in Fang et al. (2021).

Infiltration of Precipitation

Groundwater recharge to the CVGB by precipitation is difficult to assess due to lack of data ~~quality~~ and the aridity of the region. The CVGB receives a total precipitation of approximately 205,376 (Fang et at., 2021) to 258,000 AFY (CEC, 2010). Recharge from precipitation has been estimated by previous CVGB studies as a percentage of total precipitation. The California Energy Commission (CEC) recommended using 8,588 AFY (about 3.3 percent of total precipitation) for a conservative groundwater budget analysis (CEC, 2010). These results are supported by the findings of a study included in a USGS report on groundwater recharge in the arid and semiarid southwestern U.S. (USGS, 2007) which identified a range of approximately 3 to 7 percent of total precipitation for the Mojave Desert, depending on the amount of precipitation received. Fang et al. (2021) (using the CVGB precipitation estimate of 205,376 AFY) estimates a range of approximately 3.4 percent to 5.6 percent of precipitation that falls within the Chuckwalla Valley watershed contributes to groundwater; resulting in a groundwater recharge from precipitation range of approximately 6,983 AFY to 11,501 AFY.

The groundwater budget developed for the Project WSA (GSI, 2024) uses 8,846 AFY of groundwater recharge from precipitation. The recharge from precipitation estimate is approximately 4.3 percent of the Fang et al. (2021) estimated annual CVGB watershed precipitation. Because of the uncertainties of water budget components included in the Fang et al. (2021) water balance (see GSI, 2024, Section 5.7.1), the 5.6 percent recharge from precipitation from Fang et al. (2021) could not be used in conjunction with all of the inflow water budget components included the Project WSA.[10] The resulting groundwater inflow estimate would have exceeded the upper bounds of the total recharge estimated by Fang et al. (2021).

For the reduced groundwater recharge scenario, 4,997 AFY of recharge from precipitation is used for the groundwater budget, representing approximately 2.4 percent of average annual precipitation (Fang et al., 2021). Similarly, because of the uncertainties of water budget components included in the Fang et al. (2021) water balance (see GSI, 2024, Section 5.7.1), the 3.4 percent recharge from precipitation from Fang et al. (2021) could not be used in conjunction with all of the inflow water budget components included the Project WSA. The resulting groundwater inflow estimate would have exceeded the lower bounds of the Fang et al. (2021) total recharge estimate.

Irrigation and Wastewater Return Flow

Irrigation water applied to crops within the CVGB has the potential to infiltrate to groundwater depending on the amount and method of irrigation, soil, crop type, and climate. The CEC estimated irrigation return recharge as 10 percent of total irrigation volume as determined by a 2009 study (WorleyParsons, 2009), and determined that 800 AFY would reach the CVGB (CEC, 2010).[11]

Wastewater return flow within the CVGB originates from the Chuckwalla State Prison, the Ironwood State Prison, and the Lake Tamarisk development near Desert Center (CEC, 2010; WorleyParsons, 2009). The prisons use an unlined pond to dispose of treated wastewater, and it is estimated that 795 AFY infiltrates to the CVGB (WorleyParsons, 2009). Another 36 AFY is estimated to originate from Lake Tamarisk, for a total of 831 AFY (WorleyParsons, 2009).

Colorado River Aqueduct

Leakage from the Colorado River Aqueduct, which runs across the western edge of the CVGB, has not been documented, but was hypothesized by the Argonne National Laboratory (Argonne) in a 2013 study of the Riverside East Solar Energy Zone (Argonne, 2013). Argonne estimated a 2,000 AFY contribution to the CVGB from the aqueduct based on measured leakage rates from the Central Arizona Project in Arizona (Argonne, 2013). This recharge component is not well documented and, if it does occur, the use of it would require a corresponding entitlement; therefore, it is not used in the Project WSA.

Groundwater Demand/Outflow

Groundwater outflow from the CVGB occurs as subsurface flow, groundwater pumping, and evapotranspiration. The three outflow components are summarized below.

[10] There are uncertainties associated with the Fang et al. (2021) groundwater budget recharge components because they were categorized (or grouped) differently than those described in the Project's WSA and limited explanation was provided by the Fang et al. (2021) for each group of recharge components. -The percent recharge from precipitation in the Project WSA was reduced to ensure the total annual groundwater recharge was consistent with Fang et al. (2021).

[11] Groundwater extraction for agricultural irrigation was estimated at 6,628 AF in 2019 (DWR, 2020a). Therefore, the 6,400 AFY estimated by WorleyParsons (2009) and used in the Project WSA for agricultural irrigation return flow is acceptable, although slightly underestimated according to the CEC.

Subsurface Outflow

~~Subsurface outflow from the CVGB is to the Palo Verde Mesa Groundwater Basin and has been estimated as ranging from 400 to 1,162 AFY (CEC, 2010). The Argonne 2013 study of the CVGB assumed zero subsurface outflow; however, justification was not well documented. Using gravity data, Wilson and Owens-Joyce (1994) found that the area through which discharge is suspected to occur is significantly more limited than previously thought due to the presence of a buried bedrock ridge. Given that this discovery was made after the 1,162 AFY estimate was reported (which was in 1990), the lower estimate of 400 AFY outflow was adopted for the Project WSA.~~Subsurface outflow calculations from the CVGB to the Palo Verde Mesa Groundwater Basin have included 0 AFY (Argonne, 2013), 400 AFY (Metzger et al., 1973), 870 AFY (Woodward Clyde, 1986), and 1,162 AFY (Engineering Science, 1990). The Metzger et al. (1973) calculation was based on a cross sectional profile of the boundary between the two basins derived using geophysical methods and regional data regarding groundwater gradients and hydraulic conductivity. Woodward Clyde (1986) revised this estimate based on the same cross-sectional area and hydraulic gradient but with an updated hydraulic conductivity derived from a pumping test conducted at the Chuckwalla State Prison. Engineering Science (1990) updated this estimate to 1,162 AFY using updated gradient information that considered the results of monitoring and return flow from prison effluent disposal. Wilson and Owens-Joyce (1994), using existing gravity data from the USGS, identified a bedrock ridge underlying the CVGB fill east of the cross-section produced by Metzger et al. (1973), indicating the area through which discharge occurs is more limited than assumed in previous studies (CEC, 2010; Genesis Solar and WorleyParsons, 2010). Therefore, the Woodward Clyde (1986) and Engineering Science (1990) estimates are likely too high.

The Metzger et al. (1973) calculation of 400 AFY was adopted for the Project WSA. The Metzger et al. (1973) estimate was derived using a repeatable scientific method and was used in GEI (2009). Additionally, due to the limited magnitude of the range of values, the selected value is inconsequential to results of the cumulative impact scenario (see Section 7 of WSA).

Groundwater Extraction

Current and historical groundwater extraction in the CVGB includes agricultural water use, pumping for Chuckwalla and Ironwood State Prisons, pumping for the Lake Tamarisk development and golf course, domestic pumping, and a minor amount of pumping by Southern California Gas Company (CEC, 2010). Using data from 2005 to 2010, DWR (2015) estimated the total amount of pumping at 5,000 AFY for the entire CVGB. Argonne (2013), using DWR data, estimated 5,100 AFY. Other ~~recent~~ studies have calculated higher estimates. Specifically, the Palen Solar Project Environmental Impact Study and CEC staff assessment for the Palen Solar Project, both used 10,361 AFY (BLM, 2011; CEC, 2010). AECOM, in a WSA for the Palen Solar Power Project (AECOM, 2010a), estimated 5,745 AFY to 7,415 AFY, with no ~~source~~technical citation identified. DWR (2020a) estimated 9,023 AF total annual groundwater use in the CVGB in 2019. For the purposes of this analysis, the ~~most recent~~ estimate of 10,361 AFY is used as an ~~reasonable~~ upper estimate of total extraction, as was used by the BLM (2011) and the CEC (2015).

Since the reporting of the studies related to the Palen Solar Project, an additional approximately 340 AFY of groundwater extraction occurs within the CVGB for qualifying projects located within the Development Focus Area (RWQCB, 2021).[12] Therefore, the total baseline groundwater extraction amount determined for purposes of the Project WSA is 10,700 AFY. Annualized total pumping used in Fang et al. (2021) was 8,101 AF.

[12] Qualifying completed projects (i.e., operational groundwater uses only) contributing to the baseline groundwater extraction include Genesis Solar Electric Plant (218 AFY), Desert Sunlight Solar Farm (0.3 AFY), Desert Harvest Solar Project (40 AFY), Athos Renewable Energy Project (40 AFY), and Palen Solar Project (41 AFY) (RWQCB, 2021).

Evapotranspiration

The groundwater table at the Palen Dry Lake was identified at a depth of 8 feet below the ground surface (WorleyParsons, 2009). This suggests that groundwater could be close enough to rise through capillary action and be lost through evaporation (CEC, 2010).

The CEC (2015) estimated groundwater discharge rates from Palen Dry Lake using measured evaporation rates at Franklin Lake Playa in Death Valley, adjusted for differences in the characteristics of the two dry lakes, as a reference. The result was 0.0583 feet of evapotranspiration per month, for 3 months of the year. Over the 2,000-acre area considered susceptible to groundwater evapotranspiration, this amounts to 350 AFY (CEC, 2010).

Baseline Groundwater Budget

The baseline groundwater budget is the groundwater budget for the CVGB in the absence of the Project and all other known cumulative projects not already in place. For the purposes of this analysis, agricultural uses and existing cumulative projects are considered as part of the baseline budget. There are no manufacturing water uses in the area.

Normal (Average) Year

Table 3.11-1 provides a baseline groundwater budget during normal climatic conditions for the CVGB based on the adopted information presented in Section 3.11.1.2 and the Project WSA (GSI, 2024). The baseline basin yield for the CVGB is estimated at 100 AFY (budget balance from Table 3.11-1).[13] This budget would be for a normal (average) year, in terms of precipitation and water use. Assuming a 100 AFY average year yield, the CVGB would have a surplus of approximately 5,200 AF at the end of the 52-year period.~~, meaning groundwater levels and groundwater in storage in the CVBG would gradually recover from deficit that may have been created during past periods of increased agricultural pumping.~~[14] Groundwater levels and groundwater in storage in the CVGB would be expected to gradually increase over the 52-year period.

Although Table 3.11-1 is described as a baseline groundwater budget during normal climatic conditions, it is also considered the more accurate estimate and is relied upon here for purposes of the impacts discussed below. As described in Section 5.7 and 5.8 of the Project WSA (GSI, 2024), the adopted groundwater budget components are considered conservative. The adopted groundwater recharge components are generally in the lower range of published volumes and the groundwater outflow components are generally on the higher range of published volumes. Because of the aridity, sparse population, and limited development of the CVGB (when compared to the size of the CVGB), the groundwater budget is driven by precipitation related groundwater recharge and groundwater extraction from pumping. Total annual groundwater inflow for the CVGB is consistent with volumes calculated by Fang et al, (2021). Total annual groundwater pumping used in the Project WSA however is approximately 1,340 AF greater than the annual groundwater pumping estimated by DWR (2020a) in 2019. If the DWR (2020a) annual groundwater pumping estimate was adopted for this WSA, the average annual yield for the CVGB would be approximately 1,500 AF and the CVGB would have a surplus of approximately 78,000 AF at the end of the 52-year

[13] Basin Yield is the volume of pumping that can be extracted from the basin on a long-term basis without creating a chronic and continued lowering of groundwater levels and the associated reduction in the volume of groundwater in storage. Basin yield is not a fixed constant value but a dynamic value that fluctuates over time as the balance of the groundwater inputs and outputs change. Basin yield is not the same as sustainable yield. Sustainable yield is defined in SGMA as "the maximum quantity of water, calculated over a period representative of long-term conditions in the basin and including any temporary surplus that can be withdrawn annually from a groundwater supply without causing an undesirable result" (California Water Code 10721).

[14] The 52-year period is equivalent to the Project's approximate 2-year construction period, assumed 48-year operational period, and estimated 2-year decommissioning period.

period. This 76,500 AF discrepancy demonstrates the weighted significance of the water budget assumptions (even without consideration of cumulative project pumping) and should be considered when reviewing the various projected groundwater budgets presented herein. For comparison, an additional “Budget Balance” row that incorporates the DWR (2020a) estimated groundwater pumping is included in the projected groundwater budgets presented herein.

Table 3.11-1. Estimated Normal Baseline Groundwater Budget for Chuckwalla Valley Groundwater Basin

Budget Components	Acre-Feet per Year
Inflow	
Recharge from Precipitation[1]	8,846
Underflow from Pinto Valley and Orocopia Valley Groundwater Basins[2]	877
Mountain Front Recharge[3]	210
Irrigation Return Flow[4]	800
Wastewater Return Flow[5]	831
Total Inflow[9]	11,600
Outflow	
Groundwater Extraction[5]	–10,700
Underflow to Palo Verde Mesa Groundwater Basin[7]	–400
Evapotranspiration at Palen Dry Lake[8]	–350
Total Outflow[9]	–11,500
Budget Balance (Inflow – Outflow)[9]	100
Budget Balance (Inflow – Outflow) Using the DWR (2020a) Groundwater Extraction [9]	1,500

Notes
[1] Fang et al., 2021
[2] Fang et al., 2021
[3] Fang et al., 2021
[4] CEC, 2010
[5] WorleyParsons, 2009
[6] Based on RWQCB, 2021, plus extractions of existing cumulative projects.
[7] CEC, 2010
[8] CEC, 2010
[9] Due to rounding, the total does not correspond to the exact sum of all figures shown.

~~Dry Year~~Reduced Recharge Assumptions

~~Because of the uncertainties involved and to provide a range of values, two~~The WSA considers~~ed an~~ groundwater budget, ~~s were developed for the Project WSA. The first (Table 3.11-1) is~~ presented above. ~~a best estimate using data from recently developed numerical groundwater models for the CVGB and data used in previous WSA studies (see Section 3.11.1.2 and Project WSA Section 5.7 and 5.8). The second water budget analysis (Table 3.11-2)~~ which uses lower input estimates (Table 3.11-2) (see Section 3.11.1.2 and GSI, 2024, Sections 5.7 and 5.8). Specifically, the second budget uses a recharge from precipitation estimate of 4,997 AFY, and an underflow from the Pinto Valley Groundwater Basin of 372 AFY. All other inflow/outflow estimates are the same for both budgets. ~~The two groundwater budgets together provide insight into a range of potential outcomes related to groundwater use in the CVGB.~~

Using the lower estimates of precipitation and underflow recharge, the baseline budget indicates the CVGB to be in deficit, with a loss of approximately 4,400 AFY, resulting in a ~~cumulative~~ deficit of approximately 228,800 AFY over the 52-year period. Groundwater levels would be expected to lower and the volume of groundwater in storage would decrease. Incorporating the DWR (2020a) annual groundwater pumping estimate into the CVGB groundwater budget, the baseline reduced inflow groundwater budget for the CVGB indicates a reduced annual deficit of approximately 3,000 AF and a total deficit of approximately 156,000 AF at the end of the 52-year period.

As noted above, the baseline groundwater budget presented in Table 3.11-1 is considered the more accurate estimate and includes a conservatively high annual groundwater pumping estimate (see GSI, 2024 Sections 5.7, 5.8, and 6). The CVGB reduced recharge groundwater budget indicates an annual deficit, however reported groundwater levels in the CVGB have been generally stable and, in some areas, indicate an increasing trend which can result from ~~a~~ decreased groundwater pumping and (on average) an annual basin groundwater surplus. Additionally, the reduced recharge groundwater budget is inconsistent with previous studies, including USGS (2007), CEC (2010), and Fang et al. (2021). As discussed in the WSA, USGS (2007) and CEC (2010) calculated a range of precipitation-related groundwater recharge in the arid and semiarid southwestern United States and the CVGB, respectively, and Fang et al. (2021) is the most up-to-date groundwater model for the CVGB and has been used or suggested by other agencies (including BLM) and experts for modeling the CVGB.

Table 3.11-2. Estimated Normal Baseline Groundwater Budget for the Chuckwalla Valley Groundwater Basin Using Reduced Estimates of Precipitation and Subsurface Inflow

Budget Components	Acre-Feet per Year
Inflow	
Recharge from Precipitation[1]	4,997
Underflow from Pinto Valley and Orocopia Valley Groundwater Basins[2]	372
Mountain Front Recharge[3]	107
Irrigation Return Flow[4]	800
Wastewater Return Flow[5]	831
Total Inflow[9]	7,100
Outflow	
Groundwater Extraction[6]	–10,700
Underflow to Palo Verde Mesa Groundwater Basin[7]	–400
Evapotranspiration at Palen Dry Lake[8]	–350
Total Outflow[9]	–11,500
Budget Balance (Inflow – Outflow)[9]	–4,400
Budget Balance (Inflow – Outflow) Using the DWR (2020a) Groundwater Extraction[9]	–3,000

Notes
[1] Fang et al., 2021
[2] Fang et al., 2021
[3] Fang et al., 2021
[4] CEC, 2010
[5] WorleyParsons, 2009
[6] Based on RWQCB, 2021, plus extractions of existing cumulative projects.
[7] CEC, 2010
[8] CEC, 2010
[9] Due to rounding, the total does not correspond to the exact sum of all figures shown.

3.11.2. Regulatory Framework

3.11.2.1. Federal Laws, Regulations, and Policies

Clean Water Act (CWA) (33 USC § 1251 et seq.). Formerly the Federal Water Pollution Control Act of 1972, the CWA was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA authorizes the USEPA to implement federal water pollution control programs such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling point and nonpoint source pollution. At the federal level, the CWA is administered by the U.S. Environmental Protection Agency (USEPA) and USACE. However, the CWA gives states the primary responsibility for protecting and restoring surface water quality. At the state and regional levels, the Act is administered and enforced by the State Water Resources Control Board (SWRCB) and the nine RWQCBs. The Project site is located within the Colorado River Basin Region, over which area the Colorado River Basin RWQCB has primary responsibility for the protection of water quality.

Section 303 of the federal CWA (as well as the Porter-Cologne Water Quality Control Act, discussed further below) requires that states adopt water quality standards. Water quality standards consist of designated beneficial uses, numeric and narrative water quality criteria (also referred to as "water quality objectives" under state law) that protect beneficial uses, as well as the state and federal antidegradation policies. Each RWQCB has a Water Quality Control Plan (Basin Plan) that designates beneficial uses, establishes water quality objectives to protect the beneficial uses, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan.

The RWQCB sets water quality objectives to ensure the protection of beneficial uses and the prevention of nuisance, although it is understood that water quality can be changed to some degree without unreasonably affecting beneficial uses (RWQCB, 2019). Current objectives for surface water in the area include those for aesthetic qualities, tainting substances, toxicity, temperature, pH, dissolved oxygen, suspended and settleable solids, dissolved solids, bacteria, biostimulatory substances, sediment, turbidity, radioactivity, chemical constituents, and pesticide wastes. Groundwater objectives include those for taste and odors, bacteriological quality, chemical and physical quality, brines, and radioactivity. The RWQCB has objectives for groundwater overdraft for several specific groundwater basins, but the CVGB is not listed among these (RWQCB, 2019).

Section 402 of the CWA provides that the discharge of pollutants to Waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. NPDES permits contain industry-specific, technology-based limits and may include additional water quality-based limits, and pollutant-monitoring requirements. An NPDES permit may include discharge limits based on federal or state water quality criteria or standards. Amendments to the CWA added a framework for regulating municipal and industrial stormwater discharges, as well as stormwater discharges from construction sites. In California, the SWRCB and the nine RWQCBs have been delegated permitting authority for discharges regulated by NPDES permits.

The RWQCB administers the NPDES stormwater permitting program. Construction activities disturbing one acre or more of land are subject to the permitting requirements of the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit, Order 2009 0009 DWQ as amended by Orders 2010 0014 DWQ and 2012 0006 DWQ), as described further below. Additionally, the NPDES General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial General Permit, Order 2014 0057 DWQ as amended in 2015 and 2018) regulates discharges of stormwater associated with certain industrial activities, excluding construction activities.

Section 404 of the CWA authorizes the USACE to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. Filling of waters of the U.S. must be avoided where possible and minimized and mitigated where avoidance is not possible. Permits are issued by the USACE.

Section 401 of the CWA requires that any applicant for a federal license or permit to conduct an activity that may result in a discharge into waters of the U.S. obtain a certification from the State in which the discharge originates that the discharge will comply with the applicable provisions of CWA Sections 301, 302, 303, 306, and 307. This certification ensures that the proposed activity complies with state water quality standards.

~~Because~~ If the USACE ~~has determined~~determines that waters on the Project site are not jurisdictional Waters of the United States under the CWA, no NPDES permits under Section 402 or 404 are required, nor is a water quality certification under Section 401. Water quality impacts from the Project will be addressed under state law through Waste Discharge Requirements.

National Flood Insurance Act/Flood Disaster Protection Act. The National Flood Insurance Act of 1968 made flood insurance available for the first time. The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for the protection of property located in Special Flood Hazard Areas. These laws led to mapping of regulatory floodplains and to local management of floodplain areas according to federal guidelines which include prohibiting or restricting development in flood hazard zones.

Colorado River Accounting Surface. Based on the Colorado River Compact of 1922, and the 1928 apportionment of lower Colorado River water by the U.S. Congress, groundwater in the river aquifer beneath the floodplain is considered Colorado River water, and water pumped from wells on the floodplain is presumed to be river water and is accounted for as Colorado River water (USGS, 2009). The accounting-surface method was developed in the 1990s by the U.S. Geological Survey, in cooperation with the U.S. Bureau of Reclamation, to identify wells outside the floodplain of the lower Colorado River that yield water that will be replaced by water from the river. This method was needed to identify which wells require an entitlement for diversion of water from the Colorado River and need to be included in accounting for consumptive use of Colorado River water as outlined in the Consolidated Decree of the United States Supreme Court in Arizona v. California. The method is based on the concept of a river aquifer and an accounting surface within the river aquifer. Wells within the CVGB that draw water from below the accounting surface require an entitlement for the use of that water (USGS, 2009). Within the Project area, the accounting surface is at elevation 238 to 240 feet (USGS, 2009). Extractions of water below that elevation are prohibited without an entitlement. Entitlements to extract and use the groundwater below the accounting surface are granted by the U.S. Bureau of Reclamation (USBR) through its designated representative in California, the Colorado River Board of California. Entities in California are using California's full apportionment of Colorado River water, meaning that all water is already contracted, and no new water entitlements are available in California.

3.11.2.2. State Laws, Regulations, and Policies

California Streambed Alteration Agreement

Sections 1600–1616 of the California Fish and Game Code require that any entity that proposes an activity that will substantially divert or obstruct the natural flow of any river, stream, or lake, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit material into any river, stream, or lake, must notify the CDFW. If CDFW determines the proposed alteration will impact a jurisdictional river, stream or lake, a Lake or Streambed Alteration Agreement (LSAA) will be prepared. The LSAA applies to any stream, including ephemeral streams and desert washes.

California Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code § 13000 et seq.) establishes the SWRCB and each RWQCB as the principal state agencies with primary responsibility to coordinate and control water quality in California, in accordance with Section 303 of the CWA. The SWRCB establishes statewide policy for water quality control and provides oversight of the RWQCBs' operations. The RWQCBs have jurisdiction over specific geographic areas that are defined by watersheds. In addition to other regulatory responsibilities, the RWQCBs have the authority to conduct, order, and oversee investigation and cleanup where discharges or threatened discharges of waste to waters of the State could cause pollution or nuisance, including impacts to public health and the environment. Waters of the State is defined by the Porter-Cologne Water Quality Control Act as "any surface water or groundwater, including saline waters, within the boundaries of the State."

Actions that involve or are expected to involve discharge of waste to waters of the State (other than into a community sewer system) may be subject to Water Discharge Requirements (WDRs) under the Porter-Cologne Act. The Act requires anyone proposing to discharge waste that could affect the quality of the waters of the State to submit an application to the appropriate RWQCB. The RWQCB staff will review the application and determine whether to propose adoption of WDRs to regulate the discharge, prohibit the discharge, or waive the WDRs. The Porter-Cologne Act also provides a variety of civil and criminal enforcement tools.

State Wetland Procedures. WDRs under the Porter-Cologne Act are issued for discharges of dredged or fill material to waters of the State that are outside federal jurisdiction and not regulated under CWA Section 401. On April 2, 2019, the SWRCB adopted the State Wetland Definition and Procedures for the Discharge of Dredged or Fill Material to Waters of the State (Procedures), which became effective May 28, 2020, and were revised April 6, 2021. Applicants proposing to discharge dredged or fill material are required to comply with the Procedures and obtain WDRs from the appropriate RWQCB unless an exclusion applies, or the discharge qualifies for coverage under a separate order.

The Procedures provide that unavoidable temporary and permanent adverse impacts to waters of the State authorized by WDRs should be offset through compensatory mitigation. Compensatory mitigation means the re-establishment, establishment (creation), rehabilitation, enhancement, and in some circumstances, preservation, of aquatic resources. The permitting authority must determine the compensatory mitigation to be required in the WDRs, based on what would be environmentally preferable.

SWRCB Construction General Permit

The Construction General Permit, issued pursuant to the federal CWA, regulates stormwater runoff from construction sites of one acre or more in size. The permit is a statewide, general order issued by the SWRCB and implemented and enforced by the RWQCBs. For all new qualifying projects, applicants must electronically file permit registration documents using the Stormwater Multiple Application and Report Tracking System (SMARTS) and must include a Notice of Intent (NOI), risk assessment, site map, and Storm Water Pollution Prevention Plan (SWPPP) to be covered by the Construction General Permit prior to beginning construction. The risk assessment and SWPPP must be prepared by a State-qualified SWPPP Developer.

The Construction General Permit requires the preparation and implementation of a SWPPP, which must be prepared before construction begins. At a minimum, a SWPPP includes the following:

- A description of construction materials, practices, and equipment storage;
- A list of pollutants likely to contact stormwater and site-specific erosion and sedimentation control practices;

- A list of provisions to eliminate or reduce discharge of materials to stormwater;
- Best Management Practices (BMPs) for fuel and equipment storage;
- Non-stormwater management measures such as installing specific discharge controls during activities such as paving operations and vehicle and equipment washing and fueling; and
- A commitment that equipment, materials, and workers will be available for rapid response to spills and/or emergencies. All corrective maintenance or BMPs will be performed as soon as possible, depending upon worker safety.

The SWPPP provides specific construction related BMPs to prevent soil erosion and loss of topsoil. BMPs implemented at a typical construction site could include but would not be limited to physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. Post-construction requirements require that construction sites match pre-Project hydrology to ensure that the physical and biological integrity of aquatic ecosystems are sustained in their existing condition.

The Construction General Permit prohibits the discharge of pollutants other than stormwater and authorized non-stormwater discharges and prohibits all discharges which contain a hazardous substance in excess of reportable quantities established in 40 CFR §§ 117.3 and 302.4 (pursuant to CWA Section 311). In addition, the Construction General Permit incorporates discharge prohibitions contained in water quality control plans. Discharges to Areas of Special Biological Significance are prohibited unless covered by an exception that the SWRCB has approved. Authorized non-stormwater discharges must be infeasible to eliminate; comply with BMPs as described in the SWPPP; filtered or treated using appropriate technology; meet the established numeric action levels for pH and turbidity; and not cause or contribute to a violation of water quality standards. Discharges to stormwater that cause or threaten to cause pollution, contamination, or nuisance are prohibited. Pollutant controls must utilize best available technology economically achievable (BAT) for toxic pollutants and non-conventional pollutants and best conventional pollutant control technology (BCT) for conventional pollutants.

The CWA provides definitions for the types of controls that can be used to satisfy BAT and BCT requirements. Specific BAT and BCT pollution controls and BMPs may include runoff control, soil stabilization, sediment control, proper stream crossing techniques, waste management, spill prevention and control, and a wide variety of other measures depending on the site and situation.

If a project does not qualify for a notice of non-applicability (NONA), then the Applicant would seek coverage under a Construction General Permit and submit a Notice of Intent and application package.

SWRCB Industrial General Permit

The Industrial General Permit regulates discharges of stormwater to surface waters associated with certain broad categories of industrial activities. The Industrial General Permit requires the implementation of management measures that will achieve the performance standard of BAT for toxic pollutants and non-conventional pollutants and BCT for conventional pollutants. The Industrial General Permit also requires the development of a SWPPP and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce stormwater pollution are described. The monitoring plan requires sampling of stormwater discharges during the wet season and visual inspections during the dry season.

BMPs may include, but not be limited to, spill and overflow protection, stormwater control, covering of fueling areas, proper clean-up methods, spill prevention, preventative maintenance on equipment, inspections, and training. Specific BMPs vary by situation and site.

SWRCB Policies

The State Antidegradation Policy (Resolution No. 68 16). Discharges of waste to high quality waters must comply with SWRCB Resolution No. 68 16, Statement of Policy with Respect to Maintaining High Quality of Waters in California, which generally requires that high quality waters be protected. Any change in water quality from the discharge of waste must be consistent with maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses, and not result in water quality less than that described in SWRCB or RWQCB policies. Any activity which discharges waste to existing high-quality waters must meet waste discharge requirements and implement the best practicable treatment or control of the discharge necessary to assure that: (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained (RWQCB, 2019).

The State Antidegradation Policy also incorporates the federal antidegradation policy which requires the maintenance and protection of existing uses and water quality conditions necessary to support such uses. In addition, the federal antidegradation policy maintains and protects water quality in outstanding national resource waters.

Sources of Drinking Water Policy (Resolution No. 8863). This policy designates all groundwater and surface waters of the States as potential sources of drinking water, worthy of protection for current or future beneficial uses, except where: (a) the total dissolved solids are greater than 3,000 milligrams per liter, (b) the well yield is less than 200 gallons per day (gpd) from a single well, (c) the water is a geothermal resource, or in a water conveyance facility, or (d) the water cannot reasonably be treated for domestic use using either best management practices or best economically achievable treatment practices (RWQCB, 2019).

Water Rights

California water law is embodied in the California Water Code and the Water Commission Act of 1914. There are two basic kinds of rights to surface water: riparian and appropriative. As the Project does not propose the use of surface waters, these rights are not relevant to the Project. Percolating groundwater, under which category the CVGB falls, has no SWRCB permit requirement, and supports two kinds of rights: (a) overlying rights, a correlative right of equal priority shared by all who own overlying property and use groundwater on the overlying property; and (b) groundwater appropriative rights for use of the overlying property or on overlying property for which the water rights have been severed. The right to use groundwater on property that is not as an overlying right is junior to all overlying rights but has priority among other appropriators on a first in time use basis. Overlying users cannot take unlimited quantities of water without regard to the needs of other users.

The California Water Code allows any local public agency that provides water service whose service area includes a groundwater basin or portion thereof that is not subject to groundwater management pursuant to a judgment or other order, to adopt and implement a groundwater management plan (California Water Code §§ 10750 et seq.) Groundwater Management Plans often require reports of pumping and some restrictions on usage. The California Legislature has found that by reason of light rainfall, concentrated population, the conversion of land from agricultural to urban uses and heavy dependence on groundwater, the counties of Riverside, Ventura, San Bernardino, and Los Angeles have certain reporting requirements for groundwater pumping. Any person or entity that pumps in excess of 25 acre-feet (AF) of water in any one year must file a "Notice of Extraction and Diversion of Water" with the SWRCB. (California Water Code §§ 4999 et seq.)

The Project is located on land that overlies the CVGB, for which a method was developed by the USGS, in cooperation with the USBR, to identify groundwater wells outside the floodplain of the lower Colorado

River that yield water that will be replaced by water from the river. The specific method to determine whether wells draw water from the Colorado River (referred to as the accounting surface) has not been promulgated by the USBR. ~~However, wells placed into the groundwater beneath and within the Project's vicinity that extract groundwater may, depending on whether the groundwater surface is above or below the accounting surface, be considered as drawing water from the Colorado River and require an entitlement to extract groundwater~~.

California Senate Bill (SB) 610

SB 610, passed in 2002, amended the California Water Code to require detailed analysis of water supply availability for certain types of development projects, and to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires detailed information regarding water availability to be provided to city and county decisionmakers prior to approval of specified large development projects. SB 610 requires that a project be supported by a Water Supply Assessment if the project is subject to the California Environmental Quality Act, and ~~would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling-unit project. According to SB 610 Guidelines, one dwelling unit typically consumes 0.3 to 0.5 acre-feet per year (AFY), which would amount to 150 to 250 AFY for 500 units~~ <u>meets any of the criteria in Water Code section 10912 and 14 Cal Code Regs section 15155(a)(1)</u>.

3.11.2.3. Local Laws, Regulations, and Policies

Riverside County Ordinance No. 682 (As Amended Through 682.4)

This ordinance regulates the construction, reconstruction, abandonment, and destruction of wells and incorporates by reference Ordinance No. 725 (Penalties for Violations of Riverside County Ordinances). The purpose of this ordinance is to provide minimum standards for construction, reconstruction, abandonment, and destruction of all wells to: (a) protect underground water resources; and (b) provide safe water to persons within Riverside County. The provisions of this ordinance within its jurisdiction are enforced by the Riverside County Department of Environmental Health.

