

COUNTY OF SAN BERNARDINO

DAGGETT SOLAR POWER FACILITY

DRAFT ENVIRONMENTAL IMPACT REPORT
VOLUME 1 OF 2

SCH No. 2018041007

Lead Agency:



LAND USE SERVICES DEPARTMENT
385 N. ARROWHEAD AVENUE, FIRST FLOOR
SAN BERNARDINO, CA 92415-0187
CONTACT: TOM NIEVEZ

Preparer:

Michael Baker

I N T E R N A T I O N A L

3536 CONCOURS STREET, #100
ONTARIO, CA 91764

MARCH 2019

This page is intentionally blank.

COUNTY OF SAN BERNARDINO

DAGGETT SOLAR POWER FACILITY

DRAFT ENVIRONMENTAL IMPACT REPORT

VOLUME 1 OF 2

SCH No. 2018041007

Lead Agency:



Preparer:

Michael Baker
INTERNATIONAL

MARCH 2019

This page is intentionally blank.

DRAFT ENVIRONMENTAL IMPACT REPORT: VOLUME 1 OF 2

EXECUTIVE SUMMARY	ES-1
Introduction	ES-1
Purpose of the Environmental Impact Report.....	ES-1
Project Synopsis	ES-2
Scope of the EIR	ES-3
Summary of Significant Effects	ES-3
Issues to Be Resolved by the Decision-Making Body.....	ES-3
Summary Table	ES-4
Summary of Project Alternatives	ES-42
 SECTION 1.0 INTRODUCTION	 1-1
Purpose of the EIR.....	1-1
EIR Scope, Issues, and Concerns	1-2
Draft EIR Public Review and Comment.....	1-3
Report Organization.....	1-3
Incorporation by Reference	1-5
 SECTION 2.0 PROJECT DESCRIPTION.....	 2-1
Project Overview and Location	2-1
Intended Uses of the EIR.....	2-16
 SECTION 3.0 INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS	 3-1
Impact Analysis	3-2
Mitigation Measures	3-3
Cumulative Impact Evaluation	3-3
 SECTION 3.1 AESTHETICS AND VISUAL RESOURCES	
Environmental Setting	3.1-1
Project Setting.....	3.1-2
Regulatory Framework	3.1-6

Impact Analysis and Mitigation Measures.....	3.1-23
Project Impacts and Mitigation	3.1-55

SECTION 3.2 AGRICULTURE AND FORESTRY RESOURCES

Environmental Setting	3.2-1
Regulatory Framework	3.2-3
Impact Analysis and Mitigation Measures.....	3.2-8
Project Impacts and Mitigation	3.2-8

SECTION 3.3 AIR QUALITY

Environmental Setting	3.3-1
Regulatory Framework	3.3-7
Impact Analysis and Mitigation Measures.....	3.3-14
Project Impacts and Mitigation	3.3-14

SECTION 3.4 BIOLOGICAL RESOURCES

Environmental Setting	3.4-1
Regulatory Framework	3.4-11
Impact Analysis and Mitigation Measures.....	3.4-19
Project Impacts and Mitigation	3.4-20

SECTION 3.5 CULTURAL, TRIBAL CULTURAL, AND PALEONTOLOGICAL RESOURCES

Environmental Setting	3.5-1
Regulatory Framework	3.5-3
Impact Analysis and Mitigation Measures.....	3.5-12
Project Impacts and Mitigation	3.5-13

SECTION 3.6 GEOLOGY AND SOILS

Environmental Setting	3.6-1
Regulatory Framework	3.6-2
Impact Analysis and Mitigation Measures.....	3.6-5
Project Impacts and Mitigation	3.6-6

SECTION 3.7 GREENHOUSE GAS EMISSIONS

Environmental Setting	3.7-1
Climate Change Overview	3.7-1
Regulatory Framework	3.7-3
Impact Analysis and Mitigation Measures.....	3.7-6
Project Impacts and Mitigation	3.7-7

SECTION 3.8 HAZARDS AND HAZARDOUS MATERIALS

Environmental Setting	3.8-1
Regulatory Framework	3.8-7
Impact Analysis and Mitigation Measures.....	3.8-15
Project Impacts and Mitigation	3.8-17

SECTION 3.9 HYDROLOGY AND WATER QUALITY

Environmental Setting	3.9-1
Regulatory Framework	3.9-3
Impact Analysis and Mitigation Measures.....	3.9-11
Project Impacts and Mitigation	3.9-12

SECTION 3.10 LAND USE AND PLANNING

Environmental Setting	3.10-1
County of San Bernardino General Plan Land Use Designations and Zoning.....	3.10-2
Regulatory Framework	3.10-3
Impact Analysis and Mitigation Measures.....	3.10-10
Project Impacts and Mitigation	3.10-10

SECTION 3.11 NOISE

Environmental Setting	3.11-1
Existing Conditions.....	3.11-6
Regulatory Framework	3.11-7
Impact Analysis and Mitigation Measures.....	3.11-12
Project Impacts and Mitigation	3.11-13

SECTION 3.12 TRANSPORTATION AND TRAFFIC

Environmental Setting	3.12-1
Regulatory Framework	3.12-2
Impact Analysis and Mitigation Measures.....	3.12-4
Project Impacts and Mitigation	3.12-5

SECTION 3.13 UTILITIES AND SERVICE SYSTEMS

Environmental Setting	3.13-1
Regulatory Framework	3.13-4
Impact Analysis and Mitigation Measures.....	3.13-10
Project Impacts and Mitigation	3.13-11

SECTION 3.14 EFFECTS FOUND NOT TO BE SIGNIFICANT

Mineral Resources	3.14-1
Population and Housing.....	3.14-2
Public Services.....	3.14-4
Recreation	3.14-7

SECTION 4.0 ALTERNATIVES TO THE PROPOSED PROJECT

Introduction	4-1
Impacts of the Proposed Project	4-2
Alternatives to the Proposed Project	4-5

SECTION 5.0 OTHER CEQA CONSIDERATIONS

Growth-Inducing Impacts	5-1
Significant and Unavoidable Impacts.....	5-4
Significant Irreversible Environmental Changes	5-5
Energy Conservation	5-5
Regulatory Framework	5-6
Impact Analysis and Mitigation Measures.....	5-8
Project Impacts and Mitigation	5-9