Ordinance No. 650 (As Amended Through 650.6)

Ordinance 650 regulates the discharge of sewage in the unincorporated areas of the County of Riverside and incorporating by reference the Riverside County Local Agency Management Program (LAMP) for Onsite Wastewater Treatment Systems. This ordinance protects water quality and public health by establishing regulations for the installation, replacement, and performance of Onsite Wastewater Treatment Systems. This ordinance provides minimum standards for construction, operation, and abandonment of Onsite Wastewater Treatment Systems (OWTSs). An OWTS is any individual on-site wastewater treatment, pretreatment and dispersal system including, but not limited to, a conventional or alternative OWTS having a subsurface discharge. The LAMP presents County of Riverside OWTS policy, regulations, and standards.

The development and operation of the proposed Project would be done in compliance with County ordinances regulating wells and sewage discharges and protecting water resources.

3.11.3. Methodology for Analysis

The impact analysis analyzes potential direct, indirect, and cumulative impacts of the proposed Project on water resources, including the Project's potential to adversely affect groundwater supplies, alter geomorphic features/processes, modify drainage and flooding conditions, induce erosion and sedimentation, and degrade water quality. The analysis also considers the potential for incremental impacts of the Project to combine with impacts of other projects and activities to adversely affect water resources. Mitigation measures to avoid or reduce potential impacts are identified, and the potential for residual impacts is evaluated.

3.11.4. CEQA Significance Criteria

The criteria used to determine the significance of potential hydrology and water quality impacts are based on Appendix G of the State CEQA Guidelines. The Project would result in a significant impact under CEQA related to hydrology and water quality if the Project would:

- *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (See Impact HWQ-1).*
- *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin (See Impact HWQ-2).*
- *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*
  - *result in substantial erosion or siltation on- or off-site (See Impact HWQ-3A);*
  - *substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite (See Impact HWQ-3B);*
  - *create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff (See Impact HWQ-3C); or*
  - *impede or redirect flood flows (Impact HWQ-3D).*
- *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (See Impact HWQ-1).*

The County of Riverside's Environmental Assessment Form includes additional significance criteria, which were also used in the analysis. The additional criteria indicate that a project could have potentially significant impacts if it would:

- *Cause changes in absorption rates or the rate and amount of surface runoff (See Impact HWQ-3);*
- *Cause changes in the amount of surface water in any water body (See Impact HWQ-3 and HWQ-3);*
- *Substantially degrade water quality (See Impact HWQ-1); or*
- *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam (See Impact HWQ-4).*

The following CEQA significance criteria from Appendix G were not included in the analysis:

- *In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?*

  There is no body of water in the area that could produce a tsunami or seiche. There is therefore no impact related to seiche or tsunami.

The following CEQA significance criterion from the County's Environmental Assessment Form were not included in the analysis:

- *Include new or retrofitted Storm Water Treatment Control BMPs (e.g., water quality treatment basins, constructed treatment wetlands), the operation of which could result in significant environmental effects (i.e., increased vectors and/or odors).*

No new or retrofitted Storm Water Treatment Control BMPs are included in the proposed Project. Therefore, this criterion is not applicable to the Project.

3.11.5. Applicable Best Management Practices

A Stormwater Pollution Prevention Plan (SWPPP) or SWPPP-equivalent document would be prepared by a qualified engineer or erosion control specialist, and once approved by the State Water Resources Control Board and a BLM hydrologist, would be implemented before and during construction. The SWPPP would reduce potential impacts related to erosion and surface water quality during construction activities and throughout the life of the solar and storage facility. It would include Project information and best management practices (BMPs). The BMPs would include stormwater runoff quality control measures, management for concrete waste, stormwater detention, watering for dust control, and construction of perimeter silt fences, as needed.

3.11.6. Proposed Project Impact Analysis

The scoping effort conducted by the Riverside County Planning Department revealed several public concerns related to hydrology and water quality. Regarding surface water, concerns were raised about the potential for floods due to the modification of washes and removal of vegetation, creating impacts to stormwater runoff. The public also expressed concerns that flash floods could cause undetermined changes in erosion patterns.

Issues related to water resources, hydrology, and water quality raised during scoping include the quantity of water needed for the Project and the source of the groundwater. Comments included specific questions regarding groundwater availability and water quality in the CVGB, such as groundwater pumping, pollution, and the effect on regional aquifers and existing community and domestic water supply infrastructure and project maintenance operations (e.g., weed abatement) impacting groundwater quality. Commenters also recommend that BLM require all applicable Conservation and Management Actions (CMAs) from the Desert Renewable Energy Conservation Plan (DRECP) to prevent groundwater overdraft.

Commenters recommended that the impacts of changing precipitation patterns due to climate change should be analyzed, and this should be considered regarding groundwater availability and when developing a stormwater plan. The placement of panels within and adjacent to washes should be analyzed and designed to minimize impacts. Multiple commenters suggested that there would be impacts to jurisdictional Waters of the U.S. and Waters of the State of California, and surface hydrology on the site. The California Department of Fish and Wildlife (CDFW) recommended micro-siting the Project to avoid and protect ephemeral drainages or desert washes and dry wash woodlands. The U.S. EPA recommends a revised site plan to avoid critical habitat, as prescribed by CMAs.

These concerns are addressed in the analysis below. Note that the purpose of the Water Supply Assessment (EIR Appendix G) according to the DRECP LUPA is to determine whether over-use or over-draft conditions exist within the project basin(s), and whether the project creates or exacerbates these conditions. Compliance with DRECP CMAs will be determined by BLM during the NEPA process and is outside of the scope of CEQA. In accordance with SB 610, the Water Supply Assessment also addresses whether available water supplies will meet the Project’s water demands in addition to existing and planned future uses.

Groundwater Budget with the Project in Place

In June 2023, BLM issued a Proposed Rule to amend its existing ROW regulations, issued under authority of the Federal Land Policy and Management Act (FLPMA), and is considering issuing Right-of-Way (ROW) grants for durations of up to 50 years (BLM, 2023). To prepare for potential issuance of a 50-year ROW grant by the BLM and to determine whether there are sufficient supplies to sustain the Project, the Easley

WSA (EIR Appendix G) conservatively extends the total projected period of the Project to 52-years. For the purpose of the CVGB water budget (see GSI, 2024 Section 6) and predictive Project water demand impacts analysis (see GSI, 2024 Sections 5.4 and 7) presented herein, 52 years is equivalent to the projected total duration of the Project, including construction (20 months), operations (48 years), and decommissioning (20 months).[15]

The CVGB is assumed to be the water source for all groundwater demand (i.e., groundwater would not be imported from outside of the CVGB). Total water use by the Project would be up to 1,000 AF during the planned 20-month construction period and up to 50 AFY during the Project's operational and decommissioning periods.[16] Based upon these quantities of water demand, a total of approximately 3,500 AF of water would be used by the Project over the Project's construction, operational, and decommissioning periods (52 years [i.e., 2-year construction period, 48-year operational period, and 2-year decommissioning period]).

Based on the groundwater budget balance ~~given~~presented in Table 3.11-1, the CVGB under average-year conditions would have a ~~cumulative~~ surplus of 5,200 AF at the end of~~during~~ the 52-year period. The net CVGB surplus with the Project in place would therefore be 1,700 AF, or 33 percent of the surplus that would exist without the Project. Using the DWR (2020a) estimated annual groundwater pumping, the net CVGB surplus with the Project in place would be 74,500 AF, or 96 percent of the surplus that would exist without the Project. ~~By contrast, using the reduced recharge rates for precipitation and underflow (Table 3.11-2), the 52-year deficit without the Project would be 228,800 AF, increased to 232,300 AF by the Project. The Project would contribute about 2 percent to this cumulative deficit.~~

According to SB 610 guidelines, a dry year can be considered a year with a precipitation amount that is at 10 percent probability of occurrence. A critical dry year would be a year with 3 percent probability. The historical precipitation data at Blythe, California, approximately 35 miles east of the Project and at a similar elevation with similar climate, was used as a reference. Historical precipitation data for Blythe, dating from 1893 to 2014, was obtained from the U.S. Historical Climatology Network (NOAA, n.d.[b]). A nearby station at the Blythe Airport (NOAA, n.d.[a]) was used to supplement additional data for up to the year 2021.

The baseline groundwater budgets for a dry year and critical dry year are expected to have a deficit of approximately 5,900 AF for a dry year, increasing to 7,100 AF for a critical dry year. ~~Using the reduced estimates of precipitation and underflow recharge, each scenario, dry year and critical dry year, would have annual groundwater deficits, amounting to 8,000 AFY and 8,700 AFY, respectively.~~

For a single dry year and single critical dry year with the Project in place, the worst-case scenario is for one of those year types, dry or critical dry, to occur during the construction period of the Project (assumed to be 2024 to 2025) in which up to 1,000 AF of water would be used. If a dry year or critical dry year occurs during this period, the CVGB annual deficit would be approximately 6,400 AF and 7,600 AF, respectively. The Project would increase the dry year and critical dry year deficit by 8 and 7 percent, respectively, if one of those year types were to occur during the construction period of the Project. Assuming normal precipitation returns, this total deficit (dry year plus Project use) would not be recovered during the 52-year period, with or without the Project, under baseline groundwater budget assumptions.

[15] Although the estimated Project construction period and decommissioning period described in the EIR Chapter 2 (Project Description) is 20 months, the water budgets (see GSI, 2024 Section 6) and Cone of Depression and Cumulative Drawdown Analysis (see GSI, 2024 Section 7), were developed in 1-year time steps, and therefore, assume the same overall water usage but over Project construction and decommissioning periods of 2 years.

[16] It is assumed that Project decommissioning would take approximately 20 months, similar to the construction duration, and have the same water use as Project operations (approximately 50 acre-feet per year). Project decommissioning would occur in accordance with an agency-approved Closure and Decommissioning Plan. The Project Closure and Decommissioning Plan will include an evaluation of alternate water sources and impacts, if any, in accordance with the DRECP LUPA.

If a dry year or critical dry year occurs during the Project construction period, using the DWR (2020a) estimated annual groundwater pumping, the CVGB annual deficit would be approximately 5,000 AF and 6,200 AF, respectively (Budget Balance Using DWR [2020a] rows in Tables 6 and 7 minus 500 AFY [1,000 AF / 2 years]). The Project would increase the dry year and critical dry year deficit by 11 and 9 percent, respectively. Assuming normal precipitation returns (see Table 4), this total deficit (dry year plus Project use and critical day year plus Project use) would be recovered in less than 4 years and 5 years, respectively, with the Project in place.

The longest consecutive series of years with below average precipitation on record at Blythe was 12 years, from 1893 to 1904. During this period, the average annual precipitation was 1.42 inches, or about 42 percent of the overall average. This period was considered to be representative of a series of multiple dry years for the Project WSA. Development of a 12-year groundwater budget, assuming a repeat of the 1893 to 1904 drought at Blythe, without Project conditions, indicates the ~~cumulative~~ groundwater deficit would be approximately 60,950 AF at the end of the 12-year period. ~~Using the reduced estimates of precipitation and subsurface recharge, at the end of the 12-year period the cumulative groundwater deficit would be approximately 87,570 AF.~~ Using the DWR (2020a) estimated annual pumping, the 12-year CVGB groundwater deficit would be approximately 44,150 AF.

The precipitation record indicates that a series of dry years has typically been followed by a series of years with above-average precipitation. To assess the probable effect of this over the 52-year life of the Project, a 52-year running average analysis was made ~~of~~ using the 129-year precipitation period of record. The driest 52-year period was the period beginning in 1893 and ending in 1944. Average annual precipitation during this period was 3.44 inches, or about 1 percent greater than normal. If a repeat of this 52-year period occurs under current (no qualifying projects not already in place) conditions, at the end of the 52-year period the CVGB would have a ~~deficit~~ surplus of approximately 21,060 AF assuming ~~adopted precipitation~~ normal ~~and~~ infiltration and underflow conditions (see Tables 3.11-1 and 3.11-2). The greatest groundwater deficit during the repeated ~~drought~~historical period would occur during 2039, in which the total deficit would be approximately 64,170 AF. ~~Using reduced recharge data, the same analysis results in a groundwater deficit totaling approximately 214,020 AF after 52 years.~~

Using the DWR (2020a) estimated annual pumping, at the end of the 52-year period the CVGB would have a surplus of approximately 93,860 AF assuming normal infiltration and underflow conditions (see Table 4). The greatest groundwater deficit during the repeated historical period would occur during 2039, in which the total deficit would be approximately 41,770 AF.

The same analysis with the Project in place gives similar results as the one without Project conditions, with a total groundwater surplus of approximately 17,530 AF at the end of 52 years. ~~Using reduced recharge data, the same analysis, with the Project in place, results in a groundwater deficit totaling approximately 217,520 AF after 52 years.~~ Using the DWR (2020a) estimated annual pumping, at the end of the 52-year period the total groundwater surplus would be approximately 90,330 AF.

Impact HWQ-1. Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Surface Water

LESS THAN SIGNIFICANT WITH MITIGATION. Construction of the Project would require ground-disturbing activities (excavation, grading, and compaction) of a minority of the ground surface ~~(about 2.7 percent)~~ of the Project site for access roads, buildings, substation, and other features. In addition, approximately 534 percent of the Project site would be levelled and smoothed for the solar facility. These ground-disturbing activities, described in more detail in Tables 2-2 and 2-3 of Section 2, could result in soil erosion and lowered water quality through increased turbidity and sediment deposition into local ephemeral streams. Downstream beneficial uses could be adversely affected through violation of RWQCB water quality standards and objectives for suspended solids, total dissolved solids, sediment, and turbidity.

Accidental spills or disposal of harmful materials used during construction of the Project could wash into and pollute surface waters. Materials that could contaminate the construction area or spill or leak include diesel fuel, gasoline, lubrication oil, cement slurry, hydraulic fluid, anti-freeze, transmission fluid, lubricating grease, and other fluids. Downstream beneficial uses could be adversely affected through violation of RWQCB water quality objectives for toxicity and chemical constituents. Likely downstream beneficial uses in the Project area include GWR and WILD.

The dry nature of most of the surface streams is such that should harmful material spills occur during construction, these could easily be cleaned up prior to surface water being contaminated. Storage procedures for hazardous materials during construction would be dictated by the Hazardous Materials Plan (HMP) that would be prepared prior to construction. Trucks and construction vehicles would be serviced from off-site facilities. The use, storage, transport, and disposal of hazardous materials used in construction of the facility would be carried out in accordance with federal, state, and county regulations. Other construction wastes would be collected and recycled or disposed of in municipal county landfills.

The Applicant has committed to development and adherence to an SWPPP or SWPPP-equivalent document, which will require BMPs to prevent and control erosion and siltation during construction; prevent, contain, and mitigate accidental spills during construction; and prevent violation of water quality objectives or damaging beneficial uses identified in the water quality control plan.

Potential threats to surface water quality during operation and maintenance activities include potential increases in erosion and associated sediment loads to adjacent or downstream washes, and accidental spills of hydrocarbon fuels, greases, and other materials associated with operation of equipment on site. The Project would include electrical transformers, modifications to an existing electrical substation, an operations and maintenance building, and battery storage systems (BESS). There would be regulated hazardous materials on site. These materials are not intended to be released to the environment, but if spilled or otherwise accidentally released they could have the potential to contaminate surface. The HMP would be prepared to provide protocols for containment and clean-up of spills.

Alterations to site topography due to the site preparation would affect both RWQCB and CDFW jurisdictional waters of the State that traverse the Project site. Surface flow patterns would be affected by alteration to jurisdictional waters of the State (unvegetated ephemeral washes and desert wash woodland) on the site which could result in increased siltation or downstream erosion. Drainage controls, including berms and potentially channels, would be required in some areas to capture and direct stormwater flow around Project facilities such as the BESS.

Construction of the Project would avoid most desert dry wash woodland in accordance with BLM's CMA LUPA-BIO-RIPWET 1. Changes to streambeds classified as RWQCB and CDFW jurisdictional waters of the State would require the Applicant to obtain a LSAA from the CDFW and a waste discharge (WDR) permit from the Colorado River Basin RWQCB. The LSAA and WDR will require the Project to avoid and minimize impacts to surface waters (through conditions of approval and BMPs) and may require compensatory mitigation for impacts to waters of the State. Impacts related to surface water degradation due to alterations to waters of the State would be minimized or prevented through compliance with CDFW and RWQCB regulations and permits and implementation of Mitigation Measures (MM) BIO-3 (Minimization of Vegetation and Habitat Impacts), MM BIO-5 (Vegetation Resources Management Plan), MM BIO-13

(Streambed and Watershed Protection), MM HWQ-1 (Drainage Erosion and Sedimentation Control Plan (DESCP)), and MM HWQ-5 (Project Drainage Plan).

Existing State and federal water quality regulations, including the proposed SWPPP, are intended to ensure that water quality standards and waste discharge standards are not violated during construction or operations. However, portions of the site would be subject to flooding. Although mass grading is not proposed, some ground disturbance is expected, and some of the solar panels and other proposed structures would be placed in areas that are subject to flooding, creating a potential for erosion and sedimentation leading to potential water quality impacts during operations. Mitigation Measure HWQ-1 requires the development of a Drainage Erosion and Sedimentation Plan that would address and mitigate erosion impacts during construction and operations.

Decommissioning of the Project is expected to result in adverse impacts related to water resources similar to construction impacts. Work could result in potential increases in sediment loads to adjacent streams and washes and/or accidental spills of hydrocarbon fuels and greases and other materials associated with motorized equipment and construction work. However, decommissioning activities would be subject to the same state and federal water quality regulations discussed above, as well as the mitigation measures applicable during construction of the Project, which would minimize potential water quality impacts. Accordingly, impacts related to surface water quality would be less than significant with mitigation.

Groundwater

***LESS THAN SIGNIFICANT WITH MITIGATION*.** Groundwater quality impacts could occur during construction if contaminated or hazardous materials used during construction were to be released and allowed to migrate to the groundwater table. Given adherence to the Project Hazardous Materials Business Plan and the NPDES General Permit for Construction Activities, the potential for such impacts to groundwater quality are low.

The Project would produce sanitary wastewater from the O&M building, which would be treated and disposed of at the Project using a septic disposal system. The federal (EPA), state (RWQCB) and local (Riverside County Department of Environmental Health) governments have requirements for septic system design, including requirements for percolation, vertical distance from the groundwater table, and setback from the nearest groundwater well. The use and application of septic fields is an established practice as a method of wastewater treatment. The use of a septic system within the designed system capacity is not anticipated to cause groundwater quality degradation.[17]

DWR has categorized the CVGB as a low-priority basin under the SGMA (DWR, 2020). Per SGMA, due to the CVGB classification as a low-priority basin, a Groundwater Sustainability Plan (GSP) is not required to be developed for the CVGB. As of this writing, no GSP has been developed for the CVGB.

The Project is located in the jurisdiction of the Colorado River Basin RWQCB. The Water Quality Control Plan developed by the RWQCB establishes water quality objectives, including narrative and numerical standards, to protect the beneficial uses of surface water and groundwater in the region. The Water Quality Control Plan describes implementation plans and other control measures designed to ensure compliance with statewide plans and policies and documents comprehensive water quality planning. The Water Quality Control Plan for the Colorado River Basin Region (RWQCB, 2019) lists specific beneficial uses for groundwater. Beneficial uses of the groundwater in the CVGB are Municipal and Domestic Supply (MUN), Industrial Service Supply (IND), and Agriculture Supply (AGR).

Total dissolved solids (TDS) concentrations across the CVGB range from 274 milligrams per liter (mg/L) to 12,300 mg/L. The lowest TDS concentrations are in the western portion of the CVGB, where TDS concen-

[17] Use of a septic system is subject to regulatory approval and issuance of an applicable permit.

trations range from 275 to 730 mg/L (DWR, 2004). In the northwest portions of the CVGB, arsenic concentrations have ranged from 9 micrograms per liter (µg/L) to 25 µg/L (GEI, 2010). Water quality in the CVGB has concentrations of sulfate, chloride, fluoride, and TDS that are higher than recommended levels for drinking water use. Likewise, elevated concentrations of boron, TDS, and percent sodium impair groundwater for irrigation use. In general, groundwater in the CVGB is sodium chloride to sodium sulfate-chloride in character (DWR, 2004).

Recent available water quality data near the proposed Project is limited to four wells, with nitrate being the only constituent analyzed in three of the four wells. Reported nitrate concentrations in all four wells were below the federal and California Maximum Contaminant Level of 10 mg/L (nitrate measured as nitrogen).

Pursuant to BLM (2016a and 2016b) requirements, a WSA must include an analysis of "estimates of the total cone of depression considering cumulative drawdown from all potential pumping in the basin, including the project, for the life of the project through the decommissioning phase." To evaluate the potential cone of depression induced by proposed Project groundwater pumping and cumulative drawdown from all cumulative projects (see GSI, 2024 Table 12), a predictive MODFLOW groundwater model (Model) was developed and projected for the 52-year duration of the Project. The Model incorporated estimated inflow and outflow terms consistent with the Project water budget presented in Section 6 of ~~GSI~~ the WSA (2024) as well as hydrogeological properties used in the Fang et al. (2021) numerical groundwater model.

The Project impacts are discussed in terms of the zones of influence of the total cone of depression considering ~~cumulative~~ drawdown as a result of the Project, cumulative projects, and the CVGB projected agricultural, municipal, and domestic pumping. The zone of influence after 2 years of Project construction pumping (500 AFY) is an approximately 4.5-mile radius cone of depression out to 0.5 feet of drawdown. Project operational and decommissioning pumping (50 AFY) for 50 years has a cumulative drawdown with an approximately 15-mile radius out to 0.5 feet of drawdown. This zone of influence also includes pumping from cumulative projects.

The modeling results indicate that impacts to groundwater levels as a result of Project and cumulative project pumping are confined to the ~~north~~western part of the CVGB. Although most of the non-cumulative project pumping (see GSI, 2024 Section 5.8.2) in the CVGB occurs in the ~~north~~western part of the ~~CVGB, total agricultural, municipal, and domestic pumping is limited and the magnitude of the simulated drawdown is not anticipated to adversely affect existing water users and water rights claimants in the CVGB~~ CVGB (the total agricultural, municipal, and domestic pumping is limited to approximately 7,900 AFY [CEC, 2010]), cumulative project pumping is not anticipated to adversely affect existing water users and water rights claimants in the CVGB due to the limited magnitude of the simulated drawdown (see the previous paragraph).

~~Based on the simulated drawdown due to Project and cumulative project pumping, and the size and storage capacity of the CVGB, the Project is not anticipated to result in changes in water quality that affect other beneficial uses~~ Based on the limited magnitude of the simulated drawdown due to Project pumping, groundwater levels would not be lowered to a level that would cause a degradation of groundwater quality that affects other beneficial uses. Additionally, groundwater levels would not be lowered to a level that causes pumping wells near the Project to begin to capture deeper/older groundwater within the CVGB. Deeper/older groundwater typically contains increased salts and nutrients as a result of prolonged exposure to the aquifer material (leaching of minerals from the host rock into groundwater) (USGS, 2019). In addition, there are no known point source plumes near the Project. Therefore, there are no known contaminant plumes Project pumping could potentially mobilize.

Although there is no sustainable groundwater management plan for the CVGB with which the Project could conflict, the Project would not adversely impact the sustainable management of the CVGB, as discussed further below in Impact HWQ-2.

~~Mitigation Measures (MMs) to reduce Impact HWQ-1 include~~ MM HWQ-1 (Drainage Erosion and Sedimentation Plan) and MM HWQ-2 (Septic System Review and Permitting) which would enable the Riverside County Department of Environmental Health to ensure that the Project is compliant with Riverside County, RWQCB, and EPA regulations and protective of water quality. Mitigation Measure HWQ-3 (Palo Verde Mesa Groundwater Basin Protection) ~~would implement a~~includes the development of a Colorado River Water Supply Plan (CRWSP) to monitor groundwater extractions from the Applicant owned and/or operated on-or off-site well(s) to ensure that groundwater extractions do not go below the Colorado River Accounting Surface. HWQ-4 (Groundwater Monitoring, Reporting, and Mitigation Plan ~~(~~[GMRMP~~)~~] would be implemented for the Project in coordination with the RWQCB and BLM to ensure that groundwater wells surrounding Project supply well(s) are not adversely affected (i.e., chronic lowering of groundwater levels and degradation of groundwater quality) by Project activities.[18] Thus, impacts would be less than significant.

Mitigation Measures for Impact HWQ-1

MM BIO-3 **Minimization of Vegetation and Habitat Impacts.** See full text in Section 3.5 (Biological Resources).

MM BIO-5 **Vegetation Resources Management Plan.** See full text in Section 3.5 (Biological Resources).

MM BIO-13 **Streambed and Watershed Protection.** See full text in Section 3.5 (Biological Resources).

MM HWQ-1 **Drainage Erosion and Sedimentation Control Plan (DESCP).** See full text in Section 3.11.9 (Mitigation Measures).

MM HWQ-2 **Septic System Review and Permitting**. See full text in Section 3.11.9 (Mitigation Measures).

MM HWQ-3 **Palo Verde Mesa Groundwater Basin (PVMGB) Protection.** See full text in Section 3.11.9 (Mitigation Measures).

MM HWQ-4 **Groundwater Monitoring, Reporting, and Mitigation Plan (GMRMP).** See full text in Section 3.11.9 (Mitigation Measures).

MM HWQ-5 **Project Drainage Plan**. See full text in Section 3.11.9 (Mitigation Measures).

Significance After Mitigation

This impact would be less than significant with the implementation of recommended mitigation measures.

Impact HWQ-2. Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?

LESS THAN SIGNIFICANT WITH MITIGATION. In June 2023, BLM issued a Proposed Rule to amend its existing ROW regulations, issued under authority of the Federal Land Policy and Management Act (FLPMA), and is considering issuing ROW grants for durations of up to 50 years (BLM, 2023). To determine whether there are sufficient supplies to sustain the Project, the Easley WSA (EIR Appendix G) extends the total projected period of the Project to 52-years. For the purpose of the CVGB water budget (see GSI, 2024 Section 6) and

[18] Groundwater quality thresholds are pursuant to federal and state regulations, including the Water Quality Control Plan for the Colorado River Basin Region (RWQCB, 2019).

predictive Project water demand impacts analysis (see Sections GSI, 2024 5.4 and 7), 52 years is equivalent to the projected total duration of the Project, including construction (20 months), operations (48 years), and decommissioning (20 months).[19] Based upon these quantities of water demand, a total of approximately 3,500 AF of water will be used by the Project over the Project's construction, operational, and decommissioning periods (52 years [i.e., 2-year construction period, 48-year operational period, and 2-year decommissioning period]).

Water for construction, operation, and decommissioning would be obtained from several potential sources, including an on-site groundwater well, an off-site groundwater well, and trucked from an off-site water purveyor. However, it is assumed all Project water needs would be sourced from the CVGB. Groundwater has been identified as the primary source of water in the CVGB. DWR has categorized the CVGB as a low-priority basin under SGMA (DWR, 2020) and based on the adopted water budget components (primarily based on Fang et al. [2021]) in the Project WSA (GSI, 2024), the CVGB is not in a state of overdraft.

In accordance with SB 610 and the DRECP Land Use Plan Amendment (LUPA), and to determine whether there are sufficient supplies to sustain the Project, a 52-year water budget was developed for the Project. The water budget uses information summarized in Section 3.11 to provide a baseline normal-year groundwater budget for the CVGB. The water budget also includes a normal-year groundwater budget assuming the Project is in place. ~~A second groundwater budget was developed for the Project WSA using lower input estimates (see Section 3.11.1.2 and GSI, 2024, Sections 5.7 and 5.8).~~ The same approach was repeated for ~~both water budgets for~~ single and multiple dry-year scenarios. Details and the results of the analysis are summarized in Section 3.11.1.2 and presented in the Project WSA (GSI, 2024).

The CVGB under average-year conditions would have a ~~cumulative~~ surplus of 5,200 AF at the end of the 52-year period. The net CVGB surplus with the Project in place would therefore be 1,700 AF, or 33 percent of the surplus that would exist without the Project. Using the DWR (2020a) estimated annual groundwater pumping, the net CVGB surplus with the Project in place would be 74,500 AF, or 96 percent of the surplus that would exist without the Project. Thus, with the Project in place, groundwater in storage and groundwater levels in the CVGB would be expected to increase over the life of the Project. ~~By contrast, using the reduced recharge rates for precipitation and underflow (see Table 5), the 52-year deficit without the Project would be 228,800 AF, increased to 232,300 AF by the Project. The Project would contribute about 2 percent to this cumulative deficit.~~

~~Using the reduced estimates of precipitation and underflow recharge, F~~for a single dry year and single critical dry year with the Project in place, the worst-case scenario is for one of those year types, dry or critical dry, to occur during the construction period of the Project (assumed to be 2024 to 2025) in which the Project would increase the dry year and critical dry year deficit by 8 and 7 percent, respectively. Assuming normal precipitation returns, this total deficit (dry year, or critical dry year, plus Project use) would not be recovered during the 52-year period (with or without the Project). ~~Using reduced inflow data, these deficits would increase by 6 percent.~~ The likelihood that a dry or critical dry year would occur during Project construction is 10 percent and 3 percent, respectively. If a dry year or critical dry year were to occur during Project construction, it would not result in groundwater overdraft of the CVGB, which is defined as the condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of many years during which water supply conditions approximate average conditions. The deficit associated with a dry or critical dry year during construction does not approximate average conditions and, further, would be limited to those

[19] Although the estimated Project construction period and decommissioning period described in the EIR Chapter 2 (Project Description) is 20 months, the water budgets (see GSI, 2024 Section 6) and Cone of Depression and Cumulative Drawdown Analysis (see GSI, 2024 Section 7), were developed in 1-year time steps, and therefore, assume the same overall water usage but over Project construction and decommissioning periods of 2 years.

years, after which average conditions (resulting in an annual groundwater surplus, as discussed above) would be expected to return.

If a dry year or critical dry year occurs during the Project construction period, using the DWR (2020a) estimated annual groundwater pumping, the CVGB annual deficit would be approximately 5,000 AF and 6,200 AF, respectively (Budget Balance Using DWR [2020a] rows in GSI, 2024 Tables 6 and 7 minus 500 AFY [1,000 AF / 2 years]). The Project would increase the dry year and critical dry year deficit by 11 and 9 percent, respectively. Assuming normal precipitation returns (see 3.11-1), this total deficit (dry year plus Project use and critical day year plus Project use) would be recovered in less than 4 years and 5 years, respectively, with the Project in place. The Project also would implement various construction techniques designed to reduce overall water use during construction, including using “overland travel,” designating primary travel routes, limiting grading, utilizing small rubber-wheel vehicles, and phasing construction, as described in Chapter 2.

Historically, dry and critical dry years do not occur over multiple consecutive years. Rather, the precipitation record indicates that a series of dry years has typically been followed by a series of years with above-average precipitation. To assess the probable effect of this over the 52-year life of the Project, the WSA analyzed a 52-year running average using the 129-year precipitation period of record. Using the driest 52-year period recorded at the Blythe Airport meteorological station, the WSA indicates there would be a 21,060 AF surplus in the CVGB if there were a repeat of this 52-year period under current conditions. ~~w~~With the Project in place, there would be a total groundwater surplus of approximately 17,530 AF at the end of 52 years. ~~Using reduced recharge data, the same analysis, with the Project in place, results in a groundwater deficit totaling approximately 217,520 AF after 52 years.~~ Using the DWR (2020a) estimated annual pumping, at the end of the 52-year period the total groundwater surplus would be approximately 90,330 AF with the Project in place.

Thus, using the normal (average) conditions groundwater budget presented in Table 3.11-1, the available water supplies during normal, single dry, and multiple dry water years from the CVGB would meet the projected water demands of the Project, in addition to existing uses and planned future uses (see GSI, 2024 Table 15 for the 52-year projection.

The Project has a limited overall water demand and, further, would require very little water each year for operation; however, the WSA considered the potential for the Project to result in localized impacts to existing wells. Groundwater use during the Project’s construction, operation, and decommissioning would cause drawdown in the immediate vicinity of the well(s) used to produce groundwater for the Project. Pursuant to BLM (2016a and 2016b) requirements, a WSA must include an analysis of “estimates of the total cone of depression considering cumulative drawdown from all potential pumping in the basin, including the project, for the life of the project through the decommissioning phase.” To evaluate the potential cone of depression induced by proposed Project groundwater pumping and cumulative drawdown from all cumulative projects (see GSI, 2024 Table 12), a predictive MODFLOW groundwater model (Model) was developed and projected for the 52-year duration of the Project. The Model incorporated estimated inflow and outflow terms consistent with the Project water budget presented in Section 6 of ~~GSI~~the WSA (GSI, 2024) as well as hydrogeological properties used in the Fang et al. (2021) numerical groundwater model.

The Project Impacts are discussed in terms of the zones of influence of the total cone of depression considering cumulative drawdown as a result of the Project, cumulative projects, and the CVGB projected agricultural, municipal, and domestic pumping. The zone of influence after 2 years of Project construction pumping (500 AFY) is an approximately 4.5-mile radius cone of depression out to 0.5 feet of drawdown. Project operational and decommissioning pumping (50 AFY) for 50 years has a cumulative drawdown with an approximately 15-mile radius out to 0.5 feet of drawdown. This zone of influence also includes pumping from cumulative projects.

The modeling results indicate that impacts to groundwater levels as a result of Project and cumulative project pumping are confined to the western part of the CVGB. Although most of the non-cumulative project pumping (see GSI, 2024 Section 5.8.2) in the CVGB occurs in the western part of the CVGB (the total agricultural, municipal, and domestic pumping is limited to approximately 7,900 AFY [CEC, 2010]), cumulative project pumping is not anticipated to adversely affect existing water users and water rights claimants in the CVGB due to the limited magnitude of the simulated drawdown (see the previous paragraph).

Additionally, the Project is not anticipated to cause lowering of groundwater to levels greater than the recorded historical lows and there is no reported evidence of subsidence in the CVGB as a result of either historical or present pumping (GEI, 2010a). Based on available data from CGPS stations located in the CVGB, Orocopia Valley Groundwater Basin, and Palo Verde Mesa (POR from 1996 through present) Groundwater Basin, no significant land subsidence has been recorded. Therefore, the Project is not anticipated to cause subsidence, increase the rate of subsidence, or cause loss of aquifer storage capacity in the CVGB. The Project also would develop a GMRMP in coordination with the RWQCB and BLM to ensure that groundwater wells surrounding Project supply well(s) are not adversely affected (i.e., chronic lowering of groundwater levels) by Project activities (MM HWQ-4).

Finally, due to the CVGB's location adjacent to the Palo Verde Mesa Groundwater Basin (PVMGB), ~~CVGB recharge as a result of leakage from the Colorado River Aqueduct was considered in the Project WSA. Direct or indirect use of Colorado River water requires documented entitlement. Therefore,~~ Project-related groundwater use inducing flow of Colorado River water (groundwater within an area referred to as the "accounting surface") ~~from the adjacent Palo Verde Mesa Groundwater Basin (PVMGB) into that CVBG~~ was considered. The Colorado River Accounting Surface is at an elevation between approximately 238 and 240 feet above mean sea level (amsl) in the Chuckwalla Valley (Argonne, 2013). Groundwater elevation in the Project area is approximately 489 feet amsl as of the first quarter of 2024, approximately 249 to 251 above the Accounting Surface. The numerical groundwater model developed for the Project WSA (GSI, 2024) included estimates of the total cone of depression considering cumulative drawdown from all potential pumping in the CVGB, including the Project, for the life of the Project through the decommissioning phase. The estimated drawdown at the Project well after the planned 2-year construction period was less than 2 feet, approximately 247 to 249 feet above the Accounting Surface. The temporary drawdown at the well during pumping, however, would be greater.

Assuming a conservatively-large temporary drawdown of 100 feet at the Project well (up to 80 feet of temporary drawdown has been recorded from a well-used for construction of a nearby solar project) during peak water demand during Project construction, the water levels in the Project well would be at least 150 feet above the Accounting Surface. Further, ~~T~~the water levels within the Project well would be monitored as part of the GMRMP (MM HWQ-4) per the DRECP LUPA Conservation and Management Action (CMA) Soil and Water (SW) 24. Pumping from the Project well would be decreased or stopped well before water levels reached the Accounting Surface, pursuant to MM HWQ-3 (PVMGB Protection). Thus, the Project will not extract water from below the Accounting Surface.

For the reasons described above, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the CVGB.~~Groundwater use during the Project's construction, operation, and decommissioning would cause drawdown in the immediate vicinity of the well(s) used to produce groundwater for the Project. Pursuant to BLM (2016a and 2016b) requirements, a WSA must include an analysis of "estimates of the total cone of depression considering cumulative drawdown from all potential pumping in the basin, including the project, for the life of the project through the decommissioning phase." To evaluate the potential cone of depression induced by proposed Project groundwater pumping and cumulative drawdown from all cumulative projects (see GSI, 2024 Table 12), a predictive MODFLOW~~

~~groundwater model (Model) was developed and projected for the 52-year duration of the Project. The Model incorporated estimated inflow and outflow terms consistent with the Project water budget presented in Section 6 of GSI (2024) as well as hydrogeological properties used in the Fang et al. (2021) numerical groundwater model.~~

~~The Project impacts are discussed in terms of the zones of influence of the total cone of depression considering cumulative drawdown as a result of the Project, cumulative projects, and the CVGB projected agricultural, municipal, and domestic pumping. The zone of influence after 2 years of Project construction pumping (500 AFY) is an approximately 4.5-mile radius cone of depression out to 0.5 feet of drawdown. Project operational and decommissioning pumping (50 AFY) for 50 years has a cumulative drawdown with an approximately 15-mile radius out to 0.5 feet of drawdown. This zone of influence also includes pumping from cumulative projects.~~

~~The modeling results indicate that impacts to groundwater levels as a result of Project and cumulative project pumping are confined to the northwestern part of the CVGB. Although most of the non-cumulative project pumping (see GSI, 2024 Section 5.8.2) in the CVGB occurs in the northwestern part of the CVGB, total agricultural, municipal, and domestic pumping is limited and the magnitude of the simulated drawdown is not anticipated to adversely affect existing water users and water rights claimants in the CVGB.~~

Based on the adopted water budget components (primarily based on Fang et al. [2021]) in the Project WSA (GSI, 2024), under normal conditions (see Table 3-11.1) the CVGB is not in overdraft. The CVGB is a low priority basin and DWR (2004) estimated the total groundwater storage capacity of the CVGB is 9,100,000 to 15,000,000 AF. The Project's water use of 3,500 AF over the 52-year life of the Project represents approximately 0.0004 percent of the assumed 10,000,000 AF of groundwater storage capacity in the CVGB. Under conservative recharge and pumping assumptions, there would be an annual and net surplus of groundwater in the CVGB over the Project's 52-year life with Project groundwater pumping in place. Only during the unlikely event -that a dry or critical dry year overlaps with Project construction (10 percent and 3 percent chance of occurring, respectively) would there be an annual groundwater deficit. However, Project groundwater use would not result in long term deficits or overdraft of the CVGB. Indeed, if the driest 52-year period recorded for the CVGB were to repeat during the Project's operational life, the WSA indicates there would be between a 17,530 AF and 90,330 AF surplus in the CVGB with the Project in place. Overall Project pumping would be limited by both MM HWQ-3 and HWQ-4, which would minimize potential pumping impacts to nearby wells and the larger CVGB. Thus, with mitigation, impacts would be less than significant.

~~Impact HWQ-2 would be reduced through the development of a Colorado River Water Supply Plan (CRWSP) to monitor groundwater extractions from the Project-operated on- or off-site well(s) and prevent, replace, or mitigate Project impacts that deplete the PVMGB groundwater budget to prevent impacts (MM HWQ-3, Palo Verde Mesa Groundwater Basin Protection). The CRWSP would be submitted to the U.S. Bureau of Reclamation and BLM prior to commencement of any Project construction activities. The CRWSP would be based on the results of the Project GMRMP. The GMRMP for the Project would be developed in coordination with the RWQCB and BLM to ensure that groundwater wells surrounding Project supply well(s) are not adversely affected (i.e., chronic lowering of groundwater levels) by Project activities.~~

Mitigation Measures for Impact HWQ-2

MM HWQ-3 **Palo Verde Mesa Groundwater Basin (PVMGB) Protection.** See full text in Section 3.11.9 (Mitigation Measures).

MM HWQ-4 Groundwater Monitoring, Reporting, and Miti~~t~~gation Plan (GMRMP). See full text in Section 3.11.9 (Mitigation Measures).

Significance After Mitigation

This impact would be less than significant with the implementation of the recommended mitigation measure.

Impact HWQ-3A. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

LESS THAN SIGNIFICANT WITH MITIGATION. Earthwork for Project construction would require the use of heavy machinery for vegetation grubbing, grading, and installation of roads, solar fields, transmission facilities, the O&M building, the BESS, the energy storage systems, and other facilities. Construction of these facilities would involve the use of tractors, bulldozers, graders, trucks, and various other types of heavy equipment, and would involve minor changes to on-site topography. These activities would loosen existing surface soils and sediments, increasing the potential for erosion during storm events, along with associated effects such as increased downstream sediment yields from on-site disturbed areas. Increased impervious areas could also lead to erosion by increasing the rate and frequency of runoff.

Grading effects that could lead to soil disturbance would be reduced by the proposed grading design that includes mowing and rolling of vegetation over large areas (as opposed to major grading), which would minimize the required volume of earth movement. It is therefore anticipated that existing drainage patterns would not be substantially altered.

Although significant grading or ground-disturbing activities would not occur, parts of the solar facility including roads, laydown areas and structures would cause some form of ground disturbance from grading, compaction, or excavation.

Because of the proposed plan for minimal grading, alteration of the existing drainage pattern and any associated erosion or siltation, should be minimal. The Applicant's proposed layout of solar panels and other facilities ~~(pending final design)~~ would largely maintain major existing hydrologic patterns with respect to runoff, avoiding washes, stream beds, and stream banks, where feasible. This includes mostly avoiding the largest desert washes that cross the site from the southwest to northeast. However, the site plans are not yet final, and there remains a potential for ~~minor~~ alteration of drainage patterns and the potential for erosion. Drainage alterations could occur through diversions by the proposed security fences, placement of structures in drainage areas, or grading to control high flow concentrations.

As noted above and in Impact HWQ-1, alternation to drainages/streambeds mapped as unvegetated ephemeral dry washes and desert dry wash woodland and classified as RWQCB and CDFW jurisdictional waters of the State may occur. Changes and alterations to these washes could change the flow patterns across the site and result in increased flow velocities, increased erosion, and increased downstream siltation. Alterations to the RWQCB and CDFW jurisdictional waters would require the Applicant to obtain a LSAA from the CDFW and a WDR permit from the Colorado River Basin RWQCB. The LSAA and WDR would require avoidance and minimization measure to limit impacts to these areas and also may require compensatory mitigation for impacts to waters of the State. Impacts related to surface water degradation due to alterations to waters of the State would be minimized or prevented through compliance with CDFW and RWQCB regulations and permits, MM BIO-3 (Minimization of Vegetation and Habitat Impacts), MM BIO-5 (Vegetation Resources Management Plan), MM BIO-13 (Streambed and Watershed Protection), MM HWQ-1 (Drainage Erosion and Sedimentation Control Plan (DESCP)), and MM HWQ-5 (Project

Drainage Plan). Implementation of these measures would ensure that impact HWQ-3A would be less than significant.

Erosion protection management would be required by adherence to a SWPPP that is required and the Applicant has committed to preparing. Compliance with these measures ~~is generally sufficient to~~would substantially reduce erosion impacts ~~to a minimum~~. A DESCP is proposed in MM HWQ-1 to further address potential Project-related water erosion impacts. This plan would include applicable measures, such as BMPs, to reduce erosion and siltation impacts. With ~~MM HWQ-1 in place~~implementation of the above MMs, Impact HWQ-3a would be less than significant.

Impact HWQ-3B. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

LESS THAN SIGNIFICANT WITH MITIGATION. There is a minor potential for the Project to increase the magnitude and frequency of runoff rates through the construction of impervious areas and by altering the ground surface characteristics through grading and removal of vegetation. Impervious areas would be minimal and limited to the foundations for the proposed solar panels, foundations for the transmission structures, the proposed buildings, BESS, substation equipment and switchyard. The proposed parking area and roadways would be compacted, which would increase the runoff potential. Together, these features are anticipated to be only a small portion (about 3 percent) of the 3,735-acre site. Additionally, drainage patterns would remain relatively intact. Therefore, the increase in overall site runoff is expected to be minimal (approximately 3 percent), though a local impact potential remains, especially in the vicinity of new impervious areas. Depending on final engineering analysis of postconstruction hydrology, retention basins may be necessary to reduce increased discharges created by the Project.

Alteration of the existing drainage pattern should be minimal because of the minimal grading proposed. Some alterations could occur through diversions by the proposed security fences, which could become barriers to flow by the accumulation of debris, in which case ~~substantial~~ diversions of off-site sheet flow could occur. Security fencing with desert tortoise fencing along the bottom would enclose the developed portions of the facility site, including ~~the~~ across the desert washes. Portions of the security fence may leave a 6- to 8-inch gap between the lower fence margin (rail or mesh) and the ground to allow for passage of desert tortoise and other animals. Structures placed in drainage areas, or grading to control high flow concentrations, could also lead to flow diversions which could adversely affect the flood potential within or outside the property.

Although minimal alteration of drainage patterns is expected, there remains a potential for the Project to cause flooding either of adjacent property or within the site itself. Mitigation Measure HWQ-1 requires the development of a DESCP which would address erosion-related impacts. The Westwood study (2023) presents a preliminary assessment of the flood potential in the Project area. As the site designs are completed, additional drainage information would be required to ensure that the designs address drainage and flooding conditions on the Project site. Mitigation Measure HWQ-5 (Project Drainage Plan) requires a Project drainage report and plan to address on-site flooding and the potential for the Project to induce flooding on adjacent property. With MMs HWQ-1 and MM HWQ-5 in place, Impact HWQ-3b would be less than significant.

Impact HWQ-3C. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

LESS THAN SIGNIFICANT WITH MITIGATION. There are no existing or planned stormwater drainage systems at or downstream of the Project site. Drainage in the area and downstream of the Project consists of natural desert with natural watercourses. Some increase in runoff potential is possible due to increased impervious area and compacted roadway surfaces, but a large increase is not anticipated due to the small amount of new impervious area and compacted roadways. Any increase in runoff would be addressed in the DESCP (MM HWQ-1) and detention regulations. With MMs HWQ-1 (Drainage Erosion and Sedimentation Control Plan [DESCP]) and MM HWQ-5 (Project Drainage Plan) in place, this potential impact from runoff would be less than significant.

Impact HWQ-3D. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

LESS THAN SIGNIFICANT WITH MITIGATION. The Project would include perimeter security fencing which, if clogged with debris normally carried by natural flood flows in the desert, could divert flood flows and ~~substantially~~ increase the flood potential on other property. Fence-induced diversions along drainage entry points could cause flooding of adjacent properties. Fencing is not proposed across existing drainages and fencing would be a long linear element unlikely to become completely blocked by debris accumulations along the entire length of the fence.

The exact nature of fence-induced diversions is not determined at this time, though a qualitative assessment of their likely impact can be made. The flood depths described in the Westwood study (Westwood, 2023) are mostly minor for the Project, with depth estimated at up to 0.5 to 1 foot in most areas of the site. Since most major washes would be avoided, fencing at property entry points would be limited. Further, a 6-to-8-inch gap may be left at the bottom of the fence to allow tortoises to pass underneath. Fence-related flow diversion is therefore likely to be minimal. Mitigation Measure HWQ-5 (Project Drainage Plan) ~~is proposed to~~would ensure that fence-related diversions of flow would be less than significant ~~by creating fence openings sufficient to allow pass-through flow in places where there are no demonstrable existing flood diversions~~.

Most of the Project site would be subject to flooding at varying depths mostly less than one foot. Any structures placed in those areas would have the potential to redirect flood flows. The solar panels would be installed on posts/piles and at least 4 feet above the ground and would offer minimal obstruction to flows. The substation, BESS and O&M building are in an area that would be subject to flooding of approximately 1 foot. These would be protected by berms or other drainage features which could redirect flood flows locally. The access roads, being at-grade, would offer minimal obstruction. The internal power lines would be protected from flooding by burying or being installed on poles, but if on poles would offer minimal obstruction to flow. The gen-tie line would have similar potential. Mitigation Measures HWQ-1 (Drainage Erosion and Sedimentation Control Plan [DESCP]) and MM HWQ-5 (Project Drainage Plan) would ensure that the site design include consideration of flood flows and diversions. With these mitigation measures in place, this potential impact from runoff would be less than significant.

Potential impact of impervious areas is addressed in Impact HWQ-3B.

Mitigation Measures for Impact HWQ-3

MM BIO-3 **Minimization of Vegetation and Habitat Impact**s. See full text in Section 3.5 (Biological Resources).

MM BIO-5 **Vegetation Resources Management Plan**. See full text in Section 3.5 (Biological Resources).

MM BIO-13 **Streambed and Watershed Protection**. See full text in Section 3.5 (Biological Resources).

MM HWQ-1 **Drainage Erosion and Sedimentation Control Plan (DESCP).** See full text in Section 3.11.9 (Mitigation Measures).

MM HWQ-5 **Project Drainage Plan.** See full text in Section 3.11.9 (Mitigation Measures).

Significance After Mitigation

These impacts would be less than significant with the implementation of recommended mitigation measures.

Impact HWQ-4. Would the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

LESS THAN SIGNIFICANT WITH MITIGATION. Most of the Project would be subject to flooding at varying depths mostly less than one foot. Any structures placed in those areas would have the potential to be flooded. The solar panels would be installed on posts/piles and at least 4 feet above the ground and would be above the anticipated flood depth but would be subject to scour as the flood flows pass the support posts. The substation, BESS and O&M building are in an area that would be subject to flooding of up to 1 foot. These would be protected by berms or other drainage features. The access roads, being at-grade, would require maintenance after a flood event. The internal power lines would be protected from flooding by burying or being installed on poles, but if on poles could be subject to flood-related scour. The gen-tie line would have similar potential for flood-related scour.

As there would be few people on the site at most times, flow depths shallow, and the building structures and other Project features would be protected from flooding or not easily susceptible to flood damage, there would be little chance of flood-related injury or death, or substantial damage to structures. Mitigation Measures HWQ-1 (Drainage Erosion and Sedimentation Control Plan [DESCP]) and MM HWQ-5 (Project Drainage Plan) would ensure that the site design include consideration of flood flows. Mitigation Measure HWQ-6 (Flood Protection) is proposed to ensure that all structures are protected from flooding and flood-related scour.

Mitigation Measures for Impact HWQ-4

MM HWQ-1 **Drainage Erosion and Sedimentation Control Plan (DESCP).** See full text in Section 3.11.9 (Mitigation Measures).

MM HWQ-5 **Project Drainage Plan**. See full text in Section 3.11.9 (Mitigation Measures).

MM HWQ-6 **Flood Protection**. See full text in Section 3.11.9 (Mitigation Measures).

Significance After Mitigation

This impact would be less than significant with the implementation of recommended mitigation measures.~~Mitigation Measures for Impact HWQ-5~~

~~**MM BIO-3** **Minimization of Vegetation and Habitat Impacts.** See full text in Section 3.5 (Biological Resources).~~

~~**MM BIO-5** **Vegetation Resources Management Plan.** See full text in Section 3.5 (Biological Resources).~~

~~**MM BIO-13** **Streambed and Watershed Protection.** See full text in Section 3.5 (Biological Resources).~~

~~**MM HWQ-1** **Drainage Erosion and Sedimentation Control Plan (DESCP).** See full text in Section 3.11.9 (Mitigation Measures).~~

~~**MM HWQ-2** **Septic System Review and Permitting**. See full text in Section 3.11.9 (Mitigation Measures).~~

~~**MM HWQ-3** **Palo Verde Mesa Groundwater Basin (PVMGB) Protection**. See full text in Section 3.11.9 (Mitigation Measures).~~

~~**MM HWQ-5** **Project Drainage Plan**. See full text in Section 3.11.9 (Mitigation Measures).~~

~~**Significance After Mitigation**~~

~~This impact would be less than significant with the implementation of recommended mitigation measures.~~

****** The impact analyses for all Project alternatives have been moved to EIR Section 5. ******

3.11.7. Cumulative Impacts

3.11.7.1. Geographic Scope

Surface Water. The Project is in the Chuckwalla Hydrologic Unit which drains entirely to the Palen and Ford Dry Lakes. There is no natural outlet for this flow to other hydrologic units. Therefore, the area for cumulative hydrology and water quality analysis is confined to this hydrologic unit. Existing, proposed, and reasonably foreseeable projects from Tables 3.1-2 and located within this same hydrologic unit consist of eight solar energy projects (Desert Sunlight, Desert Harvest, Palen, Athos, Oberon, Victory Pass, Redonda and Arica), five power transmission projects (Red Bluff Substation, Devers-Palo Verde Transmission Line, Devers-Colorado River Transmission Line, Blythe Energy Project Transmission Line, and Desert Southwest Transmission Line), and two other projects (Eagle Mountain Pumped Storage Project and Skybridge-Eagle Mountain Hydrogen Project).

Groundwater. A cumulative impact scenario on groundwater was completed in the Project WSA. Thise cumulative impact scenario uses the CVGB baseline groundwater budget presented in the Project WSA using normal ~~and reduced recharge~~ assumptions (see Tables 3.11-1~~ and 3.11-2~~). The cumulative impact scenario accounts for all existing water and estimated water use from known qualifying projects and foreseeable cumulative projects. ~~Pursuant to SB 610, the Project WSA is only required to consider existing water use and estimated water use from known qualifying projects within the CVGB.~~ Qualifying projects included in the Project WSA cumulative impact scenario are displayed on Figure 3.1-1 and Project WSA Figure 3 in EIR Appendix G.

3.11.7.2. Cumulative Impact Analysis

Surface Water

Cumulative impacts to hydrology and water quality include the impacts of the Easley Project together with those listed above, most of which are similar solar power projects. These cumulative projects have the potential to contribute to cumulative hydrologic and water quality impacts in the Chuckwalla Valley Hydrologic Unit. These cumulative projects have the potential to introduce new or exacerbate existing pollutant generation associated with construction and operation. These projects could contribute to increased runoff due to increases in impervious surfaces. All cumulative projects are crossed by watercourses that could generate flooding, with similar flooding impacts as described for the proposed Project.

All foreseeable future projects in the Chuckwalla Valley Hydrologic Unit would be subject to similar measures as the proposed Project when obtaining the required permits ~~that implement compliance~~and complying with state and federal clean water regulations and Riverside County floodplain development regulations. As ~~all~~ these projects would go through an environmental review process, they would be subject to similar mitigation measures as those proposed to address potential water quality impacts for the proposed Project. Many of the projects (Arica, Victory Pass, Palen, and Desert Harvest) do or would likely avoid major drainages that cross their sites. Because the Project is in a similar hydrologic setting and most of the cumulative projects are similar projects, individual project impacts are expected to be reduced to less than significant through compliance with regulations and mitigation. Therefore, the combined effects to water quality from the cumulative projects within the geographic scope would not be considered cumulatively significant and the proposed Project would not have a considerable contribution to the cumulative impact.

Groundwater

In June 2023, BLM issued a Proposed Rule to amend its existing ROW regulations, issued under authority of the Federal Land Policy and Management Act (FLPMA), and is considering issuing Right-of-Way (ROW) grants for durations of up to 50 years (BLM, 2023). To prepare for potential issuance of 50-year ROW Grant by the BLM and to determine whether there are sufficient supplies to sustain the Project, the Easley WSA conservatively extends the total projected period of the Project to 52-years. For the purpose of the CVGB water budget (see GSI, 2024 Section 6) and predictive Project water demand impacts analysis (see GSI, 2024 Sections 5.4 and 7) presented herein, 52 years is equivalent to the projected total duration of the Project, including construction (20 months), operations (48 years), and decommissioning (20 months).[20] The Project would use up to 1,000 AF during the planned 20-month construction period and up to 50 AFY during the Project's operational and decommissioning periods. As described above, the Project would result in less than significant impacts to groundwater supplies with implementation of mitigation.

A cumulative impact scenario on groundwater was completed in the Project WSA. As with the Project-level analysis, normal (average) conditions are considered the more accurate estimate; the annual groundwater deficit resulting from the use of the reduced recharge rates is inconsistent with reported groundwater levels in the CVGB, which indicate that the groundwater levels are generally stable, or in some areas in the CVGB, indicate an increasing trend, which would not occur if there were an ongoing annual groundwater deficit. Additionally, the reduced recharge groundwater budget is inconsistent with previous studies, including USGS (2007), CEC (2010), and Fang et al. (2021).

[20] Although the estimated Project construction period and decommissioning period described in the EIR Chapter 2 (Project Description) is 20 months, the water budgets (see GSI, 2024 Section 6) and Cone of Depression and Cumulative Drawdown Analysis (see GSI, 2024 Section 7), were developed in 1-year time steps, and therefore, assume the same overall water usage but over shorter Project construction and decommissioning periods of 2 years.

~~The results indicate the Project contributes approximately 2 percent of the total cumulative operational extractions for all qualifying projects not already in place (cumulative projects; see GSI, 2024, Table 12).~~ Development of a 52-year (equivalent to the total Project duration) groundwater budget projection, assuming average precipitation and the Project and all cumulative projects in place, indicates there would be an initial groundwater deficit of 6,960 AF in the year 2024 (first year of ~~Project~~ construction for all cumulative projects not already under construction or operational). The cumulative groundwater deficit would increase to approximately 118,420 AF by the end of the 52-year period. ~~Without the Project and all other cumulative projects in place, there would be a surplus of 5,200 AF at the end of the 52-year period.~~ The same analysis using the DWR (2020a) estimated annual groundwater pumping, assuming average precipitation, indicates the initial groundwater deficit would be 5,560 AF in 2024, increasing to a deficit of 45,620 by the end of the 52-year period.

~~The same analysis using reduced infiltration and underflow estimates results in a total cumulative project deficit of about 352,760 AF, to which the Project would contribute about 1 percent, or 3,500 AF. Using these inflow estimates, the CVGB would not recover the groundwater deficit with or without the Project.~~

Using the driest 52-year period recorded at the Blythe Airport meteorological station, with the Project and all cumulative projects in place, the CVGB total groundwater deficit at the end of the 52-year period would be approximately 112,560 AF. ~~Using reduced recharge data, the 52-year deficit would total approximately 347,640 AF.~~ Using the DWR (2020a) estimated annual pumping, at the end of the 52-year period the total groundwater deficit would be approximately 39,760 AF.

Notably, the estimated water demand of the Eagle Mountain Pump Storage (EMPS) Project is 4,460 AFY during the projected 4-year construction period and 2,050 AFY during the operational phase of the project. Comparatively, one year of construction water demand for the EMPS Project is more than the 52-year water demand for the Project. Further, during its operational phase, the EMPS Project is projected to use more than six times the groundwater of all other cumulative projects located in the CVGB. The inclusion of the EMPS Project drastically affects the cumulative project projected groundwater budgets. Without the EMPS Project, the cumulative groundwater deficit would be 2,180 AF at the end of the 52-year period under normal conditions. Under normal conditions using DWR (2020a) estimated annual pumping, there would be a cumulative groundwater surplus of 70,620 AF without the EMPS Project. Similarly, if the EMPS Project groundwater use was not included in the driest 52-year period cumulative project scenario, the cumulative groundwater surplus would be 3,680 AF at the end of the 52-year period. Using the DWR (2020a) estimated annual pumping, the cumulative groundwater surplus would be 76,480 AF at the end of the 52-year period.

Although the cumulative scenarios presented in the Project WSA (GSI, 2024) indicate a deficit over the 52-year period in some circumstances, the available water supplies during normal, single dry, and multiple dry water years from the CVGB, would meet the projected water demands of the cumulative project uses, in addition to existing uses and planned future uses. This is a result of the storage capacity and hydrogeologic properties of the CVGB, and the relatively low water demand of the cumulative projects. Further, the WSA also calculated the groundwater drawdown caused by groundwater use by the cumulative projects. Pursuant to BLM (BLM, 2016a and 2016b) requirements, a WSA must include an analysis of "estimates of the total cone of depression considering cumulative drawdown from all potential pumping in the basin, including the project, for the life of the project through the decommissioning phase." To evaluate the potential cone of depression induced by proposed Project groundwater pumping and cumulative drawdown from all cumulative projects (see GSI, 2024 Table 12), a predictive MODFLOW groundwater model (Model) was developed and projected for the 52-year duration of the Project. The Model incorporated estimated inflow and outflow terms consistent with the Project water budget presented in Section 6 of GSI (2024) as well as hydrogeological properties used in the Fang et al. (2021) numerical groundwater model.

The Project impacts are discussed in terms of the zones of influence of the total cone of depression considering cumulative drawdown as a result of the Project, cumulative projects, and the CVGB projected agricultural, municipal, and domestic pumping. The zone of influence after 2 years of Project construction pumping (500 AFY) is an approximately 4.5-mile radius cone of depression out to 0.5 feet of drawdown. Project operational and decommissioning pumping (50 AFY) for 50 years has a cumulative drawdown with an approximately 15-mile radius out to 0.5 feet of drawdown. This zone of influence also includes pumping from cumulative projects.

The modeling results indicate that impacts to groundwater levels as a result of Project and cumulative project pumping are confined to the western part of the CVGB. Although most of the non-cumulative project pumping (see GSI, 2024 Section 5.8.2) in the CVGB occurs in the western part of the CVGB (the total agricultural, municipal, and domestic pumping is limited to approximately 7,900 AFY [CEC, 2010]), cumulative project pumping is not anticipated to adversely affect existing water users and water rights claimants in the CVGB due to the limited magnitude of the simulated drawdown (see the previous paragraph).

Thus, even with a potential deficit, the overall impact would be limited to the western part of the CVGB and any such impact would not adversely affect the existing water uses in that area. Further, even the higher estimated deficit (112,560 AF) is only 1.12 percent of the total assumed 10,000,000 AF capacity of the CVGB. Year to year groundwater use by cumulative projects also would be well below historical agricultural pumping, which was approximately 21,000 AFY in 1986 (GEI, 2010a). Current agricultural groundwater use is estimated at approximately 6,628 AFY, approximately three times the amount of yearly operational groundwater use for all cumulative projects (DWR, 2020a). Even with agricultural pumping, as well as municipal and domestic uses, groundwater levels in the CVGB have been relatively stable or, in some areas of the CVGB, increasing based on reported groundwater levels. There is no reported evidence of subsidence in the CVGB as a result of historical or present pumping (GEI, 2010a) and the Project and cumulative projects are not anticipated to cause subsidence, increase the rate of subsidence, or cause loss of aquifer storage capacity in the CVGB.

Thus, the addition of the cumulative projects likely would have a limited impact on the overall groundwater supplies in the CVGB. Like the Project, cumulative projects would be required to implement groundwater monitoring plans and ensure that pumping would not adversely impact existing users. Groundwater pumping from cumulative projects also would be limited by the Accounting Surface. However, because the cumulative scenario under normal conditions indicates a potential groundwater deficit, the County conservatively concludes that cumulative impacts would be potentially significant.

Although cumulative impacts would be potentially significant, the Project's incremental contribution is not considered cumulatively considerable. As noted above, the cumulative deficit is driven by the proposed EMPS Project, which accounts for the majority of groundwater use under the cumulative scenario. One year of construction water demand for the EMPS Project is more than the 52-year water demand for the Project. Further, during its operational phase, the EMPS Project is projected to use more than six times the groundwater of all other cumulative projects located in the CVGB and more than 33 times the groundwater of the Project during the 52-year period. Without the EMPS Project, the cumulative groundwater deficit would be 2,180 at the end of the 52-year period. Under normal conditions using DWR (2020a) estimated annual pumping, there would be a cumulative groundwater surplus of 70,620 AF without the EMPS Project. Similarly, if the EMPS Project groundwater use was not included in the driest 52-year period cumulative project scenario, the cumulative groundwater surplus would be 3,680 AF at the end of the 52-year period. Using the DWR (2020a) estimated annual pumping, the cumulative groundwater surplus would be 76,480 AF at the end of the 52-year period. The Project's contribution to cumulative project pumping during the 52-year period is minor, accounting for 3 percent of the total cumulative demand. The Project also would implement various construction techniques designed to reduce overall water use during construction, including using "overland travel," designating primary travel routes, limiting grading, utilizing small rubber-wheel vehicles, and phasing construction, as described in Chapter 2. Project-level impacts are less than significant, and the Project would comply with various mitigation measures that would minimize potential pumping impacts to nearby wells and the larger CVGB. Accordingly, the Project's incremental contribution to cumulative impacts is not cumulatively considerable.

Further, based on the limited magnitude of the simulated drawdown due to Project and cumulative project pumping, groundwater levels would not be lowered to a level that would cause a degradation of groundwater quality that affect other beneficial uses. Additionally, groundwater levels would not be lowered to a level that causes pumping wells near the Project to begin to capture deeper/older groundwater within the CVGB. Deeper/older groundwater typically contains increased salts and nutrients as a result of prolonged exposure to the aquifer material (leaching of minerals from the host rock into groundwater) (USGS, 2019). In addition, there are no known point source plumes near the Project. Therefore, there are no known contaminant plumes Project pumping or cumulative pumping could potentially mobilize.

~~The Project's contribution to cumulative impacts on groundwater would be actively monitored through the development and implementation of a GMRMP for the Project in coordination with the RWQCB and BLM to ensure that groundwater wells surrounding Project supply well(s) are not adversely affected (i.e., chronic lowering of groundwater levels and/or degradation of groundwater quality) by Project activities (MM HWQ-4). The Project's contribution to cumulative impacts would also be monitored through the development of a Colorado River Water Supply Plan (CRWSP) to monitor groundwater extractions from the Project operated on- or off-site well(s) and prevent, replace, or mitigate Project impacts that deplete the PVMGB groundwater budget to prevent impacts (MM HWQ-3). The CRWSP would be submitted to the U.S. Bureau of Reclamation and BLM prior to commencement of any Project construction activities. The CRWSP would be based on the results of the Project GMRMP. The GMRMP for the Project would be developed in coordination with the RWQCB and BLM to ensure that groundwater wells surrounding Project supply well(s) are not adversely affected (i.e., chronic lowering of groundwater levels) by Project activities. With the implementation of these mitigation measures, the Project would not make a considerable contribution to potential cumulative reductions in groundwater supplies.~~

The proposed expansion of Joshua Tree National Park and creation of Chuckwalla National Monument, if adopted, would re-designate existing federal lands in the Project vicinity but would not create physical changes in the environment that would contribute to cumulative impacts. By excluding development within these areas, the potential need for a water supply for such development would be avoided.