SECTION 6.0 PREPARERS AND REFERENCES.....6-1

Preparers.....	6-1
References	6-1

List of Tables

Table ES-1	Environmental Impact Summary	ES-5
Table ES-2	Comparison of Alternatives and Environmental Considerations	ES-42
Table 2.0-1	Farmland Categories for Project Site	2-6
Table 2.0-2	Matrix of Potential Approvals Required	2-16
Table 3.0-1	Cumulative Projects	3-5
Table 3.2-1	Existing Farmland Categories and Zoning Districts.....	3.2-4
Table 3.2-2	Water Resources Availability	3.2-10
Table 3.2-3	Final LESA Score Sheet	3.2-10
Table 3.3-1	Ambient Air Quality Monitoring Data.....	3.3-6
Table 3.3-2	Federal and State Ambient Air Quality Attainment Status.....	3.3-7
Table 3.3-3	MDAQMD Air Quality Thresholds of Significance.....	3.3-18
Table 3.3-4	Construction Emissions by Stage (Pounds per Day)	3.3-19
Table 3.3-5	Mitigated Construction Emissions by Stage (Pounds per Day).....	3.3-20
Table 3.3-6	Operational Emissions (Pounds per Day)	3.3-20
Table 3.3-7	Modeled Cancer Risks and Chronic Hazard Indexes.....	3.3-25
Table 3.4-1	Existing Vegetation Communities/Land Cover Types.....	3.4-2
Table 3.5-1	Eligibility of Historical Resources in the APE.....	3.5-2
Table 3.6-1	Site Class Definition	3.6-8
Table 3.6-2	On-site Soils Types	3.6-13
Table 3.7-1	Construction Emissions by Stage (Pounds per Day)	3.7-8
Table 3.7-2	Operational Emissions (Pounds per Day)	3.7-8
Table 3.8-1	Identified RECs Summary.....	3.8-5
Table 3.10-1	Existing Zoning Districts	3.10-2
Table 3.10-2	Project Consistency with Applicable Policies of General Plan.....	3.10-13
Table 3.10-3	Project Consistency with Applicable Policies of Development Code Section 85.06.035	3.10-20
Table 3.11-1	Typical Noise Levels	3.11-2
Table 3.11-2	Typical Levels of Groundborne Vibration	3.11-6
Table 3.11-3	Measured Noise Levels	3.11-7
Table 3.11-4	FTA Construction Noise Criteria.....	3.11-8
Table 3.11-5	Land Use Compatibility for Community Noise Environments	3.11-9
Table 3.11-6	Noise Standards for Stationary Noise Sources	3.11-11
Table 3.11-7	Projected Construction Noise Levels by Stage (dBA).....	3.11-13

Table 3.11-8	Projected Operational Noise.....	3.11-15
Table 3.11-9	Construction Equipment Noise Emission Levels.....	3.11-19
Table 3.11-10	Projected Construction Vibration Levels	3.11-20
Table 3.11-11	Land Use Compatibility Noise Environments – Barstow-Daggett Airport.....	3.11-21
Table 3.12-1	Existing Roadway Conditions in the Project Area.....	3.12-2
Table 4-1	Summary of Environmental Impacts of the Proposed Project	4-3
Table 4-2	Comparison of Alternatives and Environmental Considerations	4-6
Table 4-3	Project Objectives Consistency Analysis.....	4-7
Table 4-4	Alternative 2 Mitigated Construction Emissions by Stage (Pounds per Day)	4-16

List of Exhibits

Exhibit 2.0-1	Project Location	2-19
Exhibit 2.0-2	Project Site	2-21
Exhibit 2.0-3	Land Use Zoning Districts.....	2-23
Exhibit 2.0-4	Representative Project Components.....	2-25
Exhibit 3.0-1	Cumulative Projects	3-9
Exhibit 3.1-1	Regional Landscape Setting	3.1-15
Exhibit 3.1-2	Site Photograph Location Map	3.1-17
Exhibit 3.1-3	Site Photographs.....	3.1-19
Exhibit 3.1-3	Site Photographs (continued)	3.1-20
Exhibit 3.1-3	Site Photographs (continued)	3.1-21
Exhibit 3.1-4	Topographical Viewshed Analysis.....	3.1-25
Exhibit 3.1-5a	KOP 1 (Existing View)	3.1-27
Exhibit 3.1-5b	KOP 1 (Visual Simulation)	3.1-29
Exhibit 3.1-6a	KOP 2 (Existing View)	3.1-31
Exhibit 3.1-6b	KOP 2 (Visual Simulation)	3.1-33
Exhibit 3.1-7a	KOP 3 (Existing View)	3.1-35
Exhibit 3.1-7b	KOP 3 (Visual Simulation)	3.1-37
Exhibit 3.1-8a	KOP 4 (Existing View)	3.1-39
Exhibit 3.1-8b	KOP 4 (Visual Simulation)	3.1-41
Exhibit 3.1-9a	KOP 5A (Existing View).....	3.1-43
Exhibit 3.1-9b	KOP 5A (Visual Simulation)	3.1-45

Exhibit 3.1-10a	KOP 5B (Existing View)	3.1-47
Exhibit 3.1-10b	KOP 5B (Visual Simulation)	3.1-49
Exhibit 3.1-11a	KOP 6 (Existing View)	3.1-51
Exhibit 3.1-11b	KOP 6 (Visual Simulation)	3.1-53
Exhibit 3.2-1	Soils Map	3.2-17
Exhibit 3.2-2	Farmland Map	3.2-19
Exhibit 3.3-1	Wind Fence Locations	3.3-35
Exhibit 3.3-2	Air Quality Modeling Locations	3.3-37
Exhibit 3.4-1	Vegetation Communities and Observed Special Status Species within the Project Area	3.4-5
Exhibit 3.9-1	Baja Subarea	3.9-35
Exhibit 3.9-2	Proposed Drainage Plan	3.9-37
Exhibit 3.9-3	Historic Water Levels	3.9-39
Exhibit 3.11-1	Noise Measurement Locations	3.11-25
Exhibit 3.11-2	Operational Noise Contours	3.11-27
Exhibit 3.11-3	Barstow-Daggett Airport Noise Contour	3.11-29
Exhibit 3.12-1	Traffic Study Area	3.12-15
Exhibit 3.12-2	Preliminary Access Plan	3.12-17
Exhibit 4-1	Reduced Footprint Alternative (Concept)	4-13
Exhibit 4-2	Kramer Junction Solar Site Alternative	4-21

DRAFT ENVIRONMENTAL IMPACT REPORT: VOLUME 2 OF 2*(under separate cover and included on CD)***Technical Appendices**