Mitigation Measures for Cumulative Impacts

Mitigation Measures MM BIO-3, MM BIO-5, MM BIO-13, and MMs HWQ-1 through MM HWQ-6 would be implemented~~ to address potential hydrology and water quality impacts for the proposed Project. No additional mitigation is required~~.

Significance After Mitigation

The Project's incremental contribution to hydrology and water quality impacts would not be cumulatively considerable and is therefore considered less than significant with mitigation.

3.11.8. Mitigation Measures

MM BIO-3 **Minimization of Vegetation and Habitat Impacts.** See full text in Section 3.5 (Biological Resources).

MM BIO-5 **Vegetation Resources Management Plan.** See full text in Section 3.5 (Biological Resources).

MM BIO-12 **Streambed and Watershed Protection.** See full text in Section 3.5 (Biological Resources).

MM HWQ-1 **Drainage Erosion and Sedimentation Control Plan (DESCP).** At least 60 days prior to site mobilization, the Applicant shall submit to the Regional Water Quality Control Board, the BLM, and Riverside County for review and approval a DESCP for managing stormwater during Project construction and operations and to prevent sediment or any other pollutants from moving offsite and into receiving waters. The DESCP can be included in the Stormwater Pollution Prevention Plan (SWPPP) and must ensure proper protection of water quality and soil resources, address disturbed soil stabilization treatments in the Project area for both road and non-road surfaces, and identify all methods used for temporary and final stabilization of inactive areas. The plan must also cover all linear Project features such as the proposed gen-tie line and any other Project component subject to disturbance. The DESCP shall contain, at a minimum, the elements presented below that outline site management activities and erosion and sediment-control Best Management Practices (BMPs) to be implemented during site mobilization, excavation, construction, and post-construction (operating) activities.

- *Vicinity Map*. A map(s), at a minimum scale 1 inch to 500 feet, shall be provided indicating the location of all Project elements with depictions of all significant geographic features including swales, storm drains, drainage concentration points and sensitive areas.
- *Site Delineation*. All areas subject to soil disturbance (including mowing, grubbing, grading, excavation or any other soil disturbing activity) for the Project shall be delineated showing boundary lines of all construction areas and the location of all existing and proposed structures and drainage facilities.
- *Clearing and Grading Plans*. The DESCP shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections, or other means. The locations of any disposal areas, fills, or other special features shall also be shown. Existing and proposed topography shall be illustrated by tying in proposed contours with existing topography.
- *Clearing and Grading Narrative*. The DESCP shall include a table with the estimated quantities of material excavated or filled for the site and all Project elements, whether such excavation or fill is temporary or permanent, and the amount of such material to be imported or exported. All areas subject to soil disturbance shall be included in the table.
- *Erosion Control*. The plan shall address treatments to be used on exposed soil during construction and operation including specifically identifying all chemical-based dust palliatives, soil bonding, and weighting agents appropriate for use that would not cause adverse effects to vegetation. BMPs shall include measures designed to provide temporary stabilization of inactive disturbed areas and will be applied as soon as possible consistent with SCAQMD (Rule 403) and SWRCB Construction General Permit requirements. The timing of suppressant or binder application will occur as soon as possible and consistent with dust and stormwater permit requirements. Any soil stabilizers proposed shall be approved for use by the Project's Restoration Specialist to ensure that the products shall not impede restoration goals.

- *Best Management Practices Plan*. The DESCP shall identify on the topographic site map(s) the location of the site specific BMPs to be employed during each phase of construction (initial grading, Project element excavation and construction, and final grading/stabilization). BMPs shall include measures designed to control dust, stabilize construction access roads and entrances, and control stormwater runoff and sediment transport consistent with SCAQMD (Rule 403) and SWRCB Construction General Permit requirements.
- *Best Management Practices Narrative*. The DESCP shall show the location, timing, and maintenance schedule of all erosion- and sediment-control BMPs to be used prior to initial grading, during excavations and construction, final grading/stabilization, and operation. Separate BMP implementation schedules shall be provided for each Project element for each phase of construction. The maintenance schedule shall include post-construction maintenance of structural-control BMPs, or a statement provided about when such information would be available.
- The DESCP shall be prepared, stamped, and sealed by a professional engineer or Qualified SWPPP Developer. The DESCP shall include copies of recommendations, conditions, and provisions from the Regional Board and/or BLM.
- The DESCP may be part of the SWPPP and shall be kept onsite, kept updated, and readily available on request. The DESCP and SWPPP must demonstrate compliance with other water quality permits (WDR and LSAA), which may have restrictions on types of erosion or sedimentation control materials used. SWPPP inspection reporting will be consistent with the requirements of the SWRCB Construction General Permit.

MM HWQ-2 **Septic System Review and Permitting.** Before the start of construction, the Applicant shall submit to Riverside County Department of Environmental Health an evaluation of the Project septic system to ensure that the proposed use of the system is consistent with federal, state, and local requirements for septic system design, including requirements for percolation, vertical distance from the groundwater table, and setback from the nearest groundwater well.

MM HWQ-3 **Palo Verde Mesa Groundwater Basin (PVMGB) Protection.** If water for the Project, to be obtained from on- or off-site well(s) within the Chuckwalla Valley Groundwater Basin (CVGB), is extracted from on- or off-site well(s) that is/are owned and/or operated by the Applicant, the Applicant shall develop a Colorado River Water Supply Plan (CRWSP) to monitor groundwater extractions from the Applicant owned and/or operated on- or off-site well(s) ~~and prevent, replace, or mitigate Project impacts that deplete the PVMGB groundwater budget~~ to prevent impacts to the adjacent PVMGB related to groundwater extraction below the Colorado River Accounting Surface.

The CRWSP shall be submitted to the U.S. Bureau of Reclamation and BLM for review and approval at least 60 days prior to the initiation of construction ~~and is required to be implemented at any time during the life of the Project that groundwater withdrawals reach the Accounting Surface, based on the results of the Groundwater Monitoring, Reporting, and Mitigation Plan (required under MM HWQ-4)~~. No pumping of groundwater below the accounting surface shall occur ~~without compensatory mitigation according to the approved CRWSP~~. A copy of the CRWSP shall also be submitted to the Metropolitan Water District of Southern California for review and comment.

~~The amount of PVMGB depletion requiring mitigation shall be equal to the amount of withdrawals from below the Colorado River Accounting Surface. Toward ensuring that no~~

~~allocated water from the Colorado River is consumed without entitlement to that water, the CRWSP shall identify measures that will be taken to reduce and replace water on an acre-foot by acre-foot basis should the Project consume any water from within or below the Colorado River Accounting Surface.~~

~~(a)~~ The CRWSP shall describe groundwater monitoring activities and quarterly data reports to be closely reviewed for depth to groundwater information, and proximity of the depth of Project-related groundwater pumping to the Colorado River Accounting Surface. <u>To ensure that</u> ~~The CRWSP shall further describe that if~~ Project-related groundwater pumping <u>does not</u> draw~~s~~ water from below the accounting surface<u>,</u> ~~the following shall occur:~~

~~(b) Based on groundwater monitoring data, the quantity of groundwater pumped from below the Accounting Surface shall be recorded; and~~

~~(c) T~~<u>t</u>he Applicant shall implement water conservation~~/offset~~ activities<u>, including cessation of pumping,</u> to reduce the amount of water withdrawn from <u>on- or off-site well(s) that is/are owned and/or operated by the Applicant.</u> ~~within or below the Colorado River Accounting Surface and to replace Colorado River water on an acre-foot by acre-foot basis. To effectively implement this requirement, the CRWSP shall include the following information:~~

~~(d) Identification of water conservation/offset activities that reduce/replace the quantity of water diverted from the Colorado River;~~

~~(e) Identification of any required permits or approvals and compliance of conservation/offset activities with CEQA and NEPA;~~

~~(f) An estimated schedule of completion for each identified activity;~~

~~(g) Performance measures to evaluate the amount of water reduction and replacement by each identified activity; and~~

<u>(a)</u> ~~Monitoring and reporting protocol to ensure that water conservation/offset activities are effectively implemented and achieve the intended purpose of reducing and replacing Colorado River water diversions.~~

<u>(i) The Colorado River Accounting Surface is at an elevation between approximately 238 and 240 feet above mean sea level (amsl) in the Chuckwalla Valley (Argonne, 2013). Groundwater elevation in the Project area is approximately 489 feet amsl as of the first quarter of 2024. The numerical groundwater model developed for the Project Water Supply Assessment (GSI, 2024; discussed below) included estimates of the total cone of depression considering cumulative drawdown from all potential pumping in the CVGB, including the Project, for the life of the Project through the decommissioning phase. The estimated drawdown at the Project well after the planned 2-year construction period was less than 2 feet. The temporary drawdown at the well during pumping, however, would be greater.</u>

~~(i)~~<u>(ii) Assuming a conservatively-large temporary drawdown of 100 feet at the Project well (up to 80 feet of temporary drawdown has been recorded from a</u> well-used <u>for construction of a nearby solar project) during peak water demand during Project construction, the water levels in the Project well would be at least 150 feet above the Colorado River Accounting Surface. The water levels within the Project well would be monitored as part of the GMRMP (MM HWQ-4) per the</u>

DRECP LUPA Conservation and Management Action (CMA) Soil and Water (SW) 24. MM HWQ-3 ensures that the Project will not extract water from below the Accounting Surface, as it requires that pumping from Project wells be decreased or stopped well before water levels reached the Colorado River Accounting Surface.

MM HWQ-4 **Groundwater Monitoring, Reporting, and Mitigation Plan (GMRMP).** Before the Project uses groundwater pumped from any Applicant owned and/or operated well (on site or off site) that extracts water from the CVGB, the Applicant shall retain a BLM-approved qualified hydrogeologist to develop a GMRMP, in coordination with the RWQCB and BLM, to ensure that groundwater wells surrounding Project supply well(s) are not adversely affected by Project activities, i.e., chronic lowering of groundwater levels and degradation of groundwater quality. The Applicant shall submit the GMRMP to the RWQCB and BLM for review and approval. Additionally, although no Groundwater Sustainability Agencies (GSAs) have been established for the CVGB, in the event that such agencies have been established when the GMRMP is developed, the Applicant also shall submit the GMRMP to those GSAs. The Applicant shall implement the approved GMRMP throughout any Project phase that pumps groundwater for consumptive use.

The GMRMP shall provide a detailed methodology for monitoring site groundwater levels and comparisons for levels within the CVGB including identification of the closest private wells to the Project's well(s). Groundwater level data from wells at adjacent and nearby solar facilities and other Projects on BLM-administered public lands shall be provided by the BLM for review and comparison, to the extent available to the Applicant. Monitoring shall be performed during pre-construction, construction, and operation of the Project, to establish pre-construction and Project-related groundwater level and water quality trends that can be quantitatively compared against observed and simulated trends near the Project's pumping well(s) and near potentially impacted existing wells. The GMRMP shall include a schedule for submittal of quarterly data reports by the Applicant to the GMRMP designated agencies and the GSA(s) (if established), for the duration of the construction period. These quarterly data reports shall be prepared and submitted for review and shall include water level monitoring data and effect on the nearest off-site private wells. The designated agencies shall determine whether groundwater wells surrounding the Project supply well(s) are adversely affected (i.e., chronic lowering of groundwater levels and degradation of groundwater quality) by Project activities ~~in a way that requires additional mitigation and, if so, shall determine what measures are needed. Examples of additional mitigation, if approved by the designated agencies, could include~~and, if so, shall require one or more of the following:

- Cessation or reduction of pumping at the Project well(s) until groundwater levels return to levels that allow nearby wells to resume pre-Project pumping levels;
- Compensation for whatever additional equipment is necessary to lower nearby pumps to levels that can adequately continue pumping;
- Compensation to repair or replace wells found to be damaged or inoperable due to lowered groundwater levels; or
- Compensation for increased energy cost due to Project-related well drawdown.

After the completion of construction, the Applicant and the BLM shall jointly evaluate the effectiveness of the GMRMP and determine if monitoring and reporting frequencies or procedures should be revised or eliminated.

MM HWQ-5 **Project Drainage Plan.** The Applicant shall provide the RWQCB, Riverside County and BLM with a drainage plan for review and approval prior to construction, which includes the following information:

- Hydrologic assessment of flood discharges affecting each parcel.
- A detailed on-site hydraulic analysis utilizing FLO 2D or similar two-dimensional hydraulic model which models pre- and post-development flood conditions for the 10- and 100-year storm events. The post-development model must include all proposed Project features, contours, and drainage improvements. Graphical output must include depth and velocity mapping as well as mapping which graphically shows the changes in both parameters between the pre- and post-development conditions.
- The Drainage Plan shall show the location of all watercourses, drainage concentration points and drainage ditches as they enter, cross, and exit the site. It shall include pre-development and post-development peak flow estimates. It shall include hydraulic calculations to determine flood conditions, floodplain limits, flood depths and velocities. It shall show the relationship of drainage and flood features to the features of the Project, including buildings, fences, substations, access roads, culverts, linear features, and panel supports, demonstrating adequate design to protect from flooding, erosion and scour, and to do so without adversely affecting adjacent property, inducing erosion, or concentrating or diverting flows.
- The Plan shall show how drainage will be conveyed through the site without adversely affecting other property, either through increased flood hazard or increased potential for scour and erosion. Proposed fencing shall allow runoff to traverse the Project site unencumbered, as feasible. The Plan shall include an assessment of existing diversion berms and channels around parcel perimeters and the magnitude and frequency of flood that would be diverted by these existing features, and the probable integrity of these features to withstand flows. It shall show how those that are on the Project site will be affected by grading. It shall include an assessment of flows approaching proposed perimeter fences, whether or not adjacent to existing berms, and make design recommendations to avoid flow diversions by these fences while taking into account relevant biological mitigation measures. Design recommendations may include creating fence openings large enough to allow the passage of debris-laden flows without the potential for diversions to other property.
- The Plan shall have detailed design of flood retention features necessary to avoid any increase in downstream flood peak flow rates.
- Drainage of Project Site Narrative – The Plan shall include a narrative of the measures necessary to protect the site and Project features from flooding, erosion and sedimentation, and measures taken to prevent Project-induced erosion and flooding of adjacent property.

MM HWQ-6 **Flood Protection.** The O&M Building, BESS switchyard, and all other Project buildings shall either be situated outside of the 100-year floodplain or sufficiently protected against dislodgement by flooding where placement outside the floodplain is not practical. Flood protection shall consist of elevating the structures on fill to at least the highest anticipated adjacent flood level as measured from a horizontal stow position. Solar panels shall be situated at least one foot above the highest anticipated local flood level. All structures using posts or poles for foundations, including transmission poles or towers, shall be designed to protect against substantial scour from the 100-year flood event. The Project must comply with Riverside County Ordinance No. 458 for projects within a Special Flood Hazard Area or floodplain: electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities must be designed or located to prevent water from entering or accumulating within the components during flooding.

5. ANALYSIS AND COMPARISON OF ALTERNATIVES

5.1. CEQA Requirements for Alternatives

Section 15126.6(a) of the State California Environmental Quality Act (CEQA) Guidelines states that an Environmental Impact Report (EIR) "shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Further, an EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The CEQA Guidelines state that factors that may be considered when determining the feasibility of alter-natives are "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context) and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent)" [CEQA Guidelines Section 15126.6(f)(1)].

Additionally, the No Project Alternative must be analyzed. The EIR must explain the rationale for selecting the alternatives to be discussed, identify those that were not carried forward because they were infeasible, and briefly explain why these were not carried forward. The "environmentally superior" alternative to the Project must be identified and discussed (see Section 5, Comparison of Alternatives). If the environmentally superior alternative is the No Project Alternative, the EIR must identify an additional "environmentally superior" choice among the other Project alternatives.

As presented below, a variety of alternatives to the Project were considered to determine potential alternatives which might produce fewer significant impacts, or reduce the severity of those significant impacts, than the proposed Project, including the No Project Alternative. Possible alternatives were assessed as to whether they would satisfy the following:

- The alternative is technically feasible;
- The alternative would avoid or substantially lessen any of the significant impacts of the proposed Project; and
- The alternative would attain most of the basic proposed Project objectives defined in Section 1.3.

Alternatives considered included the No Project Alternative and those associated with a revised configuration of the solar and BESS facility. The No Project Alternative and other alternatives carried forward for evaluation in Section 5.1 are presented in Section 2.8. An alternative comparison is provided in Section 5.2. Alternatives considered, but not carried forward for further analysis are presented in Section 2.9.

5.2. Alternatives Analyzed in Detail

5.2.1. Summary of Alternatives

This section includes detailed evaluations of the following action alternatives and an evaluation of a No Project Alternative, as required under CEQA.

- **No Project Alternatives A1, A2, and A3.** Under the No Project Alternative, the construction of a solar generating facility and associated infrastructure would not occur. This alternative discusses existing conditions as well as what would be reasonably expected to occur in the foreseeable future if the Project was not approved and does not take place. Three scenarios are considered: a no build alternative

(A1) and development of uses allowed by right within the existing zoning and land designations (A2), and development of other renewable energy within the existing zoning and land designations (A3).

- **Alternative B:** Reduced Footprint Alternative. Under the Reduced Footprint Alternative, the Project would be similar to the proposed Project but would move the onsite substation and BESS and would remove approximately 50 acres of solar panels closest to the community of Lake Tamarisk, such that the solar panels, substation, and BESS would be farther from the community of Lake Tamarisk compared to the proposed Project. The electrical output and energy storage capacity would be reduced by up to 10 MW compared to the proposed Project.
- **Alternative C:** Further Reduced Footprint Alternative with Berms. Alternative C would include a greater than one-mile buffer around the community of Lake Tamarisk, installation of 2 earthen berms, and relocation of the substation, BESS, and O&M building.
- **Alternative D:** Offsite Alternative. Under the Offsite Alternative, the Project would be constructed on BLM-administered lands located east of State Route 177/Rice Road. These alternative parcels were included in the Applicant's original development application to BLM.
- **Alternative E:** Distributed Commercial and Industrial Rooftop Solar Alternative. A Distributed Solar Alternative would consist of PV panels that would absorb solar radiation and convert it directly to electricity. The PV panels could be installed on residential, commercial, or industrial building rooftops, parking lots or areas adjacent to existing structures such as substations. To create a viable alternative to the proposed Project, there would have to be sufficient newly installed panels to generate up to 400 MW of capacity, which would be similar in size to the proposed Project.

5.2.2. No Project Alternative A1: No Build Alternative – Impact Analysis

~~5.2.1.1.~~5.2.2.1. Aesthetics

The No ~~Project~~ Build Alternative would not develop the solar facility and gen-tie line or require new construction and/or operational activities. It would not conflict with any existing or future land use plans or zoning, nor would it conflict with the applicable VRM Class IV management objective, which allows for a high level of visual change. The No ~~Project~~ Build Alternative would avoid the significant visual impacts that would occur along I-10 and SR-177, at Alligator Rock ACEC, and at Lake Tamarisk Desert Resort as documented in the analyses for KOPs 1 through 6. Therefore, the No ~~Project~~ Build Alternative would not cause direct, indirect, or cumulative impacts to aesthetics.

5.2.2.2. Agriculture and Forestry

The No ~~Project~~ Build Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities. The No ~~Project~~ Build Alternative would not conflict with any agricultural activities or agricultural land. Therefore, the No ~~Project~~ Build Alternative would not have direct, indirect, or cumulative impacts on agriculture and forestry resources. ~~Under the No Project Alternative, it is probable that other solar energy-related projects would be implemented within the site in lieu of the proposed Project in the near or distant future. A different solar energy project would potentially result in similar impacts to those identified for the proposed Project.~~ Under the No ~~Project~~ Build Alternative, cancellation of the Williamson Act contract would not be required and the lands would no longer be under contract in 9 years from non-renewal due to recent filing of non-renewal notices. ~~They could be available for solar development in the future, and they would be allowed within the current A-1 zoning for the subject parcels.~~

5.2.2.3. Air Quality

The No ~~Project~~ Build Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities (solar panel installation, substation and O&M building, and construction of access roads and gen-tie line). The No ~~Project~~ Build Alternative would cause no sources of air pollutant emissions from development activities. Accordingly, the No ~~Project~~ Build Alternative would represent no change to the environmental setting. Because no new air pollutant emissions would occur with the No ~~Project~~ Build Alternative, this alternative would have no direct, indirect, or cumulative impact related to air quality.

~~Under the No Project Alternative, it is probable that other solar energy-related projects would be implemented within the site in lieu of the proposed Project. A different solar energy project would potentially result in similar air quality impacts as those identified for the proposed Project.~~

5.2.2.4. Biological Resources

Under the No ~~Project~~ Build Alternative, no construction or O&M would occur and there would be no Project-related impacts to biological resources. Vegetation, including special-status plants and sensitive communities, would not be removed, existing habitat areas would persist, and wildlife would not be displaced. Special-status species would not be impacted. Disturbance, injury, and mortality of wildlife would not occur as a result of Project activities. Wildlife movement within the Project area would not be limited; however, solar development in the vicinity of the Project area would continue through other projects and wildlife movement may still be affected within the DFA (see Tables 3.1-1 and 3.1-2, as well as Figure 2-4 in Appendix A).

~~5.2.1.2.~~5.2.2.5. Cultural and Tribal Cultural Resources

Under the No ~~Project~~ Build Alternative, the Project would not be constructed so there would be no impact to historical or tribal cultural resources. ~~Other projects or linear facilities could potentially be developed at this location, because it is located on land designated as a DRECP Development Focus Area (DFA), but any future project(s) would be evaluated under separate CEQA and/or NEPA analyses.~~

~~5.2.1.3.~~5.2.2.6. Energy

The No ~~Project~~ Build Alternative would not result in any new construction or new operational activities. Therefore, the No ~~Project~~ Build Alternative would not affect energy resources in the Project area. However, the No ~~Project~~ Build Alternative would also not contribute to meeting California's renewable energy goals and would not provide the renewable benefits of the Project. The No ~~Project~~ Build Alternative would have no direct, indirect, or cumulative effect on energy resources, while the proposed Project would have adverse impacts related to energy that are less than significant, while generating beneficial renewable energy.

~~Under the No Project Alternative, it is probable that other solar energy-related projects would be implemented within the site in lieu of the proposed Project in order to fulfill State mandates for renewable energy. A different solar energy project would potentially result in similar impacts to energy resources as those identified for the proposed Project, although those impacts would vary based on location and the specific characteristics of another solar project proposal.~~

~~5.2.1.4.~~5.2.2.7. Geology, Soils, and Mineral Resources

The No ~~Project~~ Build Alternative would not result in the development of the solar facility and gen-tie line nor require new construction and/or operational activities, as described in Section 2.8. As such, the environmental impacts associated with the proposed Project, as described in Section 3.8.5, would not occur. The No ~~Project~~ Build Alternative would not result in any direct, ~~or~~ indirect, or cumulative impacts to or related to geologic and seismic hazards, soils, or mineral resources. Therefore, the No ~~Project~~ Build Alternative would not have impacts related to geology, soils, or mineral resources.

~~5.2.1.5.~~5.2.2.8. Greenhouse Gas Emissions

The No ~~Project~~ Build Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities (solar panel installation, substation and O&M building, and construction of access roads and gen-tie line). The No ~~Project~~ Build Alternative would cause no direct, ~~or~~ indirect or cumulative emissions of GHG from development activities. No additional production of renewable power would occur, and there would be no new potential to displace fuel-burning by California's fossil fueled generating resources or electricity otherwise imported to California. Accordingly, the No ~~Project~~ Build Alternative would also not contribute to meeting California's renewable energy goals. Because no new GHG emissions would occur with the No ~~Project~~ Build Alternative, this alternative would have no impact related to GHG emissions.

~~5.2.1.6.~~5.2.2.9. Hazards and Hazardous Materials

The No ~~Project~~ Build Alternative would not result in the development of the solar facility and gen-tie line nor require new construction and/or operational activities, as described in Section 2.8. As such, the direct, indirect, or cumulative environmental impacts associated with the proposed Project, as described in Section 3.10.5, would not occur. The No ~~Project~~ Build Alternative would not result in any direct or indirect impacts related to hazardous materials, environmental contamination, triggering wildland fires, or aviation hazards. Therefore, the No ~~Project~~ Build Alternative would not have impacts related to hazards and hazardous materials.

~~5.2.1.7.~~5.2.2.10. Hydrology and Water Quality

There would be no construction under the No ~~Project~~ Build alternative. Therefore, no direct, indirect, or cumulative impacts to hydrology and water quality would result. The area's water quality would remain in the existing condition, as would flood patterns. There would be no potential for increasing flood potential either on-site or off-site. By comparison, the proposed Project would result in impacts that would be less than significant with mitigation.

~~5.2.1.8.~~5.2.2.11. Land Use and Planning

Under the No ~~Project~~ Build Alternative, the Applicant would not develop the solar facility and gen-tie line nor require new construction and/or operational activities associated with such a facility. This alternative would not conflict with any existing or known future land use plans or zoning. Therefore, ~~as with the proposed Project,~~ the No ~~Project~~ Build Alternative would not have direct, indirect, or cumulative ~~significant~~ impacts related to land use.

~~5.2.1.9.~~5.2.2.12. Noise and Vibration

The No ~~Project~~ Build Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities (solar panel installation, substation and O&M building, and construction of access roads and gen-tie line). The No ~~Project~~ Build Alternative would cause no new noise sources or noise-generating activities. Accordingly, the No ~~Project~~ Build Alternative would represent no change to the environmental setting. Because no new sources of noise or vibration would occur with the No ~~Project~~ Build Alternative, this alternative would have no direct, indirect, or cumulative impact related to noise and vibration.

~~5.2.1.10.~~5.2.2.13. Paleontological Resources

The No ~~Project~~ Build Alternative would not result in the development of the solar facility and gen-tie line nor require new construction and/or operational activities, as described in Section 2.8. As such, the environmental impacts associated with the proposed Project, as described in Section 3.14, would not occur. The No ~~Project~~ Build Alternative would not result in any direct or indirect impacts to paleontological resources. Therefore, the No ~~Project~~ Build Alternative would not have direct, indirect, or cumulative impacts related to paleontological resources.

~~5.2.1.11.~~5.2.2.14. Population and Housing

The No ~~Project~~ Build Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities (solar panel installation, substation and O&M building, and construction of access roads and gen-tie line). The No ~~Project~~ Build Alternative would not affect population growth or demand for additional housing in the Project area. Therefore, the No ~~Project~~ Build Alternative would not have direct, indirect, or cumulative impacts to population and housing, while the proposed Project would have impacts that are less than significant to these resources.

~~5.2.1.12.~~5.2.2.15. Public Services and Utilities

The No ~~Project~~ Build Alternative would not result in any new construction and/or operational activities or any new associated ground-disturbing activities (solar panel installation, BESS, and O&M building, and construction of access roads and gen-tie line). The No ~~Project~~ Build Alternative would not ~~impact population growth or demand~~require additional ~~for additional housing in the Project area and therefore would not put any strain on the availability and performance of~~ government facilities, including fire protection, police protection, schools, parks, medical facilities, and libraries. In addition, the No ~~Project~~ Build Alternative would not require new storm water drainage facilities or expansion of existing facilities. The No ~~Project~~ Build Alternative would not result in direct, indirect, or cumulative impacts to public services and utilities, while the proposed Project would have impacts to these resources that are less than significant.

~~5.2.1.13.~~5.2.2.16. Recreation

The No ~~Project~~ Build Alternative would not result in the development of the solar facility and gen-tie line nor require new construction and/or operational activities. It would not result in any direct or indirect impacts to recreation and would not result in the closure or isolation of designated Open Routes on BLM-administered land. Therefore, the No ~~Project~~ Build Alternative would not have direct, indirect, or cumulative impacts to recreation.

~~5.2.1.14.~~5.2.2.17. Traffic and Transportation

The transportation and traffic impacts associated with the proposed Project would not occur under the No ~~Project~~ Build Alternative A1. Under this alternative there would be no direct, ~~or~~ indirect, or cumulative impacts associated with temporary vehicle trip generation, VMT, or temporary travel lane disruptions. There would be no physical features that could cause impacts to air navigation.

~~5.2.1.15.~~5.2.2.18. Wildfire

Under the No ~~Project~~ Build Alternative, construction, operation, maintenance, and decommissioning of the proposed Project would not occur. Because construction would not occur, activities that could cause a fire such as vehicles driving near vegetation, hot work, and storage and use of flammable materials would not occur at the Project site. The BESS, gen-tie line, power lines, and other electrical components would not be installed or operated, and thus, no potential electrical fires associated with such components could occur. The site would remain undeveloped, and public land within the site would remain an allocated DFA.

5.2.3. No Project Alternative A2: Uses Allowed by Right within Existing Land Designations – Impact Analysis

5.2.3.1. Aesthetics

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of scattered rural residences. In the context of the Lake Tamarisk community, existing rural residences, and existing solar facilities, the addition of one or more scattered rural residences would have less than significant direct, indirect, and cumulative impacts on aesthetics.

~~5.2.1.16.~~5.2.3.2. Agriculture and Forestry

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of a rural residence. An agricultural related use on the parcels under Williamson Act contracts would resolve any Williamson Act or agricultural preserve-related conflicts. Agriculture is also compatible with a family dwelling, so direct, indirect, and cumulative impacts to agriculture would be less than significant. There are no forestry resources on the proposed site or the surrounding area, so no impacts to forestry would occur.

~~5.2.1.17.~~5.2.3.3. Air Quality

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of a rural residence. The level of construction activities and ground disturbance, which could cause fugitive dust, would be much reduced compared to the proposed Project. Therefore, Alternative A2 would cause minor sources of air pollutant emissions from agriculture and/or residential development activities. Direct, indirect, and cumulative potential impacts to air quality would be less than significant.

5.2.3.4. Biological Resources

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of a rural residence. Agricultural use and residential development would not be subject to the Project mitigation measures designed to protect biological resources, but would be subject to laws designed to protect listed species. Because the private land parcels within the Project area are previously disturbed (low value habitat) and residential development would be subject to grading and building permit codes and regulations, impacts to biological resources under Alternative A2 would be less than significant.

~~5.2.1.18.~~5.2.3.5. Cultural and Tribal Cultural Resources

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of a rural residence.

While the level of ground disturbance on the private parcels would be reduced compared to the proposed Project, the Project site has the potential to contain previously unknown archaeological deposits that may underlie the ground surface. Agricultural use and residential development would not be subject to tribal consultation under Assembly Bill 52 nor the Project mitigation measures designed to protect cultural and Tribal Cultural Resources. Should buried archaeological deposits be uncovered during agricultural use or residential development, and should such resources qualify as historical resources under CEQA, they could be subject to significant impacts.

~~5.2.1.19.~~5.2.3.6. Energy

Alternative A2 would result in minimal new construction or new operational activities. Therefore, Alternative A2 would not significantly affect energy resources in the Project area. However, Alternative A2 would also not contribute to meeting California's renewable energy goals and would not provide the renewable benefits of the Project. Depending on the type and intensity of agricultural operations, Alternative A2 is expected to have minimal direct, indirect, or cumulative effect on energy resources, while the proposed Project would have adverse impacts related to energy that are less than significant, while generating beneficial renewable energy.

~~5.2.1.20.~~5.2.3.7. Geology, Soils, and Mineral Resources

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of rural residence(s). The level of ground disturbance compared to the Project would be much reduced under Alternative A2. Also, residential development is subject to County building codes and regulations as part of building and grading permits, which are designed to minimize impacts related to geology and soils. Direct, indirect, and cumulative impacts would be less than significant.

~~5.2.1.21.~~5.2.3.8. Greenhouse Gas Emissions

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of scattered rural residences, which would result in a much-reduced level of GHG emissions compared to construction of the Project. GHG emissions impacts under Alternative A2 would be less than significant.

However, no additional production of renewable power would occur, and there would be no new potential to displace fuel-burning by California's fossil fueled generating resources or electricity otherwise imported to California. Accordingly, the Alternative A2 would also not contribute to meeting California's renewable energy goals.

~~5.2.1.22.~~5.2.3.9. Hazards and Hazardous Materials

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of a rural residence. Residential construction would be permitted through compliance with local ordinances and permit requirements, no additional mitigation is assumed to be required. Permits would likely require some level of control of hazardous materials and post-installation inspections to ensure that site clean-up is completed. Potential impacts associated with soil contamination would increase compared to the proposed Project if herbicides and/or pesticides are used during agricultural operations.

~~5.2.1.23.~~5.2.3.10. Hydrology and Water Quality

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of rural residence(s). The level of groundwater usage and surface disturbance compared to construction of the Project would be much reduced under Alternative A2. Depending on the type and intensity of agricultural uses, operational water usage could be higher than with the proposed Project. Also, residential development is subject to County building codes and regulations as part of building and grading permits as well as California Drainage Law, which are designed to minimize impacts related to hydrology and water quality. Direct, Indirect, and cumulative potential impacts would be less than significant.

~~5.2.1.24.~~5.2.3.11. Land Use and Planning

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of a rural residence. Agricultural use and residential development are allowed uses and thus consistent with current zoning as well as existing land use plans, policies, and regulations. Alternative A2 would not cause a significant direct, indirect, or cumulative impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

~~5.2.1.25.~~5.2.3.12. Noise and Vibration

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of a rural residence.

While noise related to agricultural use and scattered residential construction activities could impact sensitive receptors like residences, it is more likely that construction noise would not be noticeable as it would be required to comply with the County Noise Ordinance. The operational noise and vibration generated from these uses would be less than significant as well.

~~5.2.1.26.~~5.2.3.13. Paleontological Resources

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of rural residence(s). Agricultural use and residential development would not be subject to the Project mitigation measures designed to protect unknown paleontological resources and dictate fossil recovery. However, given past disturbance of the private parcels, it is unlikely that paleontological resources would be present onsite.

~~5.2.1.27.~~5.2.3.14. Population and Housing

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of rural residence(s). Construction of a few scatter rural residences under Alternative A2 would not affect population growth or demand for additional housing in the Project area. Therefore, Alternative A2 would not have direct, indirect, or cumulative impacts to population and housing.

~~5.2.1.28.~~5.2.3.15. Public Services and Utilities

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of scattered rural residence(s). Scattered development of single-family dwellings would not require additional government facilities, including fire protection, police protection, schools, parks, medical facilities, and libraries. In addition, Alternative A2 would not require new storm water drainage facilities or expansion of existing facilities, and would not result in direct, indirect, or cumulative impacts to public services and utilities.

~~5.2.1.29.~~5.2.3.16. Recreation

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of a rural residence, which would not impact public recreational facilities or access.

~~5.2.1.30.~~5.2.3.17. Traffic and Transportation

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of a rural residence, which would have minimal direct, indirect, or cumulative impacts to traffic and transportation.

~~5.2.1.31.~~5.2.3.18. Wildfire

Under No Project Alternative A2, construction, operation, maintenance, and decommissioning of the proposed project would not occur and the BLM-administered lands within the Project area would remain undeveloped and impacts would be as described under No Project Alternative A1 (No Build).

In the absence of the proposed Project and under the existing County zoning regulations, the private parcels in the Project area may be subject to an agricultural-related use and/or construction of a rural residence. The potential risks associated with residential development are generally addressed in building codes and ordinances specific to fire safety and prevention, and the residual risk would be less than significant. The BESS, gen-tie line, power lines, and other electrical components would not be installed or operated, and thus, no potential electrical fires associated with such components could occur.

5.2.4. No Project Alternative A3: Other Renewable Energy Development within Existing Land Designations – Impact Analysis

5.2.4.1. Aesthetics

In Riverside County, BLM has designated some land under its jurisdiction at Desert Center and west and northwest of Blythe as DFA suitable for development of renewable energy projects. Under the No Project Alternative, the proposed Easley Project would not be developed. However, the DFA-designated land would remain available for development of other renewable energy projects, including a different solar project or, if conditions are suitable, a wind energy project or a geothermal energy project. Impacts to aesthetics from development of a different solar project would be similar to those identified for the Easley Project.

Visual impacts associated with a wind project would include the visual dominance of large wind turbine generators (towers and turbines) in excess of 400 feet tall, potential glint from turbine blades, required Federal Aviation Administration (FAA) obstruction lighting, and presence of on-site project facilities such as a gen-tie line, a substation, a battery storage facility, access roads network between turbines, and an operations building.

Visual impacts related to a geothermal project include the presence of buildings and tanks, holding ponds, above ground pipe network, injection well heads, cooling towers or banks, and visible plumes.

The cumulative impacts would be significant when viewed by sensitive viewing populations along I-10 and SR-177, from nearby residences, from portions of Joshua Tree National Park, and in the surrounding mountains and wilderness. The alternative would make a considerable contribution to these visual impacts.

~~5.2.1.32.~~5.2.4.2. Agriculture and Forestry

In Riverside County, BLM has designated some land under its jurisdiction at Desert Center and west and northwest of Blythe as Development Focus Areas (DFAs) suitable for development of renewable energy projects, including solar, geothermal, or wind energy. The DFA lands are not currently used for agriculture or forestry and are not anticipated to be used for these uses. While development of facilities required for solar, wind, or geothermal projects may be primarily located on BLM-administered lands, development on the adjacent agricultural lands may also be required. If the Williamson Act parcels are developed for renewable energy, the cancellation of contracts would be required as it would be for the proposed Project, thereby resolving any Williamson Act or agricultural preserve-related conflicts. This would result in a less than significant impact, similar to the direct, indirect, and cumulative impact of the proposed Project.

~~5.2.1.33.~~5.2.4.3. Air Quality

In Riverside County, BLM has designated some land around Desert Center and west and northwest of Blythe as Development Focus Areas (DFAs) suitable for development of renewable energy projects. Under the No Project Alternative, the proposed Easley Project would not be developed. However, the DFA-designated land would remain available for development of other allowable renewable energy projects, including a different solar project or, if conditions are suitable, a wind energy project or a geothermal energy project. Impacts to air quality from development of a different solar project would be similar to those identified for the Easley Project.

Impacts to air quality associated with a wind project would include fugitive dust from development of turbine sites and access roads, and earthwork and grading need for installation of a gen-tie line, battery storage facility, and substation. Emissions would result from equipment operating during construction and from worker vehicles and material delivery vehicles.

Impacts related to construction of a geothermal project would be similar impacts to those of a wind or solar energy project. However, operational impacts of a geothermal project would be more severe due to continuous well drilling emissions, visible steam plumes from cooling towers, and from any vented or accidentally released gases from wells, piping, tanks, or ponds.

The cumulative air quality impacts of other renewable energy development would depend on the technology. Cumulative construction-phase emissions would not cause substantial long-term impacts, similar to those identified for the cumulative impacts of the Easley Project. Cumulative effects of operational emissions of other renewable energy development would also be similar to those identified for the Easley Project, except where the renewable technology could introduce new stationary sources of emissions. For example, geothermal project well drilling and vented emissions would be subject to SCAQMD permitting requirements, and these emissions sources would contribute to cumulative air quality impacts that would be worse than those identified for the Easley Project.

5.2.4.4. Biological Resources

In Riverside County, BLM has designated some land under its jurisdiction at Desert Center and west and northwest of Blythe as DFA suitable for development of renewable energy projects using solar, wind, or geothermal technology. Under the No Project Alternative, the proposed Easley Project would not be developed. However, the DFA-designated land would remain available for development of other renewable energy projects, including a different solar project or, if conditions are suitable, a wind energy project or a geothermal energy project. Impacts to biological resources from development of a different solar project would be similar to those identified for the Easley Project.

Biological resources impacts associated with a wind project would include the potential for significant impacts on birds and bats from striking the turbine blades. Similar to the proposed Project, there would be~~,~~ loss of habitat and potential direct mortality from construction activities including grading and earthwork needed to install wind turbine generators, a gen-tie line, a substation, a battery storage facility, access roads network between turbines, and an operations building.

Biological impacts resulting from a geothermal project include construction of buildings and tanks, holding ponds, an above ground pipe network, injection well heads, and cooling towers or banks replacing existing habitat and vegetation. Above ground pipelines could disrupt the movement of wildlife species. Vibration and noise from operations may also disturb or displace species sensitive to these effects.

~~5.2.1.34.~~5.2.4.5. Cultural and Tribal Cultural Resources

BLM has designated some land around Desert Center and west and northwest of Blythe as Development Focus Areas (DFAs) suitable for development of renewable energy projects. Under the No Project Alternative, the proposed Easley Project would not be developed. However, the DFA-designated land would remain available for development of other renewable energy projects, including a different solar project or, if conditions are suitable, a wind energy project or a geothermal energy project. Impacts to cultural resources from development of a different solar project would be similar to those identified for the proposed Easley Project.

Cultural resource impacts resulting from a wind project would result from grading and earth work to install wind turbine generators, a gen-tie line, a substation, a battery storage facility, access roads network between turbines, and an operations building. These activities have the potential to affect known and unknown resources, and would be generally similar to those of the proposed Project.

Cultural resources impacts resulting from construction of a geothermal project would result from grading and earthwork to develop buildings and tanks, holding ponds, the above ground pipe network, injection well heads, and cooling towers or banks. These activities have the potential to affect known and unknown resources, and would be generally similar to those of the proposed Project.

~~5.2.1.35.~~5.2.4.6. Energy

BLM has designated some land around Desert Center and west and northwest of Blythe as Development Focus Areas (DFAs) suitable for development of renewable energy projects. Under the No Project Alternative A3, the proposed Easley Project would not be developed. However, the DFA-designated land would remain available for development of other renewable energy projects, including a different solar project or, if conditions are suitable, a wind energy project or a geothermal energy project. Impacts to energy use from development of a different solar project would be similar to those identified for the Easley Project.

Any renewable energy project developed on the DFA lands would provide power to the regional grid, thereby reducing the need for power to be generated using fossil fuels. Once in operation, a wind energy project with associated storage and transmission facilities would be similar to a solar facility in terms of energy use by maintenance and operations staff. A geothermal facility is likely to have a large operating staff. No renewable energy facility is expected to be wasteful or inefficient in its consumption of energy and any energy required would be more than offset by the power generated by the facility.

~~5.2.1.36.~~5.2.4.7. Geology, Soils, and Mineral Resources

The proposed Project includes lands designated by BLM as DFAs, which are defined as being suitable for renewable energy development. In the absence of the proposed Project, another renewable energy generation project could be constructed on the Project site to meet the federal and state renewable energy generation goals. This could include a different solar project or, if conditions are favorable, a wind project or a geothermal project. Such a project would create construction and operational direct, indirect, and cumulative impacts related to geologic and seismic hazards, soils, and mineral resources similar to those of the proposed Project.

~~5.2.1.37.~~5.2.4.8. Greenhouse Gas Emissions

Under the No Project Alternative A3, ~~it is probable that~~ other ~~solar~~ renewable energy-related projects would be implemented within the site in lieu of the proposed Project. A different solar energy project or a wind energy project would ~~potentially~~ likely result in similar direct, indirect, and cumulative impacts to GHG emissions as those identified for the proposed Project.

A geothermal energy project would likely have greater GHG emissions during operations because of the ongoing operational well drilling and venting of gases that may contain CO_2, which would increase GHG emissions. This impact would be offset by the amount GHG avoided by not relying on fossil-fuel generation to produce an amount of power equal to that generated by the geothermal project.

~~5.2.1.38.~~5.2.4.9. Hazards and Hazardous Materials

~~However, i~~The BLM-administered lands in the Desert Center area are designated as Development Focus Areas (DFAs) in which solar, wind, or geothermal generation could be permitted. In the absence of the proposed Project ~~or an alternative to the Project, the purposes and goals for renewable energy generation that would be met by the proposed Project (or an alternative) would not be achieved. As a result,~~ it is possible that another~~, similar~~ solar energy generation project would be constructed at the same site ~~in the future~~ to meet the state and federal renewable energy generation goals~~ in the Desert Center area~~. Such a project would likely introduce similar impacts related to hazards and hazardous materials that would be introduced through the proposed Project or an alternative.

In the proposed Project is not approved or constructed, the land would could also be developed for other renewable energy projects. If conditions are suitable, a wind energy project or a geothermal energy project could be developed. Hazards and hazardous materials impacts from development of a wind energy project– would include use of solvents and other chemicals, as well as fuels, during construction and operation. Wind turbines would also pose a hazard to aircraft, such as those using the private Desert Center airport near SR-177, and military aircraft that follow training routes through the Desert Center area. In addition to creating physical obstructions, wind turbines can adversely affect radar.

The p~~P~~otential hazards and hazardous materials impacts associated with a geothermal energy project are more severe than those of the proposed Project. Geothermal processes include use of chemicals and fuels during construction and operation, potential release of hazardous materials and gases from pipe or tank leaks or venting, and land subsidence due to fluid withdrawals. Geothermal processes may use a closedloop system that reinjects fluids and their contents into groundwater, or an open-loop system in which potential gas emissions can result, including hydrogen sulfide, carbon dioxide, ammonia, boron, and methane. As a result, geothermal projects would have more severe direct, indirect, and cumulative impacts related to hazards and hazardous materials than the proposed Project.

~~5.2.1.39.~~5.2.4.10. Hydrology and Water Quality

BLM has designated some land under its jurisdiction at Desert Center as a Development Focus Area (DFA), suitable for development of renewable energy projects using solar, wind, or geothermal technologies. Under the No Project Alternative A3, the proposed Easley Project would not be developed, but the DFA-designated land would remain available for development of other renewable energy projects, including a different solar project or, if conditions are suitable, a wind energy project or a geothermal energy project. Impacts to hydrology from development of a different solar project would be similar to those identified for the Easley Project.

Impacts on hydrology and water quality associated with a wind project would be similar or less than for a solar project because less ground disturbance would be required and less water would be required for dust control.

Hydrology and water quality impacts from a geothermal project can include use of large quantities of water for well drilling and by cooling towers. Water consumption during operation of a geothermal facility depends on its technology and design but could be an ongoing high demand, much greater than that of the proposed Project. Impacts from geothermal generation would likely be significant and cumulatively considerable.

~~5.2.1.40.~~5.2.4.11. Land Use and Planning

Under this alternative, the proposed Easley Project would not be developed. However, the BLM land is designated for renewable energy development and it would remain available for use by other renewable energy projects. These projects may include a different solar project or, if conditions are suitable, a wind energy project or a geothermal energy project.

Impacts to land use and planning from development of a different solar project would be similar to those identified for the Easley Project.

A wind energy or geothermal energy project would have many components like those needed for a solar project, including a gen-tie line, a substation, a battery storage facility, access roads turbines, and an operations building. A wind project would disturb less land surface due to the spacing of wind generator towers. A geothermal project would create a major industrial presence in the Desert Center area, including the construction and use of steam turbines, tanks, cooling towers, and ponds. Both wind and geothermal generation facilities would be much more highly visible in the landscape, creating potential conflict with county policies relating to protection of scenic areas and vistas. Each of these facilities would have aspects that would affect land use and planning, such as the height and bulk of structures, the availability of water, and potential exposure of residents to disturbances like noise and pollutants, which may result in greater impacts that the proposed Project.

~~5.2.1.41.~~5.2.4.12. Noise and Vibration

Under the No Project Alternative A3, if the proposed Project is not approved or constructed, the BLM designation of a Development Focus Area may result in the development of other solar project or of wind or geothermal generation projects. ~~, it is probable that other solar energy-related projects would be implemented within the site in lieu of the proposed Project.~~ A different solar energy project would ~~potentially~~ likely result in similar noise and vibration impacts as those identified for the proposed Project.

The DFA designation also allows development of wind energy or geothermal energy projects if developers determined that the resources are present for these technologies. Construction impacts of these technologies would be similar to those of the proposed Project, but operational impacts could be more severe. Wind turbine operation creates noise from the mechanical operations of the turbines as well as aerodynamic factors. These can be a nuisance or they may affect sleep. Geothermal projects are substantially noisier due to their industrial operation requirements. They would generate noise and vibration during well drilling, venting, and from the operation of facilities and equipment, such as fans in cooling towers and the use of pumps.

The cumulative noise impacts of other renewable energy development would depend on the technology. Cumulative construction-phase noise would not cause substantial long-term impacts, similar to those identified for the cumulative impacts of the Easley Project. Cumulative effects of operational noise from other renewable energy development would also be similar to those identified for the Easley Project, except where the renewable technology could introduce new industrial equipment such as geothermal project well drilling and venting. These noise sources would be subject to Riverside County noise limitations, but these additional sources would contribute to cumulative noise impacts that would be worse than those identified for the Easley Project.

~~5.2.1.42.~~5.2.4.13. Paleontological Resources

~~However, in the absence of the proposed Project or an alternative to the Project, the purposes and goals for renewable energy generation that would be met by the proposed Project (or an alternative) would not be achieved. As a result,~~ Due to the BLM designation of much of its land in the Desert Center area as a Development Focus Area, the construction of solar, wind, or geothermal generation projects would be consistent with the land designation. Therefore, i~~I~~t is possible that another~~, similar~~ energy generation project would be constructed in the future ~~to meet the renewable energy generation goals~~ in the Desert Center area. A solar project ~~Such a project~~ would likely ~~introduce~~ create similar impacts related to paleontological resources ~~that~~ as those of~~would be introduced through~~ the proposed Project ~~or an alternative~~.

Wind and geothermal renewable energy projects could also be located on the land now covered by the proposed Project if developers found resources to be available. Construction of t~~T~~hese large-scale projects would have similar direct, indirect, and cumulative impacts to paleontological resources through ground disturbance as a solar project, as they would need foundations for structures (e.g., turbines, wells, cooling towers, etc.) and would require access roads, a gen-tie line, a BESS, and a substation.

~~5.2.1.43.~~5.2.4.14. Population and Housing

Under the No Project Alternative, the BLM's Development Focus Area (DFA) designation would allow ~~it is probable that other~~ solar energy~~-related~~ projects ~~would be implemented~~ within the site in lieu of the proposed Project. A different solar energy project would potentially result in similar impacts to population and housing as those identified for the proposed Project.

The DFA would also allow development of wind or geothermal generation projects. These project types would likely have similar construction workforce needs as a solar project. Because of their mechanical needs, a geothermal project~~s~~ would have a somewhat larger permanent workforce than a solar project, but not large enough to induce population growth. The direct, indirect, and cumulative impact would be less than significant.

~~5.2.1.44.~~5.2.4.15. Public Services and Utilities

~~Under the No Project Alternative,~~ The existing BLM Development Focus Area (DFA) would allow solar, wind or geothermal generation in the Desert Center area. Therefore, ~~it is probable that~~ another ~~solar~~

renewable energy~~-related~~ project c~~w~~ould be implemented within the site in lieu of the proposed Project. These generation technologies would result in direct, indirect, and cumulative impacts similar to those of the proposed Project to public services and utilities, and they would be less than significant. ~~A different solar energy project would potentially result in similar impacts to public services and utilities as those identified for the proposed Project.~~

~~5.2.1.45.~~5.2.4.16. Recreation

BLM has designated much of the land under its jurisdiction at Desert Center as Development Focus Areas (DFAs) suitable for development of renewable energy projects using solar, wind, or geothermal technologies. Under the No Project Alternative A3, the proposed Easley Project would not be constructed. However, the land would remain available for other renewable energy projects, including a different solar project or, if conditions are suitable, a wind energy project or a geothermal energy project. Direct, indirect, and cumulative impacts to recreation from development of a different solar project would be similar to those identified for the Easley Project.

Recreation impacts associated with a wind project would include loss of access to lands required for project facilities and the wind generator turbines, with access limited for safety and security. These impacts would be similar to those of the proposed Project. For a geothermal project, similar access limitations would apply because of above ground pipelines and the need to secure facilities. However, the indirect effects of a geothermal generation facility, due to its industrial nature large mass, and operational noise and emissions, would have an increased level of impact compared with the proposed solar project.

~~5.2.1.46.~~5.2.4.17. Traffic and Transportation

Much of the proposed Project site is designated as a DFA and is suitable for ~~solar~~ renewable energy generation, including solar, wind, or geothermal technologies. Under the No Project Alternative A3, it is ~~probable~~ possible that other solar energy~~-related~~ projects would be implemented within the site in lieu of the proposed Project, because the demand for solar energy continues to increase for compliance with state and federal climate change goals, and the site offers excellent solar potential. A different solar energy project would potentially result in similar impacts to transportation and traffic as those identified for the proposed Project.

If a wind or geothermal energy project were to be constructed on the land, these would have similar direct, indirect, and cumulative impacts on traffic and transportation as the proposed Project, owing to the large workforce required for construction of facilities.

~~5.2.1.47.~~5.2.4.18. Wildfire

~~As such, if the~~The No Project Alternative A3 considers the potential for solar, wind, or geothermal generation projects to be constructed, because these technologies are consistent with the BLM Development Focus Area (DFA) designation.

A~~were selected, a~~nother solar project could be proposed in the same location and result in similar impacts. If a wind or geothermal project were to be developed on the DFA lands, they ~~it~~ would require similar ~~facilities~~industrial components as a solar project, including a BESS, a gen-tie line, a substation, and other electrical components. The construction of these components~~is~~ would pose similar wildfire risks as a solar project.

5.2.5. Alternative B: Reduced Footprint Alternative – Impact Analysis

~~5.2.1.48.~~5.2.5.1. Aesthetics

The ~~Lake Tamarisk~~Reduced Footprint Alternative would remove approximately ~~30~~ 50 acres of solar panels closest to the Lake Tamarisk Desert Resort (LTDR) such that the nearest panels would be approximately 0.45 mile (2,350 feet) from the closest LTDR mobile home residence compared to approximately 750 feet under the proposed Project. In addition, the on-site substation and BESS would be moved approximately 0.7 mile to the northeast (farther away from the LTDR community). Also, with the relocation of the substation, the associated gen-tie line would extend approximately 0.8 mile farther northeast along the east side of SR-177 before spanning SR-177 to connect with the alternative substation location.

As a result of these changes in the Project layout under Alternative B~~2~~, the visual impacts on the resort would be reduced. Specifically, and as illustrated in the visual simulations presented in Figures 3.2-5C (KOP 4) and 3.2-8C (KOP 7), the closest arrays (to the immediate north and northeast of the resort) would be removed, and the remaining more distant arrays would be less visually prominent. The absence of ~~those~~ the northeast arrays is illustrated in the far-left portion of the Figure 3.2-5C (KOP 4) simulation. The absence of the north arrays is illustrated in the Figure 3.2-8C (KOP 7) simulation, which shows that the remaining more distant arrays become even less noticeable given the presence of foreground to middleground vegetative screening. Also, the BESS, which previously appeared as a noticeable white, intermittent, linear feature along the valley floor to the east of the resort (see Figure 3.2-5B), but which was substantially screened by intervening vegetation, would now be relocated to the northeast away from the resort and would no longer be visible from KOP 4 and would have minimal visibility from other viewing locations in the resort due to screening by intervening vegetation and array panels. The relocation of the substation to the northeast away from the resort would also reduce its visibility from the resort due to screening by intervening vegetation and solar panels as well as greater viewing distances (depending on viewing location within the resort). With the relocation of the substation, the gen-tie line would extend farther northeast along SR-177 resulting in the potential visibility of approximately seven additional structures that would not otherwise be visible with the proposed Project. However, the additional structures would: (a) be partially or completely screened from view by intervening vegetation; (b) be back-dropped by the distant mountains such that they would not extend above the horizon (and thus, be less visually prominent); or (c) be seen at greater distance in the context of other utility poles along SR-177. Therefore, the additional gen-tie poles would not constitute visually significant features in the landscape as viewed from the Lake Tamarisk Desert Resort.

Although the visual impact on the resort would be reduced under Alternative B~~2~~, the overall Project visual impact would not be reduced to level that would be less than significant when viewed from the eastern portion of the resort (as illustrated in the KOP 4 simulation). Further, the visual impacts experienced at the other five representative KOPs would also remain significant and unavoidable under Alternative B~~2~~.

In addition to the KOP 4 Figures 3.2-5A (Existing View) and 3.2-5C (Alternative ~~2~~ B Simulation), both of which were based on imagery from December 2022 that was obtained with a 5.5-foot camera elevation (above the ground), an additional series of figures (Figures 3.2-5D and 3.2-5F in EIR Appendix I) was captured in October 2023 but with an 8-foot camera elevation (above the ground). As for the proposed Project, this slightly elevated view was obtained and evaluated because it was thought to be more representative of the "porch-height" views that some of the private residences along the eastern resort perimeter experience. The Existing View image presented in Figure 3.2-5D captures essentially the same landscape features that are shown in the same frame of view presented in the original existing view presented in Figure 3.2-5A at a 5.5-foot camera elevation. However, the new Figure 3.2-5D was captured almost a year later following substantial rain events. As a result, some vegetation is noticeably greener, and some vegetation growth has occurred providing a very slight increase in screening in some portions of the image. Also, additional solar facilities have been installed in the landscape since the December 2022 set of images, which adds to the existing structural context.

Figure 3.2-5F presents a panoramic visual simulation of Alternative B~~2~~ as viewed with a camera height of 8 feet (i.e., approximate porch-height view). As with the proposed Project simulation, the Alternative B~~2~~ simulation illustrates an ~~very slight~~ increase in visibility of some project features due to the ability to "see over" some of the intervening screening vegetation with the elevated viewing perspective. However, in other cases, the increased camera (viewing) height has been offset somewhat by additional vegetation growth that has occurred over the past year. Similar to the proposed Project findings, the Alternative's overall visual change captured by the two different camera (viewing) heights is similar to ~~and the 8-oot-high viewing perspective would not change the overall impact conclusion. Although the KOP 4 viewpoint is considered reasonably~~ the Project's, and the 8-foot-high viewing perspective would not change the overall impact conclusion. Although the KOP 4 viewpoint is considered representative of publicly available project views from the eastern portion of the resort, it is acknowledged that some public views and private residential views within the resort may be more or less visually affected by Alternative B~~2~~ due to the presence of lesser or greater vegetative screening.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3 and would be significant when viewed by sensitive viewing populations along I-10 and SR-177, from nearby residences, from portions of JTNP, and in the surrounding mountains and wilderness. Like the proposed Project, the alternative would make a considerable contribution to these visual impacts.

~~5.2.1.49.~~5.2.5.2. Agriculture and Forestry

The ~~Lake Tamarisk~~Reduced Footprint Alternative (Alternative B~~2~~) would be located within the proposed Project application area. This alternative would be similar to the proposed Project but would remove approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk. Under this alternative, the substation and BESS would be moved farther from Lake Tamarisk on either BLM-administered land or private land adjacent to SR-177/Rice Road. The location of the substation, portion of gen-tie line, and BESS under Alternative B~~2~~ would no longer be on land zoned as Agriculture or a parcel under a Williamson Act contract. The remaining Williamson Act lands of the proposed Project remain as part of Alternative ~~2~~B and would need to be canceled and removed from agricultural preserves prior to Project development. Alternative B~~2~~ would have similar construction and operation activities as the proposed Project; ~~therefore~~therefore, Alternative B~~2~~ would have similar impacts to agriculture ~~and forestry~~, which would remain less than significant ~~and unavoidable.~~ CEQA Appendix G places agriculture and forestry in one resource impact category. Since there are no forestry resources on the proposed site or the surrounding area, Alternative B would only affect agriculture as noted above.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.50.~~5.2.5.3. Air Quality

Alternative B~~2~~ would remove approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk. The reduction in acreage would increase the distances to sensitive receptors from the proposed Project sources of air pollutant emissions The decrease in solar panel area would result in a slight decrease in the potential for sensitive receptors to be exposed to emissions and pollutant concentrations near the existing community of LTDR when compared with the impacts of the proposed Project.

Alternative B~~2~~ would reduce the emissions and pollutant concentrations levels experienced by sensitive receptors and reduce air quality impacts when compared to the proposed Project. Overall, the effects of

Alternative B~~2~~ would be slightly reduced from the proposed Project, and mitigation identified for the proposed Project would be the same ~~for~~ under this alternative.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's incremental contribution would not be cumulatively considerable.

5.2.5.4. Biological Resources

The ~~Lake Tamarisk~~Reduced Footprint Alternative would remove approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk. The onsite substation and BESS would be moved at least 0.7 miles to the northeast. The length of the 500 kV gen-tie line under the ~~Lake Tamarisk~~Reduced Footprint Alternative would be approximately 0.8 miles longer than the proposed 500 kV gen-tie line. All other Project features would be the same as the proposed Project.

Impacts to biological resources would be qualitatively similar to the proposed Project, with slightly fewer acres of ground and habitat disturbance near the Lake Tamarisk community. An additional approximately 6~~9~~ acres of desert pavement, an additional 0.45 acres of desert dry wash woodland, and a few occurrences of desert unicorn plant would be avoided by removing the solar panels closest to the community. The area where panels would be removed for this Alternative is also within relatively higher quality modeled desert tortoise habitat (see Figure 3.5-5 in EIR Appendix A). By avoiding 50 acres of habitat, the Reduced Footprint Alternative would provide slightly greater opportunities for wildlife movement through the Project site than the proposed Project. A longer gen-tie line may result in relatively greater impact to birds due to collision and electrocution.

Mitigation Measures, as listed in Section 3.5.~~9,~~ would be implemented and impact conclusions would be the same as for the proposed Project.

~~5.2.1.51.~~5.2.5.5. Cultural and Tribal Cultural Resources

Under this alternative, approximately ~~30~~ 50 acres of land would be removed from development footprint in the area closest to the community of Lake Tamarisk and the length of the 500 kV gen-tie line would be extended 0.8 miles longer than the proposed Project. However, under the ~~Lake Tamarisk~~ Reduced Footprint Alternative, the number of CRHR eligible resources within the direct impact area would be the same as for the proposed Project, consisting of 3 archaeological resources, including P-33-023675 and the PTNCL and DTCCL historic districts. Results of the Phase I survey found no evidence of archaeological remains associated with any of these resources within the Project's direct impact area. As such, the direct impacts to cultural resources for this alternative would be the same as for the proposed Project.

Portions of the PTNCL, DTCCL, P-33-023675, and P-33-025150 are located within Alternative ~~2's~~ B's indirect impact area, similar to the proposed Project. Overall, the direct and indirect impacts of this alternative would be the same as the proposed Project and would be less than significant with mitigation implemented, as defined in Section 3.6. Therefore, the direct and indirect impacts of this alternative would be the same as the proposed Project, less than significant with mitigation implemented as defined above.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would be cumulatively considerable.

~~5.2.1.52.~~5.2.5.6. Energy

Alternative B~~2~~ would not result in any significant changes to the construction or operational activities as they relate to energy resources. Alternative B~~2~~ would remove approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk. With this relatively small reduction in acreage, ~~neither the~~

~~electrical output, nor~~ consumption of energy resources~~,~~ would not be appreciably reduced compared to the proposed Project. However, the renewable energy generation capacity of the solar array field ~~electrical output of~~ in the Reduced Footprint Alternative would be up to 10 MW less than the proposed Project. The impacts of Alternative B~~2~~ would be similar to the proposed Project except for an up to 10 MW reduction of renewable energy generation.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.53.~~5.2.5.7. Geology, Soils, and Mineral Resources

Alternative ~~2~~ B would remove approximately ~~30~~ 50 acres of solar panels closest to the Lake Tamarisk Desert Resort (LTDR) and relocate the onsite substation and BESS to a location 0.7 miles further north of the LTDR. This relocation of the onsite substation would result in the 500 kV gen-tie line for this alternative being approximately 0.8 miles longer than the proposed 500 kV gen-tie line. Despite the increased length of the gen-tie line, this alternative would lead to an overall decrease in ground disturbance due to the removal of solar panels. Operation of the project under Alternative ~~2~~B would be the same as for the proposed Project. Impacts related to slope stability, seismic hazards, expansive soils, mineral resources, topography, subsidence, and sand migration would be the same as for the proposed Project. Impacts related to disturbance of desert pavement would be approximately ~~9~~ 6 fewer acres under Alternative ~~2~~B due to the decrease in ground disturbance northeast of the Lake Tamarisk Desert Resort. Impacts related to erosion would also be slightly decreased. Implementation of MM AQ-1, MM BIO-1, MM BIO-3, MM BIO-5, MM HWQ-1, and MM HWQ-5 would reduce any impacts to less than significant.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.54.~~5.2.5.8. Greenhouse Gas Emissions

Alternative B~~2~~ would not result in any significant changes to the construction or operational activities as they relate to GHG emissions. Alternative B~~2~~ would remove approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk. With this relatively small reduction in acreage, the overall quantity of GHG emissions caused by construction activities would be slightly reduced. ~~, t~~The renewable energy generation capacity of the solar array field under Alternative B during lifetime operations would be up to 10 MW less than the proposed Project, resulting in a lesser quantity of electricity produced by the solar PV component. Because Alternative B would not change the capacity of the proposed BESS, the potential avoidance of GHG emissions would be the same as with the proposed Project. Other effects of the proposed Project on GHG emissions would not be appreciably changed compared to the proposed Project. The impacts of Alternative B~~2~~ would be similar to the proposed Project.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.55.~~5.2.5.9. Hazards and Hazardous Materials

Alternative B~~2~~ would remove approximately ~~30~~ 50 acres of solar panels closest to the Lake Tamarisk Desert Resort and relocate the onsite substation and BESS to a location 0.7 miles further north of the LTDR. This relocation of the onsite substation would result in the 500 kV gen-tie line for this alternative being approximately 0.8 miles longer than the proposed 500 kV gen-tie line. Construction and operation activities for Alternative ~~2~~B would be the same as for the proposed Project. Impacts related to use and storage of hazardous materials, potential for spills or leaks of hazardous materials, and aviation hazards, would be the same as for the proposed Project and would be reduced to less than significant through compliance with local, State, and federal regulations.