Appendix A	Notice of Preparation and Public Comments Received
Appendix B-1	Visual Impact Assessment
Appendix B-2	Addendum to Visual Impact Analysis
Appendix C	Land Evaluation and Site Assessment Technical Memorandum
Appendix D-1	Air Quality Technical Report
Appendix D-2	Dust Control Technical Memorandum
Appendix E-1	Biological Resources Technical Report
Appendix E-2	2018 Spring/Summer Survey Report
Appendix E-3	Desert Tortoise Pre-Project Survey Report
Appendix E-4	Jurisdictional Delineation Report
Appendix E-5	Special Status Plant Species Survey Report
Appendix F-1	Cultural Resource Inventory – <i>Confidential Appendix (Not Available for Public Review)</i>
Appendix F-2	Paleontological Resources Technical Memorandum
Appendix G	Preliminary Geotechnical Engineering Report
Appendix H-1	Phase I Environmental Site Assessment
Appendix H-2	Technical Memorandum to Address RECs Identified in Phase I ESA
Appendix H-3	Airport Safety and Compatibility Technical Memorandum
Appendix I-1	Preliminary Hydrology Study & Flood Analysis
Appendix I-2	Addendum to Preliminary Hydrology Study & Hydraulics Report
Appendix I-3	Water Supply Assessment
Appendix J	Sound Survey and Analysis Report
Appendix K	Traffic Assessment and Trip Generation Report

List of Acronyms and Abbreviations

3-D	Three-dimensional
AAM	American Association of Museums
AB	Assembly Bill
AC	Alternating Current
ACEC	Area of Critical Environmental Concern
ACLUP	Airport Comprehensive Land Use Plan
ADT	Average Daily Traffic
AFY	Acre-feet per year
AG	Agricultural
AG	Agriculture
ALUC	Airport Land Use Commission
APE	Area of Potential Effect
ASTM	American Society for Testing and Materials
BAP	Base Annual Production
BESS	Battery Energy Storage System
bgs	Below Ground Surface
BLM	Bureau of Land Management
BMP	Best Management Practice
BNSF	Burlington Northern and Santa Fe
BR	Biotic Resources
c.y.	Cubic Yards
CA MUTCD	California Manual on Uniform Traffic Control Devices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standard
Cal Fire	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health

CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFCs	Chlorofluorocarbons
CFGF	California Fish and Game Code
CFR	Code of Federal Regulations
cfs	Cubic Feet per Second
CGP	Construction General Permit
CH ₄	Methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CMP	Congestion Management Plan
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CPRA	California Public Records Act
CPUC	California Public Utilities Commission
CREC	Controlled Recognized Environmental Condition
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rankings
CSP	Concentrated Solar Power
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted Decibel
DC	Direct Current
DCP	Dust Control Plan
DFA	Development Focus Area
DOC	Department of Conservation
DPM	Diesel Particulate Matter
DRECP	Desert Renewable Energy Conservation Plan
DSLR	Digital Single-Lens Reflex
DTSC	Department of Toxic Substances Control

EIR	Environmental Impact Report
EO	Executive Order
EOP	Emergency Operations Plan
EPCRA	Emergency Planning and Community Right-to-Know
ESA	Endangered Species Act
ESA	Environmentally Sensitive Area
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FP	Fully Protected
FPA	Free Production Allowance
FS	Fire Safety
FTA	Federal Transit Administration
GHG	Greenhouse Gas
GWh	Gigawatt-hours
HASP	Health and Safety Plan
HCE	Heat Collection Element
HCP	Habitat Conservation Plan
HFCs	Hydrofluorocarbons
HRA	Human Risk Assessment
HVAC	Heating, Ventilation, and Air Conditioning
HW	Hazardous Waste
Hz	Hertz
I-15	Interstate 15
I-40	Interstate 40
IA	Interconnection Agreement
IARC	International Agency for Research on Cancer
IBC	International Building Code
ICS	Incident Command System
IR	Regional Industrial
KOP	Key Observation Point
kV	Kilovolt
kWh	Kilowatt-hours

LADWP	Los Angeles Department of Water and Power
LCFS	Low Carbon Fuel Standard
L _{dn}	Day-Night Average
L _{eq}	Equivalent Energy Level
LESA	Land Evaluation and Site Assessment
LFP	Lithium Iron Phosphate
LID	Low Impact Development
LLC	Limited Liability Company
LMO	Lithium Manganese Oxide
LOS	Level of Service
LQG	Large Quantity Generator
LRA	Local Responsibility Area
LTO	Lithium Titanate Oxide
LUPA	Land Use Plan Amendment
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act
MCLB	Marine Corps Logistics Base
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MJHMP	Multi-Jurisdictional Hazard Mitigation Plan
ML	Measurement Location
MMRP	Mitigation Monitoring and Reporting Program
MTCO _{2e}	Metric Tons of Carbon Dioxide Equivalent
MV	Medium Voltage
MW	Megawatt
MWA	Mojave Water Agency
MWD	Metropolitan Water District
MWh	Megawatt-hours
N ₂ O	Nitrous Oxide
NA	Not Available
NAAQS	National Ambient Air Quality Standard
NAHC	Native American Heritage Commission
NCA	Nickel Cobalt Aluminum
NCCP	Natural Communities Conservation Plan
NCP	National Contingency Plan
NEC	National Electrical Code

NFIP	National Flood Insurance Program
NIMS.....	National Incident Management System
NMC	Nickel Manganese Cobalt
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NOC	Notice of Completion
NOP	Notice of Preparation
NO _x	Nitrogen Oxides
NPDES.....	National Pollutant Discharge Elimination System
NRCS.....	National Resources Conservation Service
NRHP	National Register of Historic Places
O&M.....	Operation and Maintenance
O ₃	Ozone
OEHHA.....	Office of Environmental Health Hazard Assessment
OFA.....	Object-Free Area
OFZ	Obstacle Free Zone
OHP	Office of Historic Preservation
OHV	Off-Highway Vehicles
OHWM	Ordinary High Water Mark
OPR.....	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCS	Power Conversion System
PFCs	Perfluorocarbons
PM ₁₀	Coarse Particulate Matter
PM _{2.5}	Fine Particulate Matter
ppb	Parts Per Billion
ppm	Parts Per Million
PPV	Peak Particle Velocity
PSY.....	Production Safe Yield
PV	Photovoltaic
RACT	Reasonably Available Control Technology
RC	Resource Conservation
RCRA.....	Resource Conservation and Recovery Act
REA	Risk/Exposure Assessment
REC	Recognized Environmental Condition
RECE	Renewable Energy and Conservation Element