The decrease in solar panel area would result in a slight decrease in construction activities and ground disturbance near the existing community of LTDR, resulting in a slight decrease in potential for wildland fires to impact the public, slightly decreased potential for exposure of the public to contracting Valley Fever, slightly decreased potential for workers and the public to be exposed to pesticides or herbicides, and slightly decreased potential for workers to encounter unexploded ordnance. These decreases would be slight and would be reduced to less than significant by implementing of the same mitigation measures as for the proposed Project (MM AQ-1, MM FIRE-1, MM HAZ-1, MM HAZ-2, MM HAZ-3), as appropriate, and compliance with applicable local, State, and federal regulations.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.56.~~5.2.5.10. Hydrology and Water Quality

The ~~Lake Tamarisk~~Reduced Footprint Alternative would remove approximately 5~~3~~0 acres of solar panels closest to the community of Lake Tamarisk. In addition, the onsite substation and BESS would be moved at least 0.7 miles to the northeast. The length of the 500 kV gen-tie line under the Reduced Footprint ~~Lake Tamarisk~~ Alternative would be approximately 0.8 miles longer than the proposed 500 kV gen-tie line. -All other Project features would be the same as the proposed Project. Surface water impacts would remain the same as for the proposed Project, but ~~slightly~~ reduced in magnitude due to the reduced Project footprint. The Reduced Footprint ~~Lake Tamarisk~~ Alternative would require the same mitigation measures to be implemented as would be required for the proposed Project, with the same impact significance. Therefore, because both the proposed Project and the Reduced Footprint Alternative ~~2~~ would result in less than significant impacts with adherence to all applicable regulations and mitigation measures, impacts related to hydrology and water quality from the Reduced Footprint Alternative ~~2~~ would be similar to those of the proposed Project.

~~The footprint of the proposed Project would be reduced by approximately 30 acres under the Lake Tamarisk Alternative; however, the corresponding reduction in estimated water demand for Project construction and operation is anticipated to be de minimis.~~

In June 2023, BLM issued a Proposed Rule to amend its existing ROW regulations, issued under authority of the Federal Land Policy and Management Act (FLPMA), and is considering issuing Right-of-Way (ROW) grants for durations of up to 50 years (BLM, 2023). To prepare for potential issuance of a 50-year ROW Grant by the BLM (outside of CEQA) and to determine whether there are sufficient supplies to sustain the Project, the Easley WSA conservatively extends the total projected period of the Project- to 52-years. For the purpose of the CVGB water budget (see GSI, 2024 Section 6) and predictive Project water demand impacts analysis (see GSI, 2024 Sections 5.4 and 7) presented herein, 52 years is equivalent to the projected total duration of the Project, including construction (20 months), operations (48 years), and decommissioning (20 months).[1]

The Project would use up to 1,000 AF during the planned 20-month construction period and up to 50 AFY during the Project's operational and decommissioning periods. The Project would use a total of approximately 3,500 AF over the assumed 52-year life of the Project. If the estimated water demand for the Project was used equally per acre (the Project is proposed on approximately 3,735 acres), the Project

[1] Although the estimated Project construction period and decommissioning period described in the EIR Chapter 2 (Project Description) is 20 months, the water budgets (see GSI, 2024 Section 6) and Cone of Depression and Cumulative Drawdown Analysis (see GSI, 2024 Section 7), were developed in 1-year time steps, and therefore, assume the same overall water usage but over Project construction and decommissioning periods of 2 years.

would use approximately 0.27 AF per acre during construction and 0.01 AF per acre per year during the operational phase of the Project. Using the same AF per acre water use assumptions, the Reduced Footprint Alternative would require approximately 987 AF during the construction phase and 49 AFY during the operational phase of the Project. Therefore, due to the minimal reduction of groundwater use under the Reduced Footprint Alternative, the potential impacts on groundwater would be consistent with those discussed in Section 3.11 for the proposed Project.~~Assuming the equal water use per acre, the Lake Tamarisk Alternative would also require approximately 0.27 AF per acre during the construction phase and 0.01 AF per acre per year during the operational phase of the Project. Therefore, the potential impacts on groundwater under the Lake Tamarisk Alternative would be consistent with those discussed in Section 3.11.5 for the proposed Project.~~

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.57.~~5.2.5.11. Land Use and Planning

The ~~Lake Tamarisk~~Reduced Footprint Alternative would be developed within the proposed Project site and was developed in response to concerns expressed by the Lake Tamarisk community during scoping. The Alternative would be similar to the proposed Project but would remove approximately ~~3~~50 acres of solar panels closest to the community of Lake Tamarisk, such that the closest solar panels to residential parcels would be 0.45 miles (2,350 feet) away. This would reduce land-use related impacts that might arise, such as loss of open space proximate to the community and moving construction disturbances farther from residences. ~~With this relatively small reduction in acreage, the electrical output would not be appreciably reduced compared to the proposed Project.~~ In addition, the onsite substation and BESS would be moved at least 0.7 mile to the northeast, on either BLM-administered land (Substation Alternative A) or private land (Substation Alternative B) closer to SR-177. The Applicant is in negotiations with all existing ROW holders, such as Metropolitan Water District and EDF Renewables, to ensure that there would be no conflicts with existing or proposed easements across the Easley Project site and gen-tie line ROW. At 7.5 miles, the length of the 500 kV gen-tie line under the ~~Lake Tamarisk~~Reduced Footprint Alternative would be approximately 0.8 miles longer than the proposed 500 kV gen-tie line (6.7 miles).

As with the proposed Project, the ~~Lake Tamarisk~~ Reduced Footprint Alterative would not cause a significant impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.58.~~5.2.5.12. Noise and Vibration

The ~~Lake Tamarisk~~Reduced Footprint Alternative (Alternative B~~2~~) would remove approximately 50~~30~~ acres of solar panels closest to the community of Lake Tamarisk. The reduction in acreage would increase the distances to sensitive receptors from the proposed Project sources of noise and vibration. The decrease in solar panel area would result in a slight decrease in the potential for sensitive receptors to be exposed to noise and vibration near the existing community of LTDR when compared with the impacts of the proposed Project.

Alternative ~~2~~ B would reduce the noise and vibration levels experienced by sensitive receptors and reduce the noise and vibration impacts when compared to the proposed Project. Overall, the effects of Alternative ~~2~~ B would be slightly reduced from the proposed Project, and mitigation identified for the proposed Project would be the same for under this alternative.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.59.~~5.2.5.13. Paleontological Resources

Alternative B~~2~~ would remove approximately ~~30~~ 50 acres of solar panels closest to the Lake Tamarisk Desert Resort (LTDR) and relocate the onsite substation and BESS to a location 0.7 miles further north of the LTDR. This relocation of the onsite substation would result in the 500 kV gen-tie line for this alternative being approximately 0.8 miles longer than the proposed 500 kV gen-tie line. Despite the increased length of the gen-tie line, this alternative would lead to an overall decrease in ground disturbance due to the removal of solar panels. Operation of the project under Alternative ~~2~~ B would be the same as for the proposed Project. Due to the decrease in ground disturbance, impacts related to damage or destruction of paleontological resources would be minimally less than for the proposed Project. I~~i~~mplementation of Mitigation Measures PR-1 through PR-4 would reduce potential adverse impacts on paleontological resources to a less-than-significant level.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.60.~~5.2.5.14. Population and Housing

The ~~Lake Tamarisk~~Reduced Footprint Alternative would be similar to the proposed Project, but would remove approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk, such that the Project solar panels would be approximately 0.45 miles (2,350 feet) from the closest residence compared to 750 feet under the proposed Project. The electrical output of the Alternative B~~2~~ would not be appreciably reduced compared to the proposed Project. Alternative B~~2~~ would have similar construction and operational activities as the proposed Project, and therefore, Alternative B~~2~~ would have similar impacts to population and housing and impacts would be less than significant.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.61.~~5.2.5.15. Public Services and Utilities

The ~~Lake Tamarisk~~Reduced Footprint Alternative would be similar to the proposed Project but would remove approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk, such that the Project solar panels would be approximately 0.45 miles (2,350 feet) from the closest residence compared to 750 feet under the proposed Project. ~~The electrical output of the Alternative 2 would not be appreciably reduced compared to the proposed Project.~~ Alternative B~~2~~ would have similar construction and operational activities as the proposed Project, and therefore, Alternative B~~2~~ would have similar impacts to public services and utilities and impacts would be less than significant.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.62.~~5.2.5.16. Recreation

The ~~Lake Tamarisk~~Reduced Footprint Alternative would be similar to the proposed Project but would remove approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk and move the substation and BESS to the northeast, on either BLM-administered land (Substation ~~Alternative~~ Option A) or private land (Substation ~~Alternative~~ Option B) closer to SR-177. The impact on BLM Open Routes would be the same as under the proposed Project and Alternative B~~2~~ (~~Lake Tamarisk~~Reduced Footprint Alternative). Approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk would be fenced under the proposed Project, but would be removed from development under Alternative B~~2~~, and thus, would remain open and available for informal recreational use. As with the proposed Project, the ~~Lake Tamarisk~~ Reduced Footprint Alterative would cause a less than significant impact to designated recreation areas or recreation facilities. The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.63.~~5.2.5.17. Traffic and Transportation

Under this alternative, approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk would be removed from the Project and the location of some facilities moved farther from Lake Tamarisk. However, there would be no substantial change to the size of the solar facility proposed to be constructed and operated. Under the Reduced Footprint~~Lake Tamarisk~~ Alternative, construction- and operations-related traffic would be similar to that anticipated for the Project as proposed. Therefore, the traffic and transportation impacts for Alternative B~~2~~ would be virtually identical to those attributable to the proposed Project and require identical mitigation measures to ensure impacts to transportation and traffic would be reduced to less-than-significant levels. The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.64.~~5.2.5.18. Wildfire

Under the ~~Lake Tamarisk~~Reduced Footprint Alternative, approximately ~~30~~ 50 acres of solar panels closest to the community of Lake Tamarisk would not be installed, and the onsite substation and proposed BESS would be moved at least 0.7 mile to the northeast farther away from the community of Lake Tamarisk. The slight reduction in solar panel area would result in a nominal decrease in construction activity, as construction would not occur in the approximately ~~30~~50-acre area near the community of Lake Tamarisk. Thus, there would be a small decrease in fire hazards associated with installation of fewer solar panels, as construction duration and number of workers may be slightly reduced. ~~Although the solar panels would continue to be made of fire-resistant materials, the risk of fire spreading to the community of Lake Tamarisk would further decrease due to the increased distance from the community.~~

Likewise, the alternative substation and BESS options would be farther from the community of Lake Tamarisk but would result in similar construction impacts as the proposed Project, as the same construction activities and associated fire risks would still occur. During operations, the risk of a fire igniting at the substation or BESS and spreading to the community of Lake Tamarisk would decrease due to the increased distance from the community. Although a portion of the 500 kV gen-tie line would be slightly farther away from the community of Lake Tamarisk, the overall length would be approximately 0.8 mile longer than the gen-tie line under the proposed Project and would result in similar impacts as the proposed Project.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

5.2.6. Alternative C: Further Reduced Footprint Alternative with Berms– Impact Analysis

~~5.2.1.65.~~5.2.6.1. Aesthetics

Alternative C (see Figure 2-15) would reduce the Project developable footprint by 530 acres compared to the proposed Project, which is located immediately north and east of Lake Tamarisk Desert Resort and is intended to establish a greater than one-mile buffer around the resort. A second key element of this alternative would be the construction of two 10-foot-tall screening berms made of sand with a 1:1 slope and 20-feet across. The north berm would be positioned in an east-west direction north of the Resort and would generally parallel the existing drainage pattern in the area. The east berm would be positioned in a north-south direction at the east end of the one-mile buffer (see Figure 2-15).

Elimination of the arrays on BLM land immediately north and northeast of the Resort (affecting a greater than one-mile buffer) would substantially mitigate the significant aesthetics impacts that the Lake Tamarisk Desert Resort would otherwise experience to a less than significant level, though the aesthetics impacts resulting from the gen-tie line would remain.

Elimination of those same solar arrays would reduce the aesthetics impacts on views from Alligator Rock ACEC, though not to a level that would be less than significant. However, the Further Reduced Footprint Alternative with Berms would not substantially mitigate the significant aesthetics impacts that would be experienced at other public viewing locations such as along SR-177.

Shifting the substation, BESS, and O&M building to a new location immediately adjacent to SR-177 (Rice Road) under this alternative would lessen the visual impact of the substation on views from the Lake Tamarisk Desert Resort due to the increased viewing distance. However, the visual contrast associated with the substation's structural complexity and industrial character would become highly visible in the immediate foreground of views from SR-177, which in combination with the increased structural prominence of the additional gen-tie poles (a more circuitous gen-tie route would be required with substation relocation) would substantially increase Alternative C's aesthetic impacts on both northbound and southbound views from SR-177 compared to the Project.

The north berm would be effective in blocking views of solar arrays immediately north of the berm. Arrays extending east and west of the north berm would be substantially screened by intervening vegetation between the Lake Tamarisk Desert Resort and the arrays, as illustrated in the Alternative C simulation presented for KOP 7 in Figure 3.2-8D. The east berm would block views of some of the arrays immediately east of the berm, but the more distant arrays would remain visible depending on the presence of intervening vegetation between the Lake Tamarisk Desert Resort and the arrays. The east berm would also be effective in blocking some of the lower components of the relocated substation, though the taller components would remain visible. At a viewing distance of just under two miles, however, it is not expected that the substation would substantially affect views from the Lake Tamarisk Desert Resort.

Taken in combination, Alternative C, with its buffer exclusion area, berm construction, and substation/ BESS relocation would reduce the visual impact on views from the Lake Tamarisk Desert Resort to a level that would be less than significant, compared to the Project. However, Alternative C would increase the visual impact on views from SR-177 and would not, compared to the Project, reduce significant visual impacts on views from I-10 or Alligator Rock to a level that is less than significant, so visual impacts would remain significant and unavoidable from these viewpoints.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3 and would be significant when viewed by sensitive viewing populations along I-10 and SR-177, from nearby residences, from portions of JTNP, and in the surrounding mountains and wilderness. The Alternative would make a considerable contribution to these visual impacts.

~~5.2.1.66.~~5.2.6.2. Agriculture and Forestry

Alternative C would be located within the proposed Project application area. This alternative would be similar to the proposed Project but would reduce the developable footprint by approximately 530 acres compared to the proposed Project. Additionally, two berms would be constructed; one berm would be north of Lake Tamarisk and the other berm would be east of Lake Tamarisk. Neither berm would enter land zoned as agriculture or under a Williamson Act contract. Under this Alternative, the substation, BESS, and O&M building would be moved farther from Lake Tamarisk Desert Resort, northeast of the location under the proposed Project. The gen-tie line would extend from the western corner of the relocated substation area heading northwest then south along the eastern boundary of the Project to rejoin the Alternative B gen-tie line starting point. The location of the substation, portion of gen-tie line, and BESS under Alternative C would no longer be on land zoned as Agriculture or within a parcel under a Williamson Act contract. The remaining Williamson Act lands of the proposed Project remain as part of Alternative C and would need to be canceled and removed from agricultural preserves prior to Project development. Alternative C would have similar construction and operation activities as the proposed Project; therefore, Alternative C would have similar impacts to agriculture as the Project, which would remain less than significant.

CEQA Appendix G places agriculture and forestry in one resource impact category. Since there are no forestry resources on the proposed site or the surrounding area, Alternative B would only affect jojoba agriculture as noted above.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.67.~~5.2.6.3. Air Quality

Alternative C would remove approximately 530 acres from development, when compared to the Project. The reduction in acreage would increase the distances to sensitive receptors from the proposed Project sources of air pollutant emissions. The decrease in solar panel area would result in a slight decrease in the potential for sensitive receptors to be exposed to emissions and pollutant concentrations near the existing community of Lake Tamarisk when compared with the impacts of the proposed Project.

Alternative C would reduce the emissions and pollutant concentrations levels experienced by sensitive receptors and reduce air quality impacts when compared to the proposed Project. Overall, the effects of Alternative C would be reduced from the proposed Project, and mitigation identified for the proposed Project would be the same under this alternative.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's incremental contribution would not be cumulatively considerable.

5.2.6.4. Biological Resources

The Further Reduced Footprint Alternative with Berms would reduce the project developable footprint by 530 acres by removing proposed Project solar panels in a minimum 1-mile buffer surrounding the Lake Tamarisk community (development exclusion area). The Further Reduced Footprint Alternative with Berms would move the substation slightly farther northeast, along State Route 177/Rice Road, and proposes screening with berms at two locations to block views of the solar panels from the community. The length of the 500 kV gen-tie line under the Further Reduced Footprint Alternative with Berms would be 1.3 miles longer than the proposed 500 kV gen-tie line. All other project features outside the development exclusion area (see Figure 2-15) would be the same as the proposed Project.

The berms are proposed to be constructed of sand, with dimensions 10 feet in height, 20 feet in depth, with a 1:1 slope. One berm would be positioned in an east-west orientation, approximately 1,060 feet long, north of Lake Tamarisk and generally parallel to the drainage pattern for the area. A rock riprap base may be constructed at the base of the berm to provide erosion protection. The second berm would be positioned to the east of the Lake Tamarisk community, approximately 2,920 feet long in a north-south orientation, extending to Rice Road. As necessary, drainage could be accommodated with metal culverts or gaps in the berm.

Impacts to biological resources would be qualitatively similar to those of the proposed Project, with 500 fewer acres of development and related habitat disturbance in a greater than 1-mile buffer surrounding the Lake Tamarisk community. Compared to the proposed Project, an additional approximately 10 acres of desert dry wash woodland and 6 acres of desert pavement would be avoided by removing the solar panels within the 1-mile buffer. Impacts to habitat would still occur where the berms are built, and in any Project areas where fill from the berm is sourced.

The areas where panels would be excluded overlap with moderate to high quality desert tortoise habitat (0.4-0.7) (Nussear et al., 2009) and avoid areas where desert tortoise sign were found (See Figure 3.5-5 in Appendix A). However, the altered hydrology resulting from the berms could degrade desert tortoise habitat (Abella and Berry, 2016). Occurrences of desert unicorn plant, burrowing owls, active desert kit fox burrows, and burro deer would be avoided where development would be excluded. A longer gen-tie line may result in relatively greater impact to birds due to collision and electrocution.

By avoiding 530 acres of habitat compared to the proposed Project, the Further Reduced Footprint Alternative with Berms would provide more opportunities for wildlife movement through the Project site than the proposed Project. While generally the berms would be constructed adjacent to solar panel areas, which would be fenced and already pose a barrier to movement, 1:1 sloped berms would serve as an additional barrier to movement in the local area.

Mitigation Measures, as listed in Section 3.5, would be implemented and impact conclusions would be the same as for the proposed Project.

~~5.2.1.68.~~5.2.6.5. Cultural and Tribal Cultural Resources

Under this alternative, approximately 530 acres of land would be removed from development footprint compared to the Project in areas within a more than 1-mile buffer between the community of Lake Tamarisk and the proposed Project. Additionally, the alternative would result in the development of two 10-foot high, 20-foot long sand berms placed at the edges of the buffer to the east and north. However, under Alternative C, the number of CRHR eligible resources within the direct impact area would be the same as for the proposed Project, consisting of 3 archaeological resources, including P-33-023675 and the PTNCL and DTCCL historic districts. Results of the Phase I survey found no evidence of archaeological remains associated with any of these resources within the Project's direct impact area. As such, the direct impacts to cultural resources for this alternative would be the same as for the proposed Project.

Portions of the PTNCL, DTCCL, P-33-023675, and P-33-025150 are located within Alternative C's indirect impact area, similar to the proposed Project. Overall, the direct and indirect impacts of this alternative would be the same as the proposed Project and would be less than significant with mitigation implemented, as defined in Section 3.6. Therefore, the direct and indirect impacts of this alternative would be the same as the proposed Project, less than significant with mitigation implemented as defined above.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would be cumulatively considerable.

~~5.2.1.69.~~5.2.6.6. Energy

Alternative C would not result in any significant changes to the construction or operational activities as they relate to Energy. Alternative C would reduce the overall quantity of energy consumed by construction activities, and the renewable energy generation capacity of the solar array field would be 300 to 320 MW, resulting in a lesser quantity of energy produced by the solar PV component. Because the Alternative C BESS relocation would not change the capacity of the proposed BESS, the amount of energy stored by the BESS would be the same as with the proposed Project. Other effects of the proposed Project on energy would not be appreciably changed compared to the proposed Project. The impacts of Alternative C would be similar to the proposed Project.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.70.~~5.2.6.7. Geology, Soils, and Mineral Resources

Alternative C includes a minimum 1-mile buffer setback from the Lake Tamarisk Desert Resort, two 10-foot--high earthen berms, and relocation of the onsite substation/BESS/O&M building and 500 kV gen-tie line. Alternative C would result in 530 acres that would not be developed as compared to the proposed Project and the gen-tie line being 1.3 to 1.45 miles longer than the proposed Project gen-tie line. Despite the addition of the earthen berms and longer gen-tie line, Alternative C would lead to a decrease in ground disturbance due to the large area of solar panels removed under this alternative. Operation of the project under Alternative C would be the same as described for the proposed Project in Section 3.8.

Impacts related to slope stability, seismic hazards, expansive soils, mineral resources, topography, sand migration, and subsidence would be the same as for the proposed Project. Impacts related to disturbance of desert pavement would be reduced due to the decrease disturbance of desert pavement (approximately 6 fewer acres of disturbed than for the proposed Project) with the decrease in ground disturbance northeast of the Lake Tamarisk Desert Resort. Impacts related to erosion would potentially be increased due to disruption of flow paths due to the presence of the berms, however due to the decrease in area disturbed due to the removal of a large solar panel development area, erosion impacts would be overall reduced. Implementation of MM AQ-1, MM BIO-1, MM BIO-3, MM BIO-5, MM HWQ-1, and MM HWQ-5 would reduce any impacts to less than significant.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.71.~~5.2.6.8. Greenhouse Gas Emissions

Alternative C would not result in any significant changes to the construction or operational activities as they relate to GHG emissions. Alternative C would remove approximately 530 acres from development, when compared to the proposed Project. With this reduction in acreage, the overall quantity of GHG emissions caused by construction activities would be reduced. The renewable energy generation capacity of the solar array field under Alternative C would be reduced by approximately 80 to 100 MW compared to the proposed Project, to result in a generation capacity for this alternative of 300 to 320 MW, resulting in a lesser quantity of electricity produced by the solar PV component compared to the Project Because Alternative C would not change the capacity of the proposed BESS, the potential avoidance of GHG emissions would be the same as with the proposed Project. Other effects of the proposed Project on GHG emissions would be less compared to the proposed Project.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.72.~~5.2.6.9. Hazards and Hazardous Materials

Alternative C includes a minimum one-mile buffer from the Lake Tamarisk Resort borders, two 10-foot high by 20-foot wide earthen berms, and relocation of the substation and a portion of the gen-tie line. Alternative C would reduce the project development area by approximately 530 acres as compared to the proposed Project, but would increase the length of 500 kV gen-tie line to 8.0 to 8.15 miles long, compared with 6.7 miles under the proposed Project and 7.5 miles under Alternative B. Construction and operation activities for Alternative C would be the same as for the proposed Project with the exception of the construction of the earthen berms. However, construction of the earthen berms would use similar types of construction equipment and construction practices as the proposed Project. Therefore, impacts related to use and storage of hazardous materials, potential for spills or leaks of hazardous materials, and aviation hazards, would be the same as for the proposed Project and would be reduced to less than significant through compliance with local, State, and federal regulations.

The decrease in solar panel area near to the Lake Tamarisk Desert Resort would result in a decrease in construction activities and ground disturbance near the existing community of Lake Tamarisk as compared to- the proposed Project. This would result in decreases in potential for wildland fires to impact the public, potential for exposure of the public to contracting Valley Fever, potential for workers and the public to be exposed to pesticides or herbicides, and potential for workers to encounter unexploded ordnance. The potential for these impacts would be decreased as compared to the proposed Project– and would be reduced to less than significant by implementing of the same mitigation measures as for the proposed Project (MM AQ-1, MM FIRE-1, MM HAZ-1, MM HAZ-2, MM HAZ-3), as appropriate, and compliance with applicable local, State, and federal regulations.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.73.~~5.2.6.10. Hydrology and Water Quality

Alternative C would reduce the Project developable footprint by 530 acres compared to the proposed Project and include a Project setback from the Lake Tamarisk Community of more than 1 mile, the construction of two earthen berms, relocation of the onsite substation/BESS/O&M building, and rerouting of the gen-tie line. The Alternative C substation/BESS relocation would result in the 500 kV gen-tie line being 8.0 to 8.15 miles long, compared with 6.7 miles under the proposed Project. Installation of earthen berms would change stormwater flow on and offsite, which could adversely affect surface water flow on adjacent parcels (including ~~and~~ flooding of adjacent parcels) and could also alter vegetation patterns. Other project features, such as the substation, buildings, access roads, and fences, also have the capacity to divert drainage.

Implementation of Mitigation Measure HWQ-5 (Project Drainage Plan) would require preparation of a drainage plan that demonstrates, among other things, adequate design to protect from flooding, erosion and scour, and to do so without adversely affecting adjacent property, inducing erosion, or concentrating or diverting flows. Any berms on the Project site also would be required to comply with MM HWQ-5.

The Westwood preliminary hydrology study shows that the westernmost berm is in an area of minimal and shallow flooding. This berm, which runs mostly parallel with the flow pattern, is unlikely to create a significant adverse flow diversion. The eastern berm is in line with one of the wide flood concentrations that could have depths of up to 1.5 feet. This berm is situated such that it would divert these flows to the north. However, the Westwood study shows that under existing conditions this flow -is already mostly diverted to the north in the same manner a few hundred feet downstream of the berm location. The berm would therefore have little effect on drainage patterns as relates to other property. With implementation of MM-HWQ-5, design steps such as placing culverts under the berm to allow drainage through would be taken to reduce adverse impacts to a less-than-significant level.

The Alternative C gen-tie and substation locations are such that the proposed Project impact analysis applies to them as the drainage impacts.

Other Project features would be the same as the proposed Project. Surface water impacts would therefore remain the same as for the proposed Project, but reduced in magnitude due to the reduced Project footprint. The Further Reduced Footprint Alternative with Berms would require the same mitigation measures to be implemented as would be required for the proposed Project, with the same impact significance. Therefore, because both the proposed Project and Alternative C would result in less than significant impacts with adherence to all applicable regulations and mitigation measures, impacts related to hydrology and water quality from Alternative C would be similar to those of the proposed Project.

In June 2023, BLM issued a Proposed Rule to amend its existing ROW regulations, issued under authority of the Federal Land Policy and Management Act (FLPMA), and is considering issuing Right-of-Way (ROW) grants for durations of up to 50 years (BLM, 2023). To prepare for potential issuance of a 50-year ROW Grant by the BLM (outside of CEQA) and to determine whether there are sufficient supplies to sustain the Project, the Easley WSA conservatively extends the total projected period of the Project to 52-years. For the purpose of the CVGB water budget (see GSI, 2024 Section 6) and predictive Project water demand impacts analysis (see GSI, 2024 Sections 5.4 and 7) presented herein, 52 years is equivalent to the projected total duration of the Project, including construction (20 months), operations (48 years), and decommissioning (20 months).[2]

The Project would use up to 1,000 AF of water during the planned 20-month construction period and up to 50 AFY during the Project's operational and decommissioning periods. The Project would use a total of approximately 3,500 AF over the assumed 52-year life of the Project. If the estimated water demand for the Project was used equally per acre (the Project is proposed on approximately 3,735 acres), the Project would use approximately 0.27 AF per acre during construction and 0.01 AF per acre per year during the operational phase of the Project. Using the same AF per acre water use assumptions, Alternative C would require approximately 950 AF during the construction phase and 48 AFY during the operational phase of the Project. Therefore, due to the minimal reduction of groundwater use under Alternative C, the potential impacts on groundwater would be consistent with those discussed in Section 3.11 for the proposed Project.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.74.~~5.2.6.11. Land Use and Planning

Alternative C would reduce the developable footprint of the Project by approximately 530 acres compared to the Project to allow establishment of a buffer between the Project and the Lake Tamarisk community. (See Figure 2-15) This alternative would also install two 10-foot-high berms along portions of the buffer boundary to shield views from Lake Tamarisk of some Project components. One berm would be at the northern edge of the buffer, adjacent to a planned solar array north of the buffer. The second berm would be on the eastern edge of the buffer, adjacent to a planned solar array east of the buffer. The berms would reduce visibility of some Project arrays and facilities for residents at Lake Tamarisk~~.~~, as would the relocated substation, BESS, and O&M building. This would reduce land-use related impacts that might arise, such as loss of open space proximate to the community and would move construction disturbances farther from residences.

As with the proposed Project, the Further Reduced Footprint Alternative with Berms would not cause a significant impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

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[2] Although the estimated Project construction period and decommissioning period described in the EIR Chapter 2 (Project Description) is 20 months, the water budgets (see GSI, 2024 Section 6) and Cone of Depression and Cumulative Drawdown Analysis (see GSI, 2024 Section 7), were developed in 1-year time steps, and therefore, assume the same overall water usage but over Project construction and decommissioning periods of 2 years.

~~5.2.1.75.~~5.2.6.12. Noise and Vibration

Alternative C would remove approximately 530 acres from development, when compared to the Project While acreage would be reduced, additional construction noise would occur with the installation of earthen berms in this alternative. The reduction in acreage would increase the distances to sensitive receptors from the proposed Project sources of noise and vibration. The decrease in solar panel area would result in a slight decrease in the potential for sensitive receptors to be exposed to noise and vibration near the existing community of Lake Tamarisk Desert Resort when compared with the impacts of the proposed Project. Given the distances between the Lake Tamarisk Desert Resort community and earthen berms in this alternative, the berms could provide a minor level shielding or reflection of sound propagation between Project sources and receivers.

Alternative C would reduce the noise and vibration levels experienced by sensitive receptors and reduce the noise and vibration impacts when compared to the proposed Project. Overall, the effects of Alternative C would be reduced from the proposed Project, and mitigation identified for the proposed Project would be the same for under this alternative.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.76.~~5.2.6.13. Paleontological Resources

Alternative C includes a minimum 1-mile buffer setback from the Lake Tamarisk Desert Resort, two 10-foot-high earthen berms, and relocation of the onsite substation/BESS and 500 kV gen-tie line. Alternative C would result in 530 acres that would not be developed as compared to the proposed Project. The partially relocated 500 kV gen-tie line would be more than 0.5 mile longer than the proposed Project gen-tie line. Despite the addition of the earthen berms, Alternative C would lead to a decrease in ground disturbance due to the large area of solar panels removed under this alternative. Operation of the project under Alternative C would be the same as for the proposed Project. Due to the decrease in ground disturbance, impacts related to damage or destruction of paleontological resources would be minimally less than for the proposed Project. Implementation of Mitigation Measures PR-1 through PR-4 would reduce potential adverse impacts on paleontological resources to a less-than-significant level.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.77.~~5.2.6.14. Population and Housing

Alternative C would reduce the developable footprint of the Project by approximately 530 acres to allow establishment of a greater than 1-mile buffer between the Project and the Lake Tamarisk community (See Figure 2-15). This alternative would also install two 10-foot-high berms along portions of the buffer boundary to shield views from Lake Tamarisk of some Project components. The Project substation and BESS would be relocated to lands by State Route 177 that would be developed with solar panels under the proposed Project. Alternative C would have similar construction and operational activities as the proposed Project, and therefore, Alternative C would have similar impacts to population and housing and impacts would be less than significant.

As with the proposed Project, the Further Reduced Footprint Alternative with Berms would not cause a significant impact due to directly or indirectly inducing substantial unplanned population growth.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.78.~~5.2.6.15. Public Services and Utilities

The Further Reduced Footprint Alternative with Berms would reduce the developable footprint of the Project by approximately 530 acres to allow establishment of a greater than 1-mile buffer between the Project and the Lake Tamarisk community (See Figure 2-15). This alternative would also install two 10-foot-high berms along portions of the buffer boundary to shield views from Lake Tamarisk of some Project components. The gen-tie line would be at least 1.3 to 1.45 miles longer than the proposed Project gen-tie line to connect to the relocated substation/BESS. As with the proposed Project, the Further Reduced Footprint Alternative with Berms would not cause a significant impact on public services and utilities.

Alternative C would have similar construction and operational activities as the proposed Project, and therefore, Alternative C would have similar impacts to public services and utilities, and impacts would be less than significant.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.79.~~5.2.6.16. Recreation

The Further Reduced Footprint Alternative with Berms would establish a buffer between the Project and the Lake Tamarisk community, thereby reducing the developable footprint of the Project by approximately 530 acres~~.~~ (see Figure 2-15 in Appendix A). The buffer would result in a large open space area around the community east of Kaiser Road. This alternative would also install two 10-foot-high berms along portions of the buffer boundary to shield views from Lake Tamarisk of some Project components. One berm would be at the northern edge of the buffer, adjacent to a solar array planned north of the buffer boundary. The second berm would be on the eastern edge of the buffer, adjacent to a planned solar array and BESS facility east of the buffer. The berms would reduce visibility of some Project arrays and facilities for residents at Lake Tamarisk and recreational users accessing the buffer area. There are no designated BLM Open Routes (trails) within the buffer area. The Further Reduced Footprint Alternative with Berms would reduce recreation related impacts that might arise from Project development, such as the loss of open space proximate to the community. The alternative would move construction disturbances farther from residences. This would improve recreational access and use of the area as compared to the proposed Project, which would restrict access.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.80.~~5.2.6.17. Traffic and Transportation

The Further Reduced Footprint Alternative with Berms would remove approximately 530 acres from development around Lake Tamarisk to create a 1-mile buffer between the Project and the community. The balance of the proposed Project would be developed as planned. Access to areas to be developed under this alternative would be like access under the proposed Project. Vehicles and equipment would enter and exit the project site using Kaiser Road and SR-177 at ingress/egress points to be determined in consultation with Caltrans and Riverside County. Most traffic would use I-10 to reach the Project area. With a somewhat smaller project, the level of traffic would be slightly diminished. However, this would not be substantial and would likely be largely unnoticed by residents and users of these roads.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.81.~~5.2.6.18. Wildfire

The Further Reduced Footprint Alternative with Berms would establish a development exclusion area north and east of the community of Lake Tamarisk, reducing the Project's footprint by 530 acres. Two 10-foot-tall berms would be constructed on the northwest end and east end of the development exclusion area. Solar panels would not be constructed within the development exclusion area, and the substation and BESS would be moved northeast farther away from the community of Lake Tamarisk. Construction activities would not occur within the 500-acre exclusion area adjacent to the community of Lake Tamarisk; therefore, there would be a decrease in the risk of fire hazards associated with installation of fewer solar panels, as construction duration and number of workers would be reduced. The risk of fire spreading to the community of Lake Tamarisk would further decrease due to the increase distance between the Project site and the community. The gen-tie line would follow an alternative route and would preclude nearly 14 acres of solar panels along its 175-foot-wide right-of-way, which may result in increasing the ground cover ratio of solar panels, expanding the Project footprint, or reducing solar generation output.

The alternative substation and BESS would be farther from the community of Lake Tamarisk but would result in similar construction impacts as the proposed Project, as the same construction activities and associated fire risks would still occur. During operations, the risk of a fire igniting at the substation or BESS and spreading to the community of Lake Tamarisk would decrease due to the increased distance from the community. The gen-tie line under this alternative would be approximately 0.65 miles longer than that under the proposed Project. Therefore, the risk of fire hazards from operation of the longer gen-tie line may slightly increase.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

5.2.7. Alternative D: Offsite Alternative – Impact Analysis

~~5.2.1.82.~~5.2.7.1. Aesthetics

The Offsite Alternative would consist of approximately 4,620 acres and a gen-tie line connecting to the Oberon Switchyard or the Red Bluff Substation. As shown in Figure 2-16, this alternative would be located east and north of the existing Athos Project, north of the Clearway Arica and Clearway Victory Pass projects, and north of the Palen Project. Therefore, the Offsite Alternative's solar facilities and gen-tie line would be substantially obscured from view by other existing solar projects and, in the case of the gen-tie line if it connects into Red Bluff Substation, would be close to other gen-tie lines as it approaches I-10 to span the freeway and connect into Red Bluff Substation. As a result, the Offsite Alternative's visual impact on views from I-10 and SR-177 would be minimized. Equally important, with viewing distances ranging from approximately 4 to 10 miles, and several intervening existing solar projects and associated gen-tie lines, the Offsite Alternative would have minimal impacts on views from Lake Tamarisk Desert Resort. Therefore, in the context of the numerous existing solar facilities and gen-tie lines, the Offsite Alternative would cause adverse but less-than-significant visual effects.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, however, unlike the proposed Project, the alternative's contribution would not be cumulatively considerable. The Offsite Alternative would only contribute to cumulative impacts in northern views (Desert Lily Sanctuary). From at-grade views from the south, east, or west, it would have minimal impact due to screening by other solar projects and vegetation. Alternative D would contribute slightly to cumulative visual impacts when viewed from elevated views (Alligator Rock), but the incremental impacts would be less than significant and are not considered to be cumulatively considerable.

~~5.2.1.83.~~5.2.7.2. Agriculture and Forestry

The Offsite Alternative (Alternative D) would be located southeast of the proposed Project application area and would include a gen-tie line to connect to the existing Oberon Switchyard or SCE Red Bluff Substation. None of the facilities under Alternative D would be on land zoned as Agriculture or within a parcel under a Williamson Act contract. There would be no direct, indirect, or cumulative impact to agriculture and forestry under Alternative D.

~~5.2.1.84.~~5.2.7.3. Air Quality

Alternative D would locate project components, including solar panels, further east of the community of Lake Tamarisk Desert Resort. The alternative site would increase the distances to sensitive receptors from the proposed Project sources of air pollutant emissions. The increased separation would result in a slight decrease in the potential for sensitive receptors to be exposed to emissions and pollutant concentrations near the existing community of LTDR when compared with the impacts of the proposed Project. However, longer travel distances over unpaved roads to reach the alternative site would increase the ~~risk of~~ dust emissions from vehicles traveling on these routes. By retaining a similar development footprint, the construction phase and operational emissions of Alternative D would not be appreciably changed compared to the proposed Project.

Alternative D would reduce the pollutant concentrations experienced by sensitive receptors and reduce air quality impacts when compared to the proposed Project. Overall, the direct, indirect, and cumulative effects of Alternative D would be slightly reduced from the proposed Project, and mitigation identified for the proposed Project would be the same under this alternative.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's incremental contribution would not be cumulatively considerable.

5.2.7.4. Biological Resources

The Offsite Alternative is located 3 miles east of the proposed Project site, directly east of the Athos Solar Project and directly north of the Arica, Victory Pass, and Palen Solar Projects. This alternative is located on approximately 4,620 acres. A gen-tie line to the Oberon Switchyard or Red Bluff Substation would pass between the Athos and Victory Pass Solar Projects.

Impacts to biological resources would be qualitatively similar to the proposed Project; however, much of the Offsite Alternative area is subject to biological constraints (Figure 3.5-11). Biological resources in the Offsite Alternative include desert dry wash woodland, Emory's crucifixion thorn, creosote bush rings, and occurrences of Harwood's eriastrum, which may be impacted by ground disturbance (Figure 3.5-11). Other rare plants, Harwood's wooly aster (*Eriastrum harwoodii*, CRPR 1B.2) and Harwood's milkvetch (*Astragalus insularis var. harwoodii*, CRPR 2B.2) have potential to occur.

The eastern half and northwestern portion of Offsite Alternative area supports active aeolian deposits, which are recognized as areas of higher biological value, and numerous Mojave fringe-toed lizards, which are a California species of special concern and BLM sensitive. Much of the Offsite Alternative area overlaps with the Mojave fringe-toed lizard species distribution model and impacts to this species would be significant. Construction in active aeolian sands would result in unstable soils and increased erosion throughout the Offsite Alternative area.

Several DRECP CMAs restrict development in aeolian sands on BLM-administered lands and require siting of projects in areas with least impact to sand dunes and associated species. Rare plants require a setback, creosote rings must be avoided, and desert dry wash woodlands require avoidance and setbacks. Mitigation Measures, as listed in Section 3.5.12, would be implemented to reduce impacts; however additional measures would be needed to address significant impacts to Mojave fringe-toed lizard and aeolian sands and it is unknown if mitigation is available to reduce impacts to a less than significant level; impacts may be significant and unavoidable.

~~5.2.1.85.~~5.2.7.5. Cultural and Tribal Cultural Resources

Under this alternative, an onsite substation would be constructed in the southern area of the site and an approximately 1 mile 500 kV gen-tie line would connect the onsite substation into the existing Oberon Switchyard or would connect directly into existing SCE Red Bluff Substation on the south side of Interstate 10 (approximately 1.8 miles). The gen-tie line would be at least 5 miles shorter than the gen-tie line under the proposed Project. However, under the Offsite Alternative, the number of CRHR eligible resources within the direct impact area would be the same as for the proposed Project, consisting of 3 archaeological resources, including P-33-023675 and the PTNCL and DTCCL historic districts. Results of the Phase I survey found no evidence of archaeological remains associated with any of these resources within the Project's direct impact area. As such, the direct impacts to cultural resources for this alternative would be the same as for the proposed Project.

Portions of the PTNCL, DTCCL, P-33-023675, and P-33-025150 are located within Alternative D's indirect impact area, similar to the proposed Project. Overall, the direct and indirect impacts of this alternative would be the same as the proposed Project and would be less than significant with mitigation implemented, as defined in Section 3.6. Therefore, the direct and indirect impacts of this alternative would be the same as the proposed Project, less than significant with mitigation implemented as defined above.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would be cumulatively considerable.

~~5.2.1.86.~~5.2.7.6. Energy

Alternative D would not result in any significant changes to the construction or operational activities as they relate to energy. Because Alternative D would retain a renewable energy generation capacity of 400 MW and would not change the capacity of the proposed BESS, the quantity of electricity produced by the solar PV component and the amount of energy able to be stored would be the same as with the proposed Project. Other effects on energy would not be appreciably changed compared to the proposed Project. The impacts of Alternative D would be similar to the proposed Project. The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.87.~~5.2.7.7. Geology, Soils, and Mineral Resources

The Offsite Alternative (Alternative D) would be similar to the proposed Project in size and components but would be entirely located in an area east of SR-177/Rice Road and the 500 kV gen-tie line would be at least 5 miles shorter than the gen-tie for the proposed Project. Construction of the Alternative D would disturb an area similar to the proposed Project. Operation of the project under Alternative D would be the same as the proposed Project.

Impacts related to slope stability, seismic hazards, expansive soils, mineral resources, topography, and subsidence would be the same as for the proposed Project. Based on biological surveys conducted of the Offsite Alternative area in Fall 2021 (Ironwood, 2021), areas of desert pavement are located in the south-western and eastern portions of Alternative D, with many of the areas within and adjacent to desert dry wash woodland. However, Alternative D would disturb less desert pavement than the proposed Project.

Most of the northern and eastern portions of Alternative D are located with the sand migration corridor for the Palen Lake dune system, which includes older stable dunes, active eolian sand and sand sheets, and active washes that are eolian sand sources (BLM, 2021). Ground disturbance for Alternative D could destabilize or destroy dunes and sand sheets which serve as critical habitat. Additionally, within the sand transport corridor, most sand transport occurs close to the ground through the processes of rolling and saltation (bouncing of sand particles), and solar project components may block this action, resulting in loss of or redirection the sand source for sand dunes and sand sheets (BLM, 2021). Alternative D construction and operation could result in the loss of onsite sand migration and active sand sheets and the loss of sand sources for offsite dunes which could cause the erosion of on- and offsite existing dunes without replacement from upwind sources (BLM, 2021). Design of Alternative D to minimize damage to dunes and sand sheets and interference and blocking of sand migration would reduce impacts to the sand migration corridor and sand migration zones, however based on the placement of the alternative within the sand migration corridor impacts to sand migration and critical sand dune habitat would be unavoidable. Several DRECP CMAs restrict development and require sediment transport and deposition to be continued on BLM-administered land in these areas, including LUPA-BIO-DUNE-1, LUPA-BIO-DUNE-2, and LUPA-BIO-DUNE-3.

Due to most of Alternative D being with a sand transport corridor that contains soils with a high percentage of fine eolian sand, these soils are likely to be more erodible than the soils within the proposed Project site. However, implementation of MM AQ-1, MM BIO-1, MM BIO-3, MM BIO-5, MM HWQ-1, and MM HWQ-5, and applicable local, State, and federal regulations would reduce impacts to less than significant.

~~5.2.1.88.~~5.2.7.8. Greenhouse Gas Emissions

Alternative D would not result in any significant changes to the construction or operational activities as they relate to GHG emissions. Because Alternative D would retain a renewable energy generation capacity of 400 MW and would not change the capacity of the proposed BESS, the quantity of electricity produced by the solar PV component and the potential avoidance of GHG emissions would be the same as with the proposed Project. Other effects on GHG emissions would not be appreciably changed compared to the proposed Project. The direct, indirect, and cumulative impacts of Alternative D would be similar to the proposed Project.

~~5.2.1.89.~~5.2.7.9. Hazards and Hazardous Materials

The Offsite Alternative (Alternative D) would be of similar size as the proposed Project but would locate proposed Project components, including the solar arrays, in a location further from the LTDR and east of SR-177/Rice Road. The relocation of the proposed Project would result in the gen-tie line being at least 5 miles shorter than the gen-tie line under the proposed Project, Reduced Footprint Alternative (Alternative B), and Further Reduced Footprint Alternative with Berms (Alternative C). Construction, operation, and maintenance activities for Alternative D would be the same as for the proposed Project.

Impacts related to use and storage of hazardous materials, potential for spills or leaks of hazardous materials, and aviation hazards, would be the same as for the proposed Project and would be reduced to less than significant through compliance with local, State, and federal regulations. Alternative D is similar in size to the proposed Project and would have similar potential for wildland fires to impact the public, potential for exposure of the public to contracting Valley Fever, potential for workers and the public to be exposed to pesticides or herbicides, and potential for workers to encounter unexploded ordnance. The relocation of the proposed Project further from the LTDR would result in a slight decrease in the potential for residents of the LTDR to be exposed to these impacts as compared to the proposed Project, Alternative B, and Alternative C. However, hazards and hazardous materials impacts would be reduced to less than significant by implementing of the same mitigation measures as for the proposed Project (MM AQ-1, MM FIRE-1, MM HAZ-1, MM HAZ-2, MM HAZ-3), as appropriate, and compliance with applicable local, State, and federal regulations. The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.90.~~5.2.7.10. Hydrology and Water Quality

The Offsite Alternative includes a Project developable footprint of approximately 4,620 acres and a gen-tie to the Red Bluff Substation. Topography and existing drainage conditions on the site are similar to those of the proposed project. Project features are assumed to be similar to the proposed Project under the Offsite Alternative. Surface water impacts would therefore remain the same as for the proposed Project, but possibly increased in magnitude due to the enlarged Project application area. The Offsite Alternative would require the same mitigation measures to be implemented as would be required for the proposed Project, with the same impact significance. Therefore, because both the proposed Project and the Offsite Alternative would result in less than significant impacts with adherence to all applicable regulations and mitigation measures, impacts related to hydrology and water quality from the Offsite Alternative would be similar to those of the proposed Project.

In June 2023, BLM issued a Proposed Rule to amend its existing ROW regulations, issued under authority of the Federal Land Policy and Management Act (FLPMA), and is considering issuing Right-of-Way (ROW) grants for durations of up to 50 years (BLM, 2023). To prepare for potential issuance of a 50-year ROW Grant by the BLM (outside of CEQA) and to determine whether there are sufficient supplies to sustain the Project, the Easley WSA conservatively extends the total projected period of the Project to 52-years. For the purpose of the CVGB water budget (see GSI, 2024 Section 6) and predictive Project water demand impacts analysis (see GSI, 2024 Sections 5.4 and 7) presented herein, 52 years is equivalent to the projected total duration of the Project, including construction (20 months), operations (48 years), and decommissioning (20 months).[3]

The Project would use up to 1,000 AF during the planned 20-month construction period and up to 50 AFY during the Project's operational and decommissioning periods. The Project would use a total of approximately 3,500 AF over the assumed 52-year life of the Project. If the estimated water demand for the Project was used equally per acre (the Project is proposed on approximately 3,735 acres), the Project would use approximately 0.27 AF per acre during construction and 0.01 AF per acre per year during the operational phase of the Project. Using the same AF per acre water use assumptions, the Offsite Requested Alternative would require approximately 1,240 AF during the construction phase and 62 AFY during the operational phase of the Project.

Although there would be an increase in groundwater use under the Offsite Alternative, the potential impacts on groundwater are anticipated to be consistent with those discussed in Section 3.11.6 for the proposed Project.

The Easley WSA (GSI, 2024; see EIR Appendix G) discusses the occurrence of potential groundwater dependent ecosystems within the CVGB. Groundwater dependent ecosystems (GDEs) are defined as ecological communities or species that depend on groundwater emerging from aquifers or on groundwater present near the ground surface. Principal plant types of the CVGB include palo verde (*Parkinsonia florida*), shrubby seepweed (*Suaeda moquinii*), honey mesquite (*Prosopis glandulosa*), desert lavender (*Condea emoryi*), creosote-bush (*Larrea tridentata*), iodine bush (*Allenrolfea occidentalis*), and ironwood

3 Although the estimated Project construction period and decommissioning period described in the EIR Chapter 2 (Project Description) is 20 months, the water budgets (see GSI, 2024 Section 6) and Cone of Depression and Cumulative Drawdown Analysis (see GSI, 2024 Section 7), were developed in 1-year time steps, and therefore, assume the same overall water usage but over Project construction and decommissioning periods of 2 years.

(*Olneya tesota*). Screening for these potential GDEs in the CVGB (particularly near the Project) indicated their occurrence was primarily within or adjacent to Palen Dry Lake.

An analysis of depth to groundwater in the regional aquifer within the western portion of the CVGB was used to screen areas in which these GDEs could potentially gain access to groundwater from the regional aquifer. The groundwater model (used for the Easley WSA Cone of Depression and Cumulative Drawdown Analysis) was used to simulate changes in regional water levels in response to solar project development through expected project decommissioning in the year 2075. The modeling results show that only minor changes in regional groundwater levels (lowering of groundwater levels up 0.5 to 0.25 feet within the areas of the GDEs) would result from development of the planned cumulative solar projects compared to simulated 2075 baseline conditions and would not have an effect on the ability of the GDEs to access groundwater.

The Offsite Alternative would shift the Project location immediately south-southwest of Palen Dry Lake and Big Wash, coincident with the occurrence of some the potential GDEs discussed above (and identified in the Easley WSA). The drawdown of the regional aquifer in the western half of the CVGB from development of the planned cumulative solar projects under the Offsite Alternative is anticipated to be similar to the drawdown discussed above. However, because the Project's pumping well(s) would be located closer to the potential GDEs identified in the CVGB, there is an increased possibility of impact to any GDEs located in the Palen Dry Lake Area and Big Wash, adjacent to the Offsite Alternative proposed Project location, due to the proximity of the Project well's cone of depression to the GDEs.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.91.~~5.2.7.11. Land Use and Planning

The Offsite Alternative would develop a solar project east of SR-177 and east and south of the Desert Center Airport on lands not currently occupied by existing solar projects. At its closest, the Offsite Alternative would be over 3.5 miles from the Lake Tamarisk community. This alternative would require a new gen-tie line between the project and either the Oberon Switchyard or SCE's Red Bluff Substation south of I-10, crossing over the freeway rather than tying into the Oberon Switchyard north of I-10.

Approximately half of the P~~p~~roject site is within the Desert Center Area Plan (DCAP). Under DCAP the Project area is designated as open space/conservation, which is the designation applied to nearly all of the DCAP area. The County General Plan applies the same designation to the alternative project site outside of the DCAP. However, most of the land in the Offsite Alternative is under BLM rather than County jurisdiction. Development of a solar project at the Offsite Alternative site would abut several existing solar projects to the south.

As with the proposed Project, the Offsite Alterative would not cause a significant direct, indirect, or cumulative impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

~~5.2.1.92.~~5.2.7.12. Noise and Vibration

Alternative D would locate project components, including solar panels, further east of the community of Lake Tamarisk Desert Resort. The alternative site would increase the distances to sensitive receptors from the proposed Project sources of noise and vibration. The increased separation would result in a slight decrease in the potential for sensitive receptors to be exposed to noise and vibration near the existing community of LTDR when compared with the impacts of the proposed Project.

Alternative D would reduce the potential for noise and vibration experienced by sensitive receptors and reduce noise and vibration impacts when compared to the proposed Project. Overall, the direct, indirect, and cumulative effects of Alternative D would be reduced from the proposed Project, and mitigation identified for the proposed Project would be the same under this alternative.

The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.93.~~5.2.7.13. Paleontological Resources

The Offsite Alternative (Alternative D) would be similar to the proposed Project in size and components but would be entirely located in an area east of SR-177/Rice Road and the 500 kV gen-tie line would be at least 5 miles shorter than the gen-tie for the proposed Project. Construction of the Alternative D would disturb an area similar to the proposed Project. Operation of the project under Alternative D would be the same as the proposed Project.

The Offsite Alternative is underlain by Recent dune sand and Recent alluvium (BLM, 2021). The recent dune sand consists primarily of wind-blown (eolian) sand in the form of dunes and sheets that sometimes has "blowouts" between the eolian sand features (area where the sand has blown away and the underlying sediment is exposed). The Recent alluvium (Qal) is described as alluvial sand, silt, clay, and gravel, including locally some older alluvium (BLM, 2021). The Paleontological Survey report conducted for the adjacent Arica Solar project (BLM, 2021) identified Pleistocene fossils within the areas mapped as Recent alluvium. The Arica Solar Paleontological Survey assigned the Recent dune sand a rating of PFYC 2 (Low), the intervening valley floor between the dunes and the "blowouts" was rated PYFC 4 (High), and the Recent alluvium (Qal) was rated as PFYC 3 (Moderate). Although the Offsite Alternative would disturb an approximately equivalent area, due to the large areas of dune sand underlying this alternative with low paleontological potential (PFYC 2), there is a minimally decreased potential to disturb or destroy paleontological resources as compared to the proposed Project. Similar to the proposed Project, i~~I~~mplementation of Mitigation Measures PR-1 through PR-4 would reduce potential adverse impacts on paleontological resources to a less-than-significant level. The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.94.~~5.2.7.14. Population and Housing

The Offsite Alternative would develop a solar project east of SR--177 and east and south of the Desert Center Airport on lands not currently occupied by existing solar projects. At its closest, the Offsite Alternative would be over 3.5 miles from the Tamarisk Lake community. This alternative would require a new gen-tie line between the project and either the Oberon Switchyard or SCE's Red Bluff Substation south of I-10. Alternative D would have similar construction and operational activities as the proposed Project, and therefore, Alternative D would have similar impacts to population and housing and impacts would be less than significant.

As with the proposed Project, the Offsite Alternative would not cause a direct, indirect, or cumulative significant impact due to directly or indirectly inducing substantial unplanned population growth.

~~5.2.1.95.~~5.2.7.15. Public Services and Utilities

The Offsite Alternative would develop a solar project east of SR--177 and east and south of the Desert Center Airport on lands not currently occupied by existing solar projects. At its closest, the Offsite Alternative would be over 3.5 miles from the Tamarisk Lake community. This alternative would require a new gen-tie line between the project and the existing Oberon Switchyard or SCE's Red Bluff Substation south of I-10, crossing over the freeway rather than tying into the Oberon substation north of I-10. As with the proposed Project, Alternative D would not cause a significant impact on public services and utilities. Alternative D would have similar construction and operational activities as the proposed Project, and therefore, Alternative D would have similar direct, indirect, and cumulative impacts to public services and utilities and impacts would be less than significant.

~~5.2.1.96.~~5.2.7.16. Recreation

The Offsite Alternative would develop a solar project east of SR-177 and over 3.5 miles from the Tamarisk Lake community. This alternative would be adjacent to and north of other existing solar projects located north of I-10 and southeast of the Desert Center Airport and Chuckwalla valley raceway. The alternative site overall is approximately 4,620 acres. This alternative would require a new gen-tie line between the Project and either the Oberon Switchyard or SCE's Red Bluff Substation south of I-10, crossing over the freeway rather than tying into the Oberon Switchyard north of I-10.

Most of the land in the Offsite Alternative is under BLM rather than County jurisdiction. BLM Open Routes DC378 and DC511 are found in the southwest corner of the site. BLM Open Route DC378 has been truncated on the west and east by existing solar projects and no longer provides a through route.

BLM Open Route DC511 remains as an open route through the solar projects in the area and would be accommodated by the layout of any arrays under the Offsite Alternative. BLM Open Route DC502 is a BLM Open Route in the southeast quadrant of the alternative site that ends within the site. However, it has been truncated by existing solar projects south of the alternative. The Desert Lily Sanctuary is approximately 3.6 miles north of the site, near SR-177. Most of the land north of the alternative site is under BLM jurisdiction and open to recreational users.

The Offsite Alternative would limit recreational access immediately north of the existing solar projects. Assuming that the lands planned to be used for the proposed Project remain undeveloped, the Offsite Alternative would result in undiminished recreational access for users around the Lake Tamarisk community. The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.97.~~5.2.7.17. Traffic and Transportation

The Offsite Alternative would be in an area remote from existing paved roads. It would be north of existing solar projects previously developed north of I-10 and east of SR-177 (Rice Road). Access to the Offsite Alternative location would be by way of unpaved roads off of SR-177 and, possibly, Ragsdale Road. These would likely be roads used for the development of the existing solar project in the vicinity or routes along power lines. One point of access may via BLM Open Route DC322, a BLM Open Route near the Desert Center Airport. Using this route, the western edge of the Offsite Alternative is approximately 2.6 miles from SR-177. Also, BLM Open Route DC510 (Comanche Trail) extends east from SR-177 to a junction with DE322. This route is approximately 3.22 miles from SR-177 to the western edge of the alternative site. An unnamed dirt access road north from Ragsdale Road extends 4.7 miles to a point where a 0.5-mile spur road could be developed northward to access the alternative site. It may be feasible to develop a new road to the alternative site's eastern end from the Corn Springs Road exit on I-10, approximately 9.3 miles east of Desert Center, although such a route would be hampered by existing solar arrays, resulting in a circuitous route.

While the Offsite Alternative would eliminate project-related traffic from Kaiser Road, it is likely to simply shift the traffic to SR-177, thereby increasing traffic on this highway. Longer travel distances over unpaved roads to reach the alternative site would increase the dust emissions from vehicles traveling on these routes and would potentially limit access to the site during and after storm events when dirt roads may be impassable. The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

~~5.2.1.98.~~5.2.7.18. Wildfire

The Offsite Alternative would be located east of SR-177/Rice Road and east and north of existing developed solar projects, including Athos, Victory Pass, Arica, and Palen Solar Projects. The developable acreage is approximately 4,620 acres, and the gen-tie line under this alternative would be shorter than under the proposed Project. This alternative may result in slightly greater wildfire risks during construction compared to the proposed Project due to potential increase in application area (4,620 acres compared to 3,735 acres). However, this alternative would result in a reduced risk of wildfire spreading to the community of Lake Tamarisk due to the increased distance from the community and with existing solar facilities acting as potential buffers that may slow down the spread of a potential fire. Furthermore, the shorter gen-tie line length would result in a slight decrease in risk of fire hazards. The types of potential cumulative impacts would be as described for the proposed Project in Chapter 3, and the alternative's contribution would not be cumulatively considerable.

5.2.8. Alternative E: Distributed Commercial and Industrial Rooftop Solar Alternative – Impact Analysis

~~5.2.1.99.~~5.2.8.1. Aesthetics

The installation of small to medium solar PV systems on large commercial and industrial rooftops would be visually unobtrusive or not noticeable from receptors at ground level. While such systems may be visible from other vantage points, the installation of rooftop small to medium solar PV systems would not likely affect the visual character or quality of an area, because the character or quality of an area has already been altered as a result of the existing building's construction. Compliance with city or county ordinances and rooftop solar ordinances would ensure that aesthetics impacts would be less than significant.

More severe impacts may result if rooftop solar were proposed on historic buildings, because such installations could affect the historic character and integrity of the buildings. Implementation of this alternative would require historic surveys and investigations to evaluate the eligibility of potentially historic structures that are over 50 years old. Such structures would either have to be avoided, or there would have to be incorporation of design measures to minimize impacts on historic integrity of historically significant structures. The Distributed Commercial and Industrial Rooftop Solar Alternative would have less than significant direct, indirect, and cumulative impacts on aesthetics.

~~5.2.1.100.~~5.2.8.2. Agriculture and Forestry

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Since the solar PV systems proposed for this alternative would be constructed on existing structures, this alternative would not create any changes in the existing environment that would convert land that is designated Farmland or forest land to non-agricultural or non-forest uses. As such, no direct, indirect, or cumulative impacts to agriculture or forestry resources would occur.

~~5.2.1.101.~~5.2.8.3. Air Quality

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Under this alternative, no construction activities associated with ground disturbance would occur, reducing some temporary construction-related air quality impacts. However, depending on the availability and location of rooftops, this alternative may require a substantial number of truck trips to transport the solar panels, racking systems and associated electrical equipment to dispersed locations, potentially resulting in significant emissions. However, the construction associated with this alternative is unlikely to create dust during construction since installation of solar systems is assumed to take place in already paved and developed areas.

During operation, this alternative would have similar impacts on air quality as the project related to occasional vehicular visits for maintenance. As such, operational impacts would be less than significant.

5.2.8.4. Biological Resources

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout Riverside County. The Project site would remain undeveloped and only developed areas, typically on the rooftops of commercial and industrial facilities would be modified.

Given that rooftops of existing commercial and industrial facilities would be used for solar PV system installation, these areas would be unlikely to provide habitat for special-status species. Development of this alternative would not disturb any land or remove habitat for special-status plants and wildlife or have a substantial adverse effect on any riparian habitat. As such, the requirement for mitigation measures would be unlikely, and impacts would be less than significant.

~~5.2.1.102.~~5.2.8.5. Cultural and Tribal Cultural Resources

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout Riverside County. Given that development would occur on the rooftops of existing structures, there would be no potential for disturbance or damage to buried archaeological resources and human remains. If rooftop solar systems were proposed on historic buildings, this alternative could affect the historic character and integrity of these buildings, as well as the character and views of adjacent historical resources. However, historic surveys and investigations would be conducted prior to project construction to identify known eligible historical resources and to evaluate the eligibility of potentially historic structures that are 50 years or older; historic structures would be either avoided or the alternative would be required to incorporate mitigation and design measures to minimize the impact on these structures. In the case of eligible historical resources, design measures must be in accordance with the Secretary of the Interior standards and the impact must not affect the eligibility of such resources or adjacent resources. Therefore, unanticipated impacts to unknown or known cultural resources would not occur under this alternative. Impacts would be less than significant. With the appropriate mitigation measures in place to reduce impacts to historical resources, the potential to disturb or discover unknown cultural resources within the project area would be less than significant.

With respect to Tribal Cultural Resources, the Distributed Commercial and Industrial Rooftop Solar Alternative, it is unlikely that the proposed rooftop solar systems would have an impact. However, prior to construction of the components of this alternative, the Native American Heritage Commission would be contacted for a search of the Sacred Land Files for the areas surrounding each of the facilities that would be installed under Distributed Commercial and Industrial Rooftop Solar Alternative. In addition, the County would conduct additional consultation with California Native American tribes on the County's Master List for AB 52, apprising them of the alternative project description.

It is anticipated that the Sacred Land Files and consultation would not result in the identification of any tribal cultural resources that could be impacted by the alternative, either directly or indirectly; however, should it be determined the potential exists, this construction occurring under this alternative would avoid impacting any such resources through avoidance and re-design. Due to the nature of the Distributed Commercial and Industrial Rooftop Solar Alternative, it is very unlikely to have an impact on tribal cultural resources. As such, the Distributed Commercial and Industrial Rooftop Solar Alternative would have no direct, indirect, or cultural impact on tribal cultural resources and no mitigation would be required.

~~5.2.1.103.~~5.2.8.6. Energy

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout Riverside County. Construction of this alternative may require a significant number of trucks trips to transport and install the solar panels on the rooftops of existing buildings in dispersed locations, although it would not require off-road driving or off-road construction equipment. Therefore, the Distributed Commercial and Industrial Rooftop Solar Alternative likely would have a less than significant impact related to wasteful, inefficient, or unnecessary consumption of energy resources and this alternative likely would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Likewise, the cumulative impact would be less than significant. The Project's incremental contribution to impacts to population and housing would not be cumulatively considerable.

~~5.2.1.104.~~5.2.8.7. Geology, Soils, and Mineral Resources

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout Riverside County. Given that only developed areas would be modified and the systems would be installed on existing structures, there would be no potential for the Distributed Commercial and Industrial Rooftop Solar Alternative to directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, and landslides. Such a solar installation would not result in substantial soil erosion or loss of topsoil, create onsite or offsite landslides, or be located on expansive soil. Development of rooftop solar would require adherence to all requirements of the Riverside County Building Ordinances. Therefore, impacts would be less than significant.

Direct, indirect, and cumulative i~~I~~mpacts to mineral resources would not be expected to occur, since this alternative would not create new ground disturbance.

~~5.2.1.105.~~5.2.8.8. Greenhouse Gas Emissions

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. This alternative would not generate GHG emissions from off-road equipment, but a substantial number of truck trips may be required to transport solar panels to dispersed rooftop locations and to support installation personnel. Additionally, the distributed systems on rooftops would lack tracking systems and be less efficient, generating less energy per panel than those that would be installed as part of the proposed Project.

In addition, this alternative includes no energy storage, whereas the project would provide 650 MW of storage to maintain energy-generating capacity when sunlight is not available. As such, this alternative has a reduced ability to offset GHG emissions from fossil-fueled generation.

Therefore, the Distributed Commercial and Industrial Rooftop Solar Alternative likely would have less than significant impacts related to generating GHG emissions that may have a significant impact on the environment or consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. However, impacts related to GHG emissions would be greater under this alternative compared to the proposed Project due to the lower efficiency of the distributed systems, which would not include solar tracking technology and battery energy storage.