REL.....	Reference Exposure Level
RL.....	Rural Living
RMS	Root Mean Square
ROG	Reactive Organic Gas
RPS	Renewables Portfolio Standard
RPZ	Runway Protection Zone
RTP	Regional Transportation Plan
RTP/SCS.....	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB.....	Regional Water Quality Control Board
SANBAG.....	San Bernardino Association Governments
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCAG.....	Southern California Association of Governments
SCCIC	South Central Coastal Information Center
SCE.....	Southern California Edison
SEMS	Standardized Emergency Management System
sf.....	Square Foot / Square Feet
SF ₆	Sulfur Hexafluoride
SGHAT	Solar Glare Hazard Analysis Tool
SIP.....	State Implementation Plan
SMARTS.....	Stormwater Multiple Application and report Tracking System
SMBMI.....	San Manuel Band of Mission Indians
SO ₂	Sulfur Dioxide
SR 66.....	State Route 66
SRRE	Source Reduction and Recycling Element
SSC.....	Special Species of Concern
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
SWRCB.....	State Water Resources Control Board
TAC	Toxic Air Contaminant
TCP	Traditional Cultural Property
TCR	Tribal Cultural Resource
TMDL	Total Maximum Daily Load
TNW	Traditional Navigable Water
U.S. EPA.....	United States Environmental Protection Agency
UP	Union Pacific

USACE.....United States Army Corps of Engineers
USDAUnited States Department of Agriculture
USFSUnited States Forest Service
USFWS.....United States Fish and Wildlife Service
USGS.....United States Geological Survey
USTUnderground Storage Tank
UWMPUrban Water Management Plan
VdBVibration Decibels
VOCVolatile Organic Compound
VRM.....Visual Resource Management
WEAP.....Worker Education Awareness Program
WQMP.....Water Quality Management Plan
WSA.....Water Supply Assessment
 $\mu\text{g}/\text{m}^3$Micrograms per Cubic Meter

This page is intentionally blank.

INTRODUCTION

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15123, this section summarizes the proposed project, significant impacts, and proposed mitigation measures. The summary is organized around the following topics:

- Purpose of the Environmental Impact Report
- Project Synopsis
- Scope of the EIR
- Summary of Significant Effects
- Issues to Be Resolved by the Decision-Making Body
- Summary Table
- Summary of Project Alternatives

PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

This Environmental Impact Report (EIR) has been prepared for the County of San Bernardino (County), acting as the lead agency under CEQA Guidelines Sections 15050 and 15367, to analyze the potential environmental effects associated with implementation of the proposed Daggett Solar Power Facility Project.

An EIR is a public informational document used in the planning and decision-making process. The purpose of the EIR is to demonstrate that the County has made a good faith effort at disclosing the potential for the project to result in significant impacts to the physical environment. As such, the EIR does not consider potential fiscal impacts, cost-benefit assessment, or social impacts. Nor does the EIR present recommendations to the decision-making bodies for approval or denial of the project based on the environmental findings. Rather, the EIR is intended to provide additional information about the project when, if, and at which time it is reviewed and considered by the County in its discretionary decision-making.

The County will consider the information in the EIR, public and agency comments on the EIR, and testimony at public hearings in their decision-making process. The public review comments will be incorporated and addressed in the Final EIR. The purpose of an EIR is to identify:

- Significant impacts of the proposed project on the environment and indicate the manner in which those significant impacts can be avoided or mitigated.
- Any unavoidable adverse impacts that cannot be mitigated.
- Reasonable and feasible alternatives to the proposed project that would eliminate any significant adverse environmental impacts or reduce the impacts to a less than significant level.

An EIR also discloses cumulative impacts, growth-inducing impacts, and impacts found not to be significant. CEQA requires that an EIR reflect the independent judgment of the lead agency regarding the impacts, disclose the level of significance of the impacts both without and with mitigation, and discuss the mitigation measures proposed to reduce the impacts.

The EIR is circulated to the public and other agencies that may have jurisdiction over affected lands or resources, such as the California Department of Fish and Wildlife. The purposes of public and agency review of an EIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting counter proposals.

This EIR is being distributed to agencies, organizations, and interested groups and persons for a 45-day review period in accordance with CEQA Guidelines Section 15087. The County will consider and respond to all written comments received during the review period prior to any action being taken on the project.

PROJECT SYNOPSIS

Daggett Solar Power 1 LLC, a subsidiary of Clearway Energy Group LLC, proposes constructing and operating a utility-scale, solar photovoltaic (PV) electricity generation and energy storage facility with associated on-site substations, inverters, fencing, roads and supervisory control and data acquisition system that would produce up to 650 megawatts (MW) of power and include up to 450 MW of battery storage capacity on approximately 3,500 acres of land. The proposed project would utilize existing electrical transmission infrastructure adjacent to the existing Coolwater Generating Station, a recently retired natural gas-fired power plant, to deliver renewable energy to the electric grid.

The proposed project site is flat and is generally bounded by the town of Daggett approximately 0.5 mile to the west; the Mojave River, Yermo, and Interstate 15 to the north; Barstow Daggett

Airport, Route 66, and Interstate 40 to the South; and Newberry Springs and Mojave Valley to the east.

SCOPE OF THE EIR

In accordance with CEQA Guidelines Section 15082, the County prepared and distributed a Notice of Preparation (NOP) of Environmental Impact Report for the proposed project that was circulated for public review on March 26, 2018. The NOP comment period is intended to notify responsible agencies, trustee agencies, and the public that the County, acting as the lead agency, would be preparing an EIR for the project. The County determined the scope of the analysis for this EIR as a result of initial project review and consideration of agency and public comments received in response to the NOP.

Section 1.0, Introduction, summarizes issues and areas of concern and/or controversy related to the proposed project, as presented to the County by agencies and the public during the NOP review period. For more information regarding the NOP process, refer to Section 1.0. The NOP and the NOP comments are included as **Appendix A** to this EIR.

As demonstrated in the comments received from state and local agencies and members of the public, issues of concern and/or opposition include concerns regarding: dust impacts from ground disturbance, impacts on airport operations, impacts to biological resources, exposure to Valley Fever from ground disturbance, impacts to water supply and quality, impacts to distant scenic views, visual character of the site and its surroundings, and adverse light and glare impacts.

SUMMARY OF SIGNIFICANT EFFECTS

Based on the analysis within this EIR, all potentially significant environmental impacts can be mitigated to less than significant with exception of Air Quality (construction) and Hydrology and Water Quality (groundwater). Refer to Sections 3.3 and 3.9, respectively, for a detailed discussion of such impacts.

ISSUES TO BE RESOLVED BY THE DECISION-MAKING BODY

An EIR is an informational document intended to inform decision-makers and the public of the significant effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the proposed project. As the lead agency, San Bernardino County must respond to each significant effect identified in this EIR by making “findings” for each significant effect. As part of the decision-making process, the County must determine whether or how to mitigate the associated significant effects of the project, including whether to implement a project alternative. Approval of the project despite identified significant and

unavoidable environmental impacts would require a Statement of Overriding Considerations, explaining why the benefits of the project outweigh the environmental effects, as set forth in this document.

SUMMARY TABLE

Table ES-1, Environmental Impact Summary, identifies the areas of environmental impact the project will generate, and when feasible, mitigation measures to reduce those potential impacts.

**Table ES-1:
Environmental Impact Summary**

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Aesthetics and Visual Resources			
3.1-1 Would the project have a substantial adverse effect on a scenic vista?	No Impact	None required	No Impact
3.1-2 Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Less than Significant	None required	Less than Significant
3.1-3 Would the project substantially degrade the existing visual character or quality of the site and its surroundings?	Less than Significant	None required	Less than Significant
3.1-4 Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less than Significant	None required	Less than Significant
3.1-5 Would the project result in cumulative aesthetic impacts?	Less than Significant	None required	Less than Significant
Agriculture and Forestry Resources			
3.2-1 Would the project 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 nonagricultural use?	Less than Significant	None required	Less than Significant

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.2-2 Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?	No impact	None required	No impact
3.3-3 Would the project 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))?	No Impact	None required	No Impact
3.2-4 Would the project result in the loss of forest land or conversion of forest land to non-forest use?	No Impact	None required	No Impact
3.2-5 Would the project 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?	Less than Significant	None required	Less than Significant
3.2-6 Would the project result in a cumulative impact related to agricultural and forestry resources?	Less than Significant	None required	Less than Significant

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Air Quality			
3.3-1 Would the project conflict with or obstruct implementation of the applicable air quality plan?	Potentially Significant	<p>AIR-1 Prior to the issuance of grading permits, the project applicant shall submit an Air Quality Construction Management Plan to the County for review and approval. The plan shall describe the fugitive dust control measures which would be implemented and monitored at all locations of proposed project construction. The plan shall comply with the mitigation measures described in the Fugitive Dust Control Rules enforced by the Mojave Desert Air Quality Management District (MDAQMD) (Rules 403 and 403.2), San Bernardino County Development Code Sections 83.01.040 and 84.29.035, as well as the existing State Implementation Plan available for PM₁₀ and PM_{2.5}. The plan shall be incorporated into all contracts and contract specifications for construction work. The plan shall outline the steps to be taken to minimize fugitive dust generated by construction activities by:</p> <ul style="list-style-type: none"> • Describing each active operation that may result in the generation of fugitive dust. • Identifying all sources of fugitive dust, e.g., earthmoving, storage piles, vehicular traffic. • Describing the control measures to be applied to each of the sources identified. The descriptions shall be sufficiently detailed to demonstrate that the best available control measures required by air districts for solar projects are used. • Providing the following control measures, in addition to or as listed in the applicable rules, but not limited to: <ul style="list-style-type: none"> ○ Manage and limit disturbance of ground surfaces from vehicle traffic, excavation, grading, vegetation removal, or other activities to lower the potential for soil detachment and reduce dust transport. Only trim vegetation (mow and roll) in areas where solar panels will be installed, rather than remove vegetation entirely (clear and grub) followed 	Significant and Unavoidable (Construction Phase Only)

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>by excavation or grading where feasible. This process lessens the level of ground disturbance and leaves the root system in place for quicker regeneration of vegetative cover.</p> <ul style="list-style-type: none"> ○ Maintenance and access vehicular roads and parking areas shall be stabilized with water, chemicals or gravel or asphaltic pavement sufficient to minimize visible fugitive dust from vehicular travel and wind erosion and comply with MDAQMD Rule 403.2. Actions, including sweeping sealed roads, use of stabilized construction/facility entrances, and, if needed, using one or more entrance/exit vehicle tire wash apparatuses, shall be taken to prevent project-related track-out. Any project-related track-out must be cleaned within 24 hours. ○ All perimeter fencing, as applicable, shall be wind fencing or the equivalent, to a minimum of 4 feet of height or the top of all perimeter fencing. The owner/operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. Strategically placed wind barrier fencing, to be constructed as part of the construction and operation phases (in locations shown in Exhibit 3.3-1, Wind Fence Locations) would be maintained to minimize dust blowing in the direction of the adjacent residences or the Barstow-Daggett Airport. ○ Use natural vegetation to stabilize disturbed or otherwise unstable surfaces to the extent feasible. A water truck shall be used to maintain most disturbed surfaces and to actively spread water during visible dusting episodes to minimize visible fugitive dust and limit emissions to 20 percent opacity in areas where grading occurs, within the staging areas, and on any unpaved roads. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical 	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>stabilization or covering with a stabilizing layer of gravel may be required to eliminate visible dust/sand from sand/fines deposit, if water application does not achieve stabilization. Other controls could include application of hydromulch (with seed for re-establishment of vegetation), application of soil binders, or even the use of soil cement for particularly unstable areas.</p> <ul style="list-style-type: none"> ○ Minimize the idling time of diesel-powered construction equipment to two minutes, except in extreme heat events where workers require conditioned air to avoid health and safety issues. ○ All trucks and equipment, including their tires, shall be washed off prior to leaving the site. ○ On-site vehicle speed shall be limited to 15 miles per hour. ○ The following signage shall be erected not later than the commencement of construction: A minimum 48-inch-high by 96-inch-wide sign containing the following information shall be located within 50 feet of each project site entrance, meeting the specified minimum text height, black text on white background, on 1-inch A/C laminated plywood board, with the lower edge between 6 and 7 feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day. “Site Name” (4-inch text) “Project Name/Project Number” (4-inch text) IF YOU SEE DUST COMING FROM THIS PROJECT, CALL: (4-inch text) [Contact Name]. PHONE NUMBER: XXX-XXX-XXXX (6-inch text) IF YOU DO NOT RECEIVE A RESPONSE, PLEASE CALL the MDAQMD at 1-800-635-4617. (3-inch text) 	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<ul style="list-style-type: none"> The project applicant or its designated representative shall obtain prior approval from the MDAQMD prior to any deviations from fugitive dust control measures specified in the approved Air Quality Construction Management Plan. A justification statement used to explain the technical and safety reason(s) for the substitute dust control measures required shall be submitted to the appropriate agency for review. The provisions of the Air Quality Construction Management Plan shall also apply to project decommissioning activities. <p>AIR-2 All off-road construction equipment shall comply with the US Environmental Protection Agency's final Tier 4 exhaust emission standards.</p>	
3.3-2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Potentially Significant	Mitigation measures AIR-1 and AIR-2	Significant and Unavoidable (Construction Phase Only)
3.2-3 Would the project expose sensitive receptors to substantial pollutant concentrations?	Potentially Significant	<p>AIR-3 Prior to the issuance of grading or building permits, the project applicant shall develop a Dust Control Plan (DCP) per the requirements of MDAQMD Rule 403.2. The DCP shall comply with MDAQMD Rules 403 and 403.2 to control fugitive dust, including PM₁₀, by addressing objectives, key contacts, roles and responsibilities, dust sources, and control measures.</p> <p>The DCP shall address the following sources:</p> <ul style="list-style-type: none"> Project-created dust sources Disturbed surfaces Unstable surfaces Unpaved roads Paved roads Unspecified sources 	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>To mitigate each of the sources identified above during facility operation, including post-closure of a facility, there are often multiple mitigation measures available that can feasibly mitigate impacts to less than significant levels. The DCP would include but not be limited to the following measures:</p> <ul style="list-style-type: none"> • Limit Ground Disturbance. Manage and limit disturbance of ground surfaces from vehicle traffic, excavation, grading, vegetation removal, or other activities to lower the potential for soil detachment and reduce dust transport. Only trim vegetation (mow and roll) in areas where solar panels will be installed, rather than remove vegetation entirely (clear and grub) followed by excavation or grading where feasible. This process lessens the level of ground disturbance and leaves the root system in place for quicker regeneration of vegetative cover. • Vegetation. Use natural vegetation to stabilize disturbed or otherwise unstable surfaces to the extent feasible. • Wind Fencing. Strategically placed wind barrier fencing shall be installed as part of the construction and operation phases (shown in Exhibit 3.3-1, Wind Fence Locations) and be maintained to minimize dust blowing in the direction of the adjacent residences or the Barstow-Daggett Airport. Wind barrier fencing should be inspected by the contractor no less than once quarterly and repaired or replaced as needed to maintain full functionality. Any accumulated sediment would be removed and either re-distributed onsite or transferred off-site for use or disposal elsewhere. • Surface Treatment. Water trucks shall apply water and/or other controls to minimize the production of airborne dust, and limit emissions to 20 percent opacity in areas where grading occurs, within the staging areas, and on any unpaved roads used during project construction. Other controls could include application of hydromulch (with seed 	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>for re-establishment of vegetation), application of soil binders, or even the use of soil cement for particularly unstable areas.</p> <ul style="list-style-type: none"> • Vehicle Speed Limits. Vehicle speed shall be limited speeds to 15 mph. Speed limit signs shall be displayed prominently at all project/facility entrances. • Street Sweeping. Sealed roads shall be swept as needed and track out opportunities limited through the use of stabilized construction/facility entrances or, if necessary, with one or more entrance/exit vehicle tire wash apparatuses. 	
3.3-4 Would the project create objectionable odors affecting a substantial number of people?	Less than Significant	None required	Less than Significant
3.2-5 Would the project result in cumulative impacts related to air quality?	Potentially Significant	Mitigation measures AIR-1 , AIR-2 , and AIR-3	Significant and Unavoidable (Construction Phase Only)
Biological Resources			
3.4-1 Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	Potentially Significant	BIO-1 To avoid construction-level impacts to desert tortoise, not more than 45 days prior to ground-disturbing activities for the construction and/or decommissioning phase(s), qualified personnel shall perform a preconstruction clearance survey for desert tortoise. If the species is present on-site, individual(s) shall be allowed to leave the site on their own, and in consultation with California Department of Fish and Wildlife (CDFW), the applicant may be required to install exclusionary/perimeter fencing, with mesh attached to the fence fabric extending from approximately 12 inches below grade to approximately 24 inches above grade to ensure no tortoises re-enter the work limits. No person(s) shall be allowed	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>to touch a tortoise without authorization from the US Fish and Wildlife Service (USFWS) and CDFW.</p> <p>Disturbance activities shall be monitored, as follows:</p> <ul style="list-style-type: none"> • Environmental awareness training shall be provided for all construction personnel to educate them on desert tortoise, protective status, and avoidance measures to be implemented by all personnel, including looking under vehicles and equipment prior to moving. If tortoises are encountered, such vehicles shall not be moved until the tortoises have voluntarily moved away from them or a qualified biologist has moved the tortoises out of harm's way. • If a tortoise is present, a biological monitor shall be present during all disturbance activities in the vicinity of exclusionary fencing (if required) and shall have the authority to stop work as needed to avoid direct impacts to tortoises. Periodic biological inspections and maintenance shall be conducted during the construction period to ensure the integrity of exclusionary fencing (if required). Work may proceed within the excluded area when the biologist confirms all tortoises have left the excluded area. • Should tortoises be found during construction activities, the biological monitor shall have the authority to stop work as needed to avoid direct impacts to tortoises, and further consultations with the USFWS and CDFW shall take place. • Trash and food items shall be contained in closed containers and removed daily to reduce attractiveness to opportunistic predators of desert tortoise (e.g., ravens, coyotes, feral dogs). • Employees shall not bring pets to the construction site, which may predate on tortoises. 	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>BIO-2 To avoid construction-level impacts to burrowing owl, not more than 45 days prior to project disturbance activities, qualified personnel shall perform a preconstruction clearance survey for burrowing owl in accordance with CDFW guidelines. If the species is present on-site and/or within 500 feet of the site, the biologist shall prepare and submit a passive relocation plan to the CDFW for review/approval and shall implement the approved plan to allow commencement of disturbance activities on-site.</p> <p>Fencing or flagging shall be installed at a 250-foot radius from occupied burrows to create a non-disturbance buffer area where no work activities may be conducted. Through consultation with the CDFW, the non-disturbance buffers/fence lines may be reduced to 160 feet if all project-related activities that might disturb burrowing owls would be conducted during the nonbreeding season (i.e., September 1 through January 31).</p> <p>If avoidance of an occupied burrow is infeasible, the owls may be passively relocated by a qualified biologist during the non-breeding season, in accordance with the passive relocation plan. (Note: Occupied burrows may not be disturbed during the breeding season [February 1 to August 31].) At a minimum, the plan shall include the following performance standards:</p> <ul style="list-style-type: none"> • Excavation shall require hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow and monitored for at least 48 hours after installation. If burrows will not be directly impacted by the project, one-way doors shall be installed to prevent use and shall be removed after ground-disturbing activities have concluded in the area. 	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>Only burrows that will be directly impacted by the project shall be excavated and filled.</p> <ul style="list-style-type: none"> • Detailed methods and guidance for passive relocation of burrowing owls to off-site “replacement burrow site(s)” consisting of a minimum of two suitable, unoccupied burrows for every burrowing owl or pair to be passively relocated. • Monitoring and management of the replacement burrow site(s) and a reporting plan. The objective shall be to manage the replacement burrow sites for the benefit of burrowing owls (e.g., minimizing weed cover), with the specific goals of maintaining the functionality of the burrows for a minimum of 2 years. <p>If preconstruction surveys indicate construction activities would occur within 500 feet of off-site occupied burrows during the breeding season (February 1 through August 31), qualified personnel shall monitor project disturbance activities and the off-site active burrows to ensure they are not being adversely affected. If so, the biologist in consultation with the CDFW shall implement additional measures to avoid such disturbances of active nesting efforts.</p> <p>BIO-3 To avoid construction level impacts to desert kit fox, at least 45 days prior to project ground disturbance activities during the construction phase, a Desert Kit Fox Management Plan shall be prepared and submitted to the County and the CDFW that (1) incorporates pre-approval survey data of the desert kit fox population; (2) identifies preconstruction survey methods for kit foxes; (3) describes preconstruction and construction-phase biological monitoring and passive relocation methods, or outlines any identified CDFW permit and Memorandum of Understanding requirements for active relocation, if either are necessary; and (4) includes contingency measures if canine distemper is documented in any individuals on-site.</p>	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>BIO-4 To avoid construction-level impacts to desert kit fox, not more than 45 days prior to project disturbance activities, qualified personnel shall perform a preconstruction clearance survey for desert kit fox in accordance with CDFW guidelines. Surveys shall also consider the potential presence of active dens within 100 feet of the boundaries of the on-site disturbance footprint, access roads, and selected alignment for the gen-tie line. If dens are detected, each shall be classified as either inactive, potentially active, or definitely active, and the following actions taken:</p> <ul style="list-style-type: none"> • Inactive dens that would be directly impacted shall be excavated by hand and backfilled to prevent reuse by kit fox. • Potentially and definitely active dens that would be directly impacted shall be monitored by a biologist for 3 consecutive nights using a tracking medium (e.g., diatomaceous earth, fire clay) and/or infrared camera stations at the den entrance. • If no tracks are observed or no photos of the species are captured after 3 nights, the den shall be excavated and backfilled by hand. • If tracks are observed, the den entrance shall be progressively blocked with natural materials (e.g., rocks, dirt, sticks, vegetation) for the next 3 to 5 nights to discourage the fox from continued use of the den. After verification that the den is unoccupied, it shall then be excavated and backfilled by hand to ensure no foxes are trapped in the den. • If an active natal den (i.e., with pups) is detected on-site, per the procedures above, the CDFW shall be contacted within 24 hours to determine the appropriate course of action to minimize the potential for harm or mortality. The course of action shall depend on the age of the pups, on-site location of the den (e.g., central area, perimeter), status of the 	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>perimeter fence (completed or not), and pending construction activities proposed near the den. A 500-foot non-disturbance buffer shall be maintained around all active natal dens.</p> <p>The following measures are required to reduce the likelihood of distemper transmission:</p> <ul style="list-style-type: none"> • No pets shall be allowed on-site prior to or during construction, with the possible exception of kit fox scat detection dogs during preconstruction surveys, and then only with prior CDFW approval. • If the biological monitor deems it necessary to repel foxes attempting to enter the construction zones, animal repellents such as coyote urine shall be used only with prior CDFW approval. • Any sick or diseased fox, or documented fox mortality, shall be reported to the CDFW within 24 hours of identification. If a dead fox is observed, it shall be protected from scavengers until the CDFW determines whether the collection of necropsy samples is justified. <p>BIO-5 To avoid construction-level impacts to nesting birds, no earlier than 3 days prior to commencement of scheduled ground disturbance during the nesting bird breeding season (February 1 through August 31), qualified personnel shall perform a nest survey within 500 feet of the disturbance footprint, as accessible. If active nests are found, project disturbance activities shall be postponed or halted within a non-disturbance buffer surrounding each active nest (to be established by the biologist) that is suitable to the particular bird species and nest location(s) until the nest(s) are vacated and juveniles have fledged, as determined by the biologist. Any such buffer(s) shall be clearly demarcated in the field with highly visible construction fencing or flagging, and construction personnel shall be instructed on the sensitivity of nest areas. A biologist</p>	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>shall monitor construction activities near all such buffer(s) to ensure no inadvertent impacts on active nest(s). If listed species are involved, the CDFW and/or USFWS shall be notified immediately for consultation on how to proceed.</p> <p>BIO-6 The following best management practices shall be implemented during project grading and construction and decommissioning activities to address potential indirect impacts:</p> <ul style="list-style-type: none"> • The potential for wildlife entrapment shall be avoided as follows: <ul style="list-style-type: none"> ○ Backfill trenches. At the end of each workday, all potential wildlife pitfalls (e.g., trenches, bores, excavation pits) shall be backfilled, covered, or sloped to allow wildlife egress. Should wildlife become trapped, a qualified biologist shall be notified by construction personnel to remove and relocate the individual(s). ○ Cover materials. All open ends of pipes, culverts, or other hollow materials temporarily installed in open trenches or stored in staging/laydown areas shall be covered/capped at the end of each workday. Any such materials that have not been capped shall be inspected by construction personnel for wildlife before being moved, buried, or handled. Should wildlife become trapped, a qualified biologist shall be notified by construction personnel to remove and relocate the individual(s). • Minimize construction impacts. The construction limits shall be flagged prior to ground-disturbing activities. All construction activities, including equipment staging and maintenance, shall be conducted within the flagged disturbance limits. • Avoid toxic substances on road surfaces. Soil binding and weighting agents used on unpaved surfaces shall be nontoxic to wildlife and plants. 	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<ul style="list-style-type: none"> • Minimize spills of hazardous materials. All vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills shall be immediately cleaned up and the contaminated soil shall be properly handled or disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area. • Worker guidelines. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the site to prevent overflow. Workers shall not feed wildlife or bring pets to the project site. • Best management practices/erosion/runoff. The project shall incorporate methods to control runoff, including a stormwater pollution prevention plan to meet National Pollutant Discharge Elimination System (NPDES) regulations. Implementation of stormwater regulations is expected to substantially control adverse edge effects (e.g., erosion, sedimentation, habitat conversion) during and following construction, both adjacent to and downstream from the project area. Typical construction best management practices specifically related to reducing impacts from dust, erosion, and runoff generated by construction activities shall be implemented. During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns, which will protect sensitive vegetation from being inundated with sediment-laden runoff. Dewatering shall be conducted in accordance with standard regulations of the Colorado River Regional Water Quality Control Board. An NPDES permit, issued by the RWQCB to discharge water from dewatering activities, shall be required prior to the start of dewatering. This permit will 	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		minimize erosion, siltation, and pollution in sensitive vegetation communities.	
3.4-2 Would the project have a substantial impact on special-status riparian habitats or have a substantial adverse effect on sensitive or other special-status natural vegetation communities identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	Potentially Significant	BIO-7 Prior to commencement of the decommissioning phase, the project applicant shall prepare a revegetation plan as part of the Decommissioning Plan to identify performance standards necessary for revegetation of the site with native plants. The Decommissioning Plan shall specify success criteria, including, but not limited to, site preparation methods, installation specifications, maintenance requirements, and monitoring/report measures to ensure certain botanical thresholds are met such as adequate cover, density, and species richness. Standards of success shall include at least a 50 percent revegetation success rate compared to baseline conditions and shall include annual monitoring for 2 years. If 50 percent revegetation has not been achieved within 2 years due to lack of water or other environmental factors, the applicant shall work with the County to identify and implement an alternate solution to achieve the identified success rate.	Less than Significant with Mitigation
3.4-3 Would the project have a substantial adverse effect on federally protected wetlands as defined by Clean Water Act Section 404 (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact	None required	No Impact

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.4-4 Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No Impact	None required	No Impact
3.4-5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Potentially Significant	Mitigation measures BIO-1 through BIO-7	Less than Significant with Mitigation
3.4-6 Would the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	No Impact	None required	No Impact
3.4-7 Would the project result in cumulative impacts related to biological resources?	Potentially Significant	Mitigation measures BIO-1 through BIO-7	Less than Significant with Mitigation
Cultural, Tribal Cultural, and Paleontological Resources			
3.5-1 Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?	Potentially Significant	CUL-1 Fencing shall be installed and maintained along the 50-foot buffer around the known boundaries of historical resources (P-36-001961, P-36-005067, Coolwater HDR-23, Coolwater HDR-57, Coolwater HDR-58, Coolwater HDR-61, Coolwater HDR-45 [a component of P-36-07883], and Coolwater ISO-56) to protect them in place during construction and decommissioning.	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.5-2 Would the project cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5?	Potentially Significant	<p>CUL-2 The project proponent/operator shall conduct a Worker Education Awareness Program (WEAP) for relevant construction personnel working on the proposed project and conducting subsurface activities. Development of the WEAP shall include consultation with an archaeologist. The training shall include an overview of known historical resources and potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified archaeologist.</p> <p>CUL-3 In the event that previously unknown historic era archaeological resources (sites, features, or artifacts) are exposed during grading and/or construction activities for the proposed project, all work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist can evaluate the significance of the find and determine whether or not additional study is warranted, in consultation with the County. Pursuant to CEQA Guidelines Section 15126.4(b)(3), proposed project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the County. Protocol for discovery and treatment of pre-contact resources is outlined in CUL-8.</p>	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.5-3 Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or contain rock formations indicating potential paleontological resources?	Potentially Significant	<p>CUL-4 The project proponent/operator shall conduct a Worker Education Awareness Program (WEAP) for relevant construction personnel working on the proposed project on subsurface activities. Development of the WEAP shall include consultation with an archaeologist and an expert with expertise in paleontology. The training shall include an overview of potential significant paleontological resources that could be encountered during ground disturbing activities, including how to identify subsurface evidence of “older” sediment or fossils that may potentially be encountered during excavation, to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist. Prior to any ground-breaking activities, the San Bernardino County Land Use Services Department shall ensure that construction personnel partake in the WEAP.</p> <p>CUL-5 In the event that paleontological resources are exposed during grading and/or construction activities for the proposed project, all work occurring within 100 feet of the find shall immediately stop until a qualified paleontologist can evaluate the significance of the find and determine whether or not additional study is warranted, in consultation with the County. If it is demonstrated that resources cannot be avoided, the qualified paleontologist shall develop additional treatment measures in consultation with the County, which may include recovery or other appropriate measures. The qualified archaeologist shall prepare a report documenting the treatment of the resource. A copy of the report shall be provided to the County.</p>	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.5-4 Would the project disturb any human remains, including those interred outside of formal cemeteries?	Potentially Significant	<p>CUL-6 In accordance with California Health and Safety Code Section 7050.5, if human remains are found, the County Coroner shall be notified within 24 hours of the discovery. The project lead/foreman shall designate an Environmentally Sensitive Area (ESA) physical demarcation/barrier 100 feet around the resource and no further excavation or disturbance of the site shall occur while the County Coroner makes his/her assessment regarding the nature of the remains. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours. In accordance with Public Resources Code Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant (MLD) from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative will then determine, in consultation with the property owner, the disposition of the human remains.</p> <p>Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The MLD in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The applicant/developer/landowner should accommodate on-site reburial in a location mutually agreed upon by the Parties.</p> <p>It is understood by all Parties that unless otherwise required by law, the site of any reburial of Native American human remains</p>	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code §6254 (r).	
<p>3.5-5 Would the project 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 size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p> <p>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)?</p> <p>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.</p>	Potentially Significant	<p>Mitigation measure CUL-6.</p> <p>CUL-7 Due to the potential impact to a significant archaeological site (CA-SBR-1961), subsurface archaeological testing shall be conducted by at least one archaeologist, with at least 3 years of regional experience in archaeology, within the area of concern identified by the San Manuel Band of Mission Indians during consultation. Prior to any ground-disturbing activity, testing shall be conducted to confirm presence or absence of subsurface material and to delineate site boundaries. Testing may employ a number of subsurface investigative methods, including shovel test probes, and/or deep testing via controlled units, augers or trenching.</p> <p>The area of concern will be determined in the testing plan and shall be dug and dry-sifted through 1/8-inch mesh screens. A Testing Plan shall be created by the archaeologist and submitted to the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) and the Lead Agency for review at least 10 business days prior to implementation in order to provide time to review/modify the Plan, if needed. The Plan shall outline the protocol of presence/absence testing and contain a treatment protocol detailing that 1) no collection of artifacts or excavation of features shall occur during testing, and 2) all discovered resources shall be properly recorded and reburied <i>in situ</i> (see mitigation measure CUL-8).</p> <p>The results of testing shall be presented to the applicant, Lead Agency, and SMBMI in the format of a report, which shall include details regarding testing methodology, soil assessment,</p>	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>and photographs. If the results of testing, as approved by SMBMI, are positive, then SMBMI and the Lead Agency shall, in good faith, consult concerning appropriate treatment of the resource(s), guidance for which is outlined in mitigation measure CUL-8. If the results of testing, as approved by SMBMI, are negative, then SMBMI will conclude consultation unless additional discoveries are made during project implementation in which consultation would resume. All discoveries made during project implementation shall be subject to the treatment protocol outlined within the Testing Plan, as well as the treatment guidelines within mitigation measures CUL-6 and CUL-8.</p> <p>CUL-8 If a pre-contact tribal cultural resource is discovered during archaeological presence/absence testing, the discovery shall be properly recorded and then reburied <i>in situ</i>. If a pre-contact tribal cultural resource is discovered during project implementation, ground disturbing activities shall be suspended 100 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. Representatives from the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI), a qualified archaeologist/applicant, and the Lead Agency shall confer regarding treatment