~~5.2.1.106.~~5.2.8.9. Hazards and Hazardous Materials

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout Riverside County. The installation of rooftop solar equipment on existing structures would involve few hazardous materials (such as chemicals and fuels that are used for construction on undeveloped sites).

Because the construction of rooftop solar would likely be permitted through compliance with local ordinances and permit requirements, no additional mitigation is assumed to be required. Permits would likely require some level of control of hazardous materials and post-installation inspections to ensure that site clean-up is completed. Likewise, the cumulative impact would be less than significant. The Project's incremental contribution to impacts to population and housing would not be cumulatively considerable.

~~5.2.1.107.~~5.2.8.10. Hydrology and Water Quality

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout Riverside County. No ground disturbance related to construction would be required under this alternative.

Compliance with the NPDES Construction General Permit and development and implementation of a SWPPP would not be required under the Distributed Commercial and Industrial Rooftop Solar Alternative. Construction would be authorized through permit requirements and compliance with local ordinances. Installation of small to medium rooftop solar PV systems on existing commercial and industrial facilities in Riverside County would have no effect on existing drainage patterns, and flow paths would not be altered.

Riverside County is located well inland and far from the ocean or any enclosed or semi-enclosed water body such that there would be no potential threat from tsunami or seiche hazards; these impacts would be less than significant. In addition, water demand for construction and operation phases under the Distributed Commercial and Industrial Rooftop Solar Alternative would be small, and likely provided by local municipal sources with no effect on groundwater. Therefore, implementation of this alternative would not conflict with groundwater management practices; potential impacts would be less than significant. Likewise, the cumulative impact would be less than significant. The Project's incremental contribution to impacts to population and housing would not be cumulatively considerable.

~~5.2.1.108.~~5.2.8.11. Land Use and Planning

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout Riverside County. Installation of rooftop solar would be permitted only where consistent with current zoning as well as existing land use plans, policies, and regulations.

The Distributed Commercial and Industrial Rooftop Solar Alternative would also support County's goals and policies relative to accommodating renewable energy facilities. However, the placement of solar panels on other structures throughout the region would result in unknown entitlement requirements, depending on the project location, zoning, land use, and potential environmental impacts on the site and surrounding areas. Each project proponent would be required to comply with the specific entitlements needed to construct solar PV systems consistent with this alternative. As a result of anticipated compliance with existing requirements, impacts to land use and planning would be less than significant. Likewise, the cumulative impact would be less than significant. The Project's incremental contribution to impacts to land use would not be cumulatively considerable.

~~5.2.1.109.~~5.2.8.12. Noise and Vibration

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Rooftops of existing commercial and industrial buildings that would be developed under this alternative would be located in developed, and primarily industrial and commercial areas. As a result, while noise related to construction activities could impact sensitive receptors like residences, it is more likely that construction noise would not be noticeable. The operational noise generated from these solar PV systems would be minor, because the inverters required for rooftop solar systems are small and relatively quiet.

With regard to vibration, construction of the Distributed Commercial and Industrial Rooftop Solar Alternative would not require the use of vibratory rollers or other construction equipment with high groundborne vibration levels. Therefore, it is likely that construction vibration would have a less than significant construction vibration impact. Similar to the proposed Project, operation of the Distributed Commercial and Industrial Rooftop Solar Alternative would require regular maintenance trucks and panel washing activities. Whether rooftop solar systems are proposed on historic buildings, which are more susceptible to vibration damage, or other types of newer buildings, this level of vibration would not exceed vibration thresholds and, as such, would result in less than significant impacts. Likewise, the cumulative impact would be less than significant. The Project's incremental contribution to impacts to population and housing would not be cumulatively considerable.

~~5.2.1.110.~~5.2.8.13. Paleontological Resources

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout Riverside County. This development would occur on the rooftops of existing structures, and would not require ground disturbance. As a result, there would be no potential for direct, indirect, or cumulative disturbance or damage to buried paleontological resources.

~~5.2.1.111.~~5.2.8.14. Population and Housing

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar photovoltaic systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout Riverside County. Development would occur on the rooftops of existing structures, and would not require construction of new buildings or housing. Construction would be done by workers already employed by solar installation companies in the county. There would be no direct, indirect, or cumulative impacts driving increased population or the need for more housing.

~~5.2.1.112.~~5.2.8.15. Public Services and Utilities

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout Riverside County and the project site would remain undeveloped. The Distributed Commercial and Industrial Rooftop Solar Alternative would not introduce structures into a currently undeveloped area and is not expected to temporarily or permanently increase the concentration of people in an area, driving the demand for additional services.

With regard to fire protection, it is expected that rooftop solar PV systems would be installed in urbanized areas with existing fire services. However, a large increase in rooftop solar could result in the need to expand electric distribution systems to accommodate flow of power in and out of local substation. This alternative would require any developer to pay applicable County fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative. Implementation of permit conditions and conditions of local ordinances would result in impacts related to fire protection being less than significant.

With regard to police protection, because the proposed small to medium solar PV systems would be installed in developed areas on existing buildings, it is unlikely that construction and operation of the alternative would require additional police presence or attention. While there would be increased levels of traffic with truck trips during construction and routine maintenance during operation of this alternative, these volumes would be minimal and would not likely have a significant and adverse effect on County protective service provision or CHP’s ability to patrol the highways. Impacts would be less than significant.

With regard to water demand, the Distributed Commercial and Industrial Rooftop Solar Alternative would likely require minimal water as no dust suppression would be required during construction. This alternative would also result in minimal generation of wastewater and usage of electrical power, natural gas, and telecommunications. In addition, construction of the Distributed Commercial and Industrial Rooftop Solar Alternative would not substantially alter stormwater drainage.

With regard to operation, solar panel washing for rooftop solar facilities is infrequent, given the location of panels on rooftops of buildings throughout developed areas of Riverside County. As the Distributed Commercial and Industrial Rooftop Solar Alternative would not require construction in unpaved areas, this alternative would not result in new impervious surfaces.

Overall, impacts to public services, utilities, and service systems would be less than significant. Likewise, the cumulative impact would be less than significant. The Project’s incremental contribution to impacts to population and housing would not be cumulatively considerable.

~~5.2.1.113.~~5.2.8.16. Recreation

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout Riverside County and the project site would remain undeveloped. Because the facilities installed in the Distributed Commercial and Industrial Rooftop Solar Alternative would be installed in developed areas that would be typically industrial or commercial areas. These areas tend not to support recreational facilities because there is little residential population creating demand for recreational opportunities. As a result, the impact to recreation would be less than significant. Likewise, the cumulative impact would be less than significant. The Project’s incremental contribution to impacts to population and housing would not be cumulatively considerable.

~~5.2.1.114.~~5.2.8.17. Traffic and Transportation

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout Riverside County.

Construction of this alternative would require numerous vehicle trips during construction to transport and install the solar panels. However, the trips would be widely dispersed throughout the developed areas of the County, given the location of the existing facilities, thereby avoiding impacts on rural roadways. Due to dispersed locations of rooftop installations, roadways within Riverside County are not expected to operate at levels that would trigger a significant transportation impact during construction of this alternative.

During operation of this alternative, day-to-day operations and maintenance trips would be infrequent and would not substantially add to traffic in the county. However, as with construction, these maintenance trips would be dispersed given the location of the existing facilities. Due to the dispersed location of anticipated facilities, construction and operational impacts would be less than significant.

With regard to consistency with CEQA *Guidelines* Section 15064.3(b), the operation of the Distributed Commercial and Industrial Rooftop Solar Alternative would not increase vehicle trips or distances for the workforce already occupying the buildings that host the rooftop panels. There would be some increase in vehicle trips, but primarily during construction, so vehicle trips would not be ongoing. The occasional maintenance activities may be performed by workers already employed onsite. Therefore, impacts related to vehicle miles traveled would be less than significant under the Distributed Commercial and Industrial Rooftop Solar Alternative. Likewise, the cumulative impact would be less than significant. The Project's incremental contribution to impacts to population and housing would not be cumulatively considerable.

5.2.8.18. Wildfire

Under the Distributed Commercial and Industrial Rooftop Solar Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout Riverside County. The addition of large amounts of rooftop solar generation facilities could require installation of expanded electric distribution facilities (lines or substations) in the developed areas. However, these facilities would be constructed in urban areas with little open space and wildfire risk. The potential risks associated with rooftop solar facilities are generally addressed in building codes and ordinances specific to installation of these systems, and the residual risk would be less than significant.

Development of the Distributed Commercial and Industrial Rooftop Solar Alternative would not require grading and excavation at each project site. As a result, there is little likelihood of construction-induced fire risk. Likewise, the cumulative impact would be less than significant. The Project's incremental contribution to impacts to population and housing would not be cumulatively considerable.

5.3. Comparison of Alternatives

This subsection summarizes and compares the environmental advantages and disadvantages of the proposed Project and the alternatives evaluated in this EIR. This comparison is based on the assessment of environmental impacts of the proposed Project and each alternative, as identified in Section 3 (Environmental Impacts of Proposed Project~~ and Alternatives~~) and Section 5.2 (Alternatives Analyzed in Detail).

~~5.2.2.~~5.3.1. CEQA Requirements for Alternatives Comparison

CEQA requires the following for alternatives analysis and comparison:

> The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. *State Guidelines Section 15126.6(d)*

If the environmentally superior alternative is the No Project Alternative, CEQA requires identification of an environmentally superior alternative among the other alternatives [State CEQA Guidelines Section 15126.6I(2)].

~~5.2.3.~~5.3.2. Comparison Methodology

The following methodology was used to compare alternatives in this EIR:

- **Step 1: Identification of Alternatives.** A screening process (described in Section 2.8, *Alternatives Analyzed in Detail*) was used to identify alternatives to the proposed Project. A No Project Alternative was also identified. This range of alternatives is sufficient to foster informed decision-making and public participation. No other feasible alternatives meeting most of the Project objectives were identified that would lessen or alleviate significant impacts.
- **Step 2: Determination of Environmental Impacts.** The environmental impacts of the proposed Project and alternatives were identified in Section 3 and Section 5.2, respectively, including the potential impacts of solar facility and gen-tie transmission line construction and operation. A summary of the significant impacts that cannot be mitigated (Class I impacts) are described in Section 5.3.3.3. Highlighting these areas of significant impacts that the proposed Project cannot avoid identifies the impact of concern when considering whether there is an alternative that would be capable of reducing these effects to a less than significant level compared to the proposed Project, and whether an alternative would create new significant impacts. This simplifies identification of the environmentally superior alternatives while considering all issue areas equally.
- **Step 3: Comparison of Proposed Project and Alternatives.** The environmental impacts of the proposed Project were compared to those of each alternative to determine the environmentally superior alternative. The environmentally superior alternative was then compared to the No Project Alternative.

Determining an environmentally superior alternative requires balancing many environmental factors. In order to identify the environmentally superior alternative, the most important impacts in each issue area were identified and compared in Table 5-1. Although this EIR identifies an environmentally superior alternative, it is possible that the decision-makers could balance the importance of each impact area differently and reach different conclusions. In other words, the lead agency is not required to select the environmentally superior alternative. CEQA's "substantive mandate" only requires the selection of one alternative over others if that alternative is feasible, based on a list of statutory factors, and if it will avoid one or more significant effects on the environment compared to other alternatives.

~~5.2.4.~~5.3.3. Comparison of the Proposed Project and Alternatives

~~5.2.4.1.~~5.3.3.1. Ability to Meet Project Objectives

The Applicant's purpose for the Project is to generate, store, and transmit renewable energy to the state-wide wholesale electricity grid. The Applicant's identified Project objectives are:

1. Support climate and clean energy goals of the Inflation Reduction Act of 2022 by helping to tackle the climate crisis and work towards achievement of President Biden's goal of a zero-carbon power sector by 2035 and zero-carbon economy by 2050 through development of clean electricity (power sector);
2. Assist the nation to meet its Nationally Determined Contribution commitments under Article 4 of the Paris Climate Agreement to achieve a 50 to 52 percent reduction in U.S. greenhouse gas pollution from 2005 levels by 2030, and to achieve 100 percent carbon pollution-free electricity by 2035 in the electricity sector;
3. Further the purpose of Secretarial Order 3285A1, establishing the development of environmentally responsible renewable energy as a priority for the Department of the Interior;
4. Deliver up to 400 MW of affordable, wholesale renewable energy to California ratepayers under long-term contracts with electricity service providers;
5. Assist with achieving California's renewable energy generation goals under the Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350) and the 100 Percent Clean Energy Act of 2018 (Senate Bill 100), as well as greenhouse gas (GHG) emissions reduction goals of the California Global Warming Solutions Act of 2006 (AB 32), as amended by Senate Bill 32 in 2016;
6. Enhance California's fossil-free resource adequacy capabilities and help to solve California's "duck curve" power production problem by installing up to 650 MW of 2-hour and/or 4-hour battery energy storage capacity;
7. Minimize environmental impacts and land disturbance associated with ~~solar~~ renewable energy development by siting the facility on relatively flat, contiguous lands with high solar insolation, in close proximity to established utility corridors, existing transmission lines with available capacity to facilitate interconnection, and road access;
8. Conform with the Desert Renewable Energy Conservation Plan, including Conservation Management Actions;
9. Bring living-wage jobs to Riverside County;
10. Bring sales tax revenues to Riverside County by establishing a point of sale in the County for the procurement of most major Project services and equipment.
11. Make the highest and best use of primarily disturbed, retired agricultural land in and around a federal "Solar Energy Zone" and "Development Focus Area" to generate, store, and transmit affordable, wholesale solar electricity.

~~11.~~12. Develop a commercially financeable renewable energy project.

5.3.3.2. Alternatives' Ability to Meet Project Objectives

Alternative ~~A1~~: No Project Alternative A1 – No Build Alternative. The No Project Alternative A1 would fail to meet any of the Project's objectives and would not achieve any of the environmental benefits of increasing renewable energy generation consistent with federal goals and the State of California's

Renewable Portfolio Standard (RPS) and installation of energy storage to help~~ing to~~ alleviate the "duck curve" problem.

Alternative A2: Uses Allowed by Right within Existing Land Designations. The No Project Alternative A2 would fail to meet any of the Project's objectives and would not achieve any of the environmental benefits of increasing renewable energy generation consistent with federal goals and the State of California's Renewable Portfolio Standard (RPS) and installation of energy storage to help alleviate the "duck curve" problem.

Alternative A3: No Project Alternative A3 - Other Renewable Energy Development within Existing Land Designations. The DFA designation allows wind and geothermal development on the land that would be developed by the proposed Project. The renewable power generation that could occur with this alternative is consistent with the project objectives relating to climate change and renewable energy, but the wind component could generate only about 12% of the electricity of the proposed Project due to the larger land areas required for this technology. In addition, the geothermal and wind technologies that could be permitted on DFA-designated lands would have numerous significant impacts, conflicting with the objective of minimizing environmental impacts.

Alternative ~~2~~B: ~~Lake Tamarisk~~Reduced Footprint Alternative. The ~~Lake Tamarisk~~Reduced Footprint Alternative would meet nearly all of the proposed Project's objectives. This alternative would remove approximately 5~~3~~0 acres of solar panels closest to the community of Lake Tamarisk. This alternative would also move the onsite substation and BESS farther from the community of Lake Tamarisk, and the 500 kV gen-tie line would be approximately 0.8 miles longer than the proposed 500 kV gen-tie line. The electrical output would ~~not be appreciably~~be reduced by up to 10 MW compared to the proposed Project, and the impacts would be similar, therefore, it would meet most of the Project objectives.

Alternative C: Further Reduced Project Footprint Alternative with Berms. This alternative would modify the proposed Project by establishing a minimum buffer zone setback of one mile from the resort border, installing earthen berms in two locations, and relocating the onsite substation and gen-tie line. Its electrical generation capacity would be reduced in comparison with the proposed Project, but most Project objectives would be met.

Specifically, Alternative C~~-~~ with a 1-mile setback would meet the Project's objectives; however, it would achieve these objectives to a lesser extent compared with the proposed Project., including the loss of nearly 100 MW (25% of the capacity of the proposed Project).

Alternative C would assist Californians in meeting their renewable energy generation goals under Objective #4 and would further the purpose of Secretarial Order 3285A1 regarding responsible renewable energy under Objective #3, support the climate and clean energy goals of the Inflation Reduction Act of 2022 under Objective #1, and the United States' commitments under Article 4 of the Paris Climate Agreement (Objective #2) but all to a lesser extent that the Project. Alternative C would generate and store a significantly smaller amount of renewable energy compared with the proposed Project. Therefore, it would assist Californians to a lesser degree in meeting their renewable energy generation goals (Objective #5) and BLM with meeting its renewable energy objectives of the Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) (Objective #8).

The BLM DRECP LUPA designated 6.5 million acres of land for conservation and identified 388,000 acres as DFA suitable for renewable energy development. One DRECP objective is to promote renewable energy and transmission development, consistent with federal renewable energy and transmission goals and policies, and in consideration of State renewable energy targets. With a smaller project, Easley's contribution towards meeting these goals and the speed of the United States achieving these goals would be reduced. Likewise, Alternative C would generate, store, and transmit affordable wholesale solar electricity on primarily disturbed, retired agricultural land in and around a federal DFA (Objective #11), however, with an approximately 25% reduction compared with the proposed Project. Alternative C would create fewer jobs and tax revenues compared with the proposed Project (Objectives #9 and #10). Similar to the proposed Project, Alternative C would meet Objective #7 to minimize environmental impacts and land disturbance, because the alternative would also be on flat contiguous land in close proximity to established utility corridors, existing transmission lines with available capacity, and road access.

Finally, although Alternative C would make the highest and best use of land under Objective #11, it would not capture the same economies of scale as the proposed Project nor help as much to solve California's "duck curve" power production problem (Objective #6), because it would generate, store, and transmit less wholesale solar electricity, and the electricity would be less affordable.

Alternative D: Offsite Alternative. Commenters suggested consideration of installing solar panels on BLM-managed lands east of SR-177. This alternative would meet most Project objectives, but due to the substantially greater severity of impacts to biological resources and likely greater cultural resources impacts, it would not meet the objective of minimizing environmental impacts.

Alternative E: Distributed Commercial and Industrial Rooftop Solar Alternative. This alternative would involve the development of a large number of geographically distributed small to medium solar PV systems within existing developed areas throughout Riverside County. This alternative would meet most Project objectives, but it would not generate wholesale renewable energy to support California's ratepayers. Also, because this alternative would not include installation of 650 MW of battery storage that would be included with the proposed Project, it would not meet project objectives related to extending renewable energy availability into the evening hours.

~~5.2.4.2.~~5.3.3.3. Significant and Unavoidable Impacts

Section 3 of this EIR describes the potential environmental impacts of the proposed Project and recommends mitigation measures to reduce impacts, where feasible. Impacts in the following areas would be significant and unavoidable with construction and operation of the proposed Project, even with the incorporation of feasible mitigation measures that attempt to reduce impacts to the extent feasible.

- **Aesthetics:**
  - **Impact AES-~~3~~1:** The proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings. The resulting visual change would be adverse and unavoidable even with implementation of mitigation, when viewed from all KOPs.
  - **Impact AES-**3: As with impacts discussed under Impact AES-1, the Project's high visual change would result in a significant aesthetics impact under significance criterion AES-3. Additionally, the O&M impacts would remain significant and unavoidable even with implementation of mitigation and DRECP CMA compliance.
- ~~**Agriculture and Forestry**~~
  - ~~**Impact AG-1:** The proposed Project would be constructed on 222 acres of land, 190 acres are a part of seven parcels, which are subject to a Williamson Act contract. Non-renewals for the seven parcels were submitted and processed in late 2022; however, the parcels are subject to Williamson Act restrictions for nine more years. There is no feasible way to modify the Project to avoid the conflict with the Williamson Act contracts. The contracts will need to be cancelled prior to, or concurrent with the EIR certification to avoid this impact.~~
  - ~~**Impact AG-3**: The Williamson Act contract lands within the Project area are within a Riverside County Agricultural Preserve, which is incompatible with the proposed Project.~~

The Project would also result in a cumulatively considerable contribution to a significant cumulative impact under Aesthetics and Cultural and Tribal Cultural Resources.

~~5.2.4.3.~~5.3.3.4. Summary Impacts of Alternatives

Alternative A1: No Project Alternative – No Build Alternative. No substantially adverse and long-term impacts would occur to the environment as a result of the No Project Alternative A1. However, the No Project Alternative A1 would not achieve any of the environmental benefits discussed in Section 5.3.3.1 (Ability to Meet Project Objectives).

Alternative A2: No Project Alternative – Uses Allowed by Right within Existing Land Designations. No substantially adverse and long-term impacts would occur to the environment as a result of the No Project Alternative A2. However, the No Project Alternative A2 would not achieve any of the environmental benefits discussed in Section 5.3.3.1 (Ability to Meet Project Objectives).

Alternative A3: No Project Alternative A3 – Other Renewable Energy Development within Existing Land Designations. The DFA designation of the BLM-administered land allows development of wind or geothermal generation, as well as solar. Wind generation would create severe aesthetic impacts from the presence of turbines and their night lighting. In addition, operation of wind turbines can create aviation conflicts, noise, and shadow flicker effects for nearby receptors. Geothermal generation is a major industrial operation, requiring drilling of wells for steam production and injection of geothermal fluids. It is visually significant in the desert setting, requires steam-driven turbines and cooling towers that emit noise and steam plumes, and requires steam and fluid pipelines running above ground across the site.

Alternative ~~2~~B: ~~Lake Tamarisk Alternative~~Reduced Footprint Alternative. Alternative ~~2~~ B would have similar types of impacts to the proposed Project, but would disturb a slightly smaller area within the Project application area and would move solar panel development and associated construction disturbances farther from the community of Lake Tamarisk. This alternative would not reduce any of the Project's significant and unavoidable impacts to a less-then-significant level or result in a change to overall impact classifications or significance conclusions. The Reduced Footprint Alternative would generate approximately up to 10 MW less of renewable energy than the proposed Project.

Alternative C: Reduced Footprint Alternative with Berms. This alternative would modify the proposed Project by establishing a minimum buffer zone setback of one mile from the resort border, installing earthen berms in two locations, and relocating the onsite substation, BESS, O&M building, and gen-tie line. This alternative would eliminate the significant aesthetics impacts of the proposed Project from the resort residences, but it would increase the severity of public views from SR-177 (Rice Road) due to the substation/BESS location. In addition, constructing and maintaining the berms would be challenging given the anticipated level of erosion from wind and rainstorms, and the berms would redirect surface water flood flows in a manner that could create more severe erosion downstream.

Alternative D: Offsite Alternative. This alternative would require installing solar panels on BLM-managed lands east of SR-177. The location of this development would eliminate the significant visual impacts of the proposed Project and its visibility from the Lake Tamarisk Resort, and it would eliminate development within Williamson Act lands and the significant impact related to agriculture. However, it would require development within the extremely sensitive habitats of the sand transport corridor, which supports special-status plant and wildlife species. In order to develop the full generation of the proposed Project, development of this alternative would likely require an amendment to the BLM DRECP Land Use Plan Amendment to modify the existing requirements preventing development within the sand transport corridor. Such an amendment would allow development, but would likely result in significant impacts to the species and habitats of the sand transport corridor. This alternative would also likely have more severe impacts to cultural resources due to its proximity to Palen Dry Lake, and it would result in severe dust and erosion due to disturbance of the sand transport corridor.

Alternative E: Distributed Commercial and Industrial Rooftop Solar Alternative. This alternative would involve the development of a large number of geographically distributed small to medium solar PV systems within existing developed areas throughout Riverside County. PV systems would be installed typically on the rooftops of commercial and industrial facilities. Because no new land would be developed or altered, this alternative would result in no habitat loss or grading, and aesthetics impacts would be minor in the context of existing development. Installation and maintenance would result in vehicle emissions and traffic increases similar to the proposed Project, but they would occur in a widely dispersed geographic area. Because this alternative would not include installation of 650 MW of battery storage that would be included with the proposed Project, it would not meet project objectives related to extending renewable energy availability into the evening hours.

~~5.2.4.4.~~5.3.3.5. Alternatives Comparison Summary

Table 5-1 compares the potential impacts of the proposed Project to the alternatives. The comparison focuses on the significant and unavoidable impacts of the proposed Project in the top rows of the table and then lists the Project's less than significant impacts as compared with the impacts of the alternatives.

Table 5-1. Comparison of Alternatives to the Proposed Project

Environmental Resource	Alternative A1: No Build	Alternative A2: Uses Allowed by Right within Existing Land Designations	Alternative A3: Other Renewable Energy Development within Existing Land Designations	Alternative B: Reduced Footprint Alternative	Alternative C: Further Reduced Footprint Alternative with Berms	Alternative D: Offsite Alternative	Alternative E: Distributed Commercial and Industrial Rooftop Solar Alternative
Resources with Significant and Unavoidable Project-Specific and/or Cumulative Impacts for the Proposed Project							
Aesthetics	**No Impact Fewer**	**LTS Fewer**	**S/U Greater**	**S/U Fewer**	**LTS (LTDR) and S/U (SR-177) Fewer**	**LTS Fewer**	**LTS Fewer**
Cultural and Tribal Cultural Resources	**No Impact Fewer**	**Not Cumulatively Considerable Fewer**	**Cumulatively Considerable Similar**	**Cumulatively Considerable Similar**	**Cumulatively Considerable Similar**	**Cumulatively Considerable Similar**	**Not Cumulatively Considerable Fewer**
Resources with Less than Significant Impacts for the Proposed Project							
Air Quality	Greater	Greater	Similar	Similar	Fewer	Similar	Similar
Agriculture and Forestry	Fewer	Fewer	Similar	Similar	Similar	Fewer	Fewer
Biological Resources	Fewer	Fewer	Greater	Similar	Fewer (buffer); Greater (berms)	**S/U**	Fewer
Energy	Greater	Greater	Similar	Similar	Similar	Similar	Similar
Geology, Soils, and Mineral Resources	Fewer	Fewer	Similar	Similar	Similar	Greater	Fewer
Greenhouse Gas Emissions	Greater	Greater	Similar	Similar	Similar	Similar	Greater
Hazards and Hazardous Materials	Fewer	Fewer	Greater	Similar	Similar	Similar	Fewer
Hydrology and Water Quality	Fewer	Fewer	Greater	Similar	Similar	Similar	Fewer
Land Use and Planning	Fewer	Fewer	Greater	Similar	Similar	Similar	Fewer
Noise and Vibration	Fewer	Fewer	Greater	Fewer	Fewer	Fewer	Fewer
Paleontological Resources	Fewer	Fewer	Similar	Similar	Similar	Fewer	Fewer
Population and Housing	Fewer	Fewer	Greater	Similar	Similar	Similar	Fewer
Public Services and Utilities	Fewer	Fewer	Similar	Similar	Similar	Similar	Fewer

Environmental Resource	**Alternative A1: No Build**	**Alternative A2: Uses Allowed by Right within Existing Land Designations**	**Alternative A3: Other Renewable Energy Development within Existing Land Designations**	**Alternative B: Reduced Footprint Alternative**	**Alternative C: Further Reduced Footprint Alternative with Berms**	**Alternative D: Offsite Alternative**	**Alternative E: Distributed Commercial and Industrial Rooftop Solar Alternative**
Recreation	Fewer	Fewer	Similar	Similar	Similar	Similar	Fewer
Traffic and Transportation	Fewer	Fewer	Similar	Similar	Similar	Similar	Fewer
Wildfire	Fewer	Fewer	Similar	Similar	Similar	Fewer	Similar
Potential to Meet Project Objectives							
Potential to Meet Most Project Objectives?	NO	NO	YES	YES	YES	YES	YES

* S/U = Significant and Unavoidable Impact. LTS = Less than Significant Impact

1 - "Fewer" indicates that the alternative would create reduced or fewer impacts that the Project would create. "Similar" indicates that impacts would be similar to those of the proposed Project. "Greater" indicates that the alternative would result in a greater level of impact than would the Project.

2 - ~~Agricultural resources impacts related to parcels under Williamson Act contracts, and~~ Aesthetic operational impacts and cumulative impacts would be significant and unavoidable for all alternatives, except the No Build Alternative (A1), Offsite Alternative, and Distributed Commercial and Industrial Rooftop Solar Alternative.

~~Environmental Resource~~	~~Alternative 1: No Project~~	~~Alternative 2: Lake Tamarisk Alternative~~
~~Aesthetics~~	~~Fewer~~	~~Fewer~~
~~Agriculture and Forestry~~	~~Fewer~~	~~Similar~~
~~Air Quality~~	~~Greater~~	~~Similar~~
~~Biological Resources~~	~~Fewer~~	~~Similar~~
~~Cultural and Tribal Cultural Resources~~	~~Fewer~~	~~Similar~~
~~Energy~~	~~Greater~~	~~Similar~~
~~Geology, Soils, and Mineral Resources~~	~~Fewer~~	~~Similar~~
~~Greenhouse Gas Emissions~~	~~Greater~~	~~Similar~~
~~Hazards and Hazardous Materials~~	~~Fewer~~	~~Similar~~
~~Hydrology and Water Quality~~	~~Fewer~~	~~Similar~~
~~Land Use and Planning~~	~~Fewer~~	~~Similar~~
~~Noise and Vibration~~	~~Fewer~~	~~Fewer~~
~~Paleontological Resources~~	~~Fewer~~	~~Similar~~
~~Population and Housing~~	~~Fewer~~	~~Similar~~
~~Public Services and Utilities~~	~~Fewer~~	~~Similar~~
~~Recreation~~	~~Fewer~~	~~Similar~~
~~Traffic and Transportation~~	~~Fewer~~	~~Similar~~
~~Wildfire~~	~~Fewer~~	~~Similar~~
~~Potential to Meet Most Project Objectives?~~	~~NO~~	~~YES~~

~~5.2.5.~~5.3.4. Comparison of the Proposed Project and No Project Alternative

There are three No Project Alternative scenarios considered. ~~(~~Alternative A1~~)~~ (the No Build Alternative) and Alternative A2 (Uses Allowed by Right within Existing Land Designations) would avoid impacts from the construction, operation, maintenance, and decommissioning of the proposed Project. This alternative would result in no impacts to aesthetics, agriculture, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, paleontological resources, population and housing, energy usage and under public services and utilities, recreation, and traffic and transportation, but would not realize the beneficial impacts of the Project relating to long-term to air quality and greenhouse gas emissions with the use of renewable energy generation. Additionally, site remediation of existing contamination would not occur under the No Project Alternative. The No Project Alternative does not have the potential to meet any of the Project objectives.

Alternative A3 (Other Renewable Energy Development within Existing Land Designations) would have solar, wind and/or geothermal development on the DFA lands, resulting in more significant impacts than the proposed Project.

~~5.2.6.~~5.3.5. Environmentally Superior Alternative

Section 15126.6 of the State CEQA Guidelines requires an EIR identify an “environmentally superior” alternative. If the “no project” alternative is the environmentally superior alternative, then the EIR must identify which of the other alternatives is environmentally superior.

Table 5-1 summarizes the comparison of impacts between the alternatives ~~to~~ and the proposed Project to help determine the Environmentally Superior Alternative. As presented in the comparative analysis above, the Environmentally Superior Alternative ~~for the proposed Project~~evaluated in this EIR would be the No Project Alternative A1 (No Build Alternative). No substantially adverse and long-term impacts would occur to the environment under the No Project Alternative. The No Project Alternative would also avoid the impacts of the Project, as analyzed in Section 3. However, it would not meet any Project objectives. ~~It is possible that if the proposed Project were not approved, another solar project would be constructed, which would have impacts similar to the Project.~~

The Further Reduced Footprint Alternative with Berms would achieve most of the Project objectives and would be feasible. In accordance with section 15126.6 of the State CEQA Guidelines, the ~~Lake Tamarisk~~ Alternative C, the Further Reduced Footprint Alternative with Berms, would be the Environmentally Superior Alternative since it would result in fewer impacts to a~~A~~esthetics, fewer construction-related disturbance such as n~~and N~~oise~~ and Vibration~~, and less ground disturbance than the proposed Project and would reduce the visual impacts of the Project on the Lake Tamarisk Desert Resort, although the visual impacts would remain significant and unavoidable and the impacts to viewers from SR-177 would be more severe.

While Alternative C is Environmentally Superior, it would result in a reduction of 80 to 100 MW of renewable energy compared to the proposed Project, which reduces its compliance with the most important project objectives (meeting State and federal renewable energy goals to counter climate change). Therefore, because Alternative B, the Reduced Footprint Alternative meets these critical project objectives and reduces impacts to the Lake Tamarisk community compared to the proposed Project, it is considered to be the next most Environmentally Superior Alternative and preferred overall.

~~The Lake Tamarisk Alternative would have a slightly reduced level of ground disturbance and would be a greater distance from the residences in Lake Tamarisk, which would reduce construction-related disturbances such as noise.~~

~~The Lake Tamarisk Alternative, like the proposed Project, would meet all of the Project objectives, would be feasible, would generate the same amount of renewable energy and would have the same energy storage capacity. Because the Lake Tamarisk Alternative would achieve the Project objectives and would have fewer impacts when compared to the proposed Project, the Lake Tamarisk Alternative is considered environmentally preferred.~~

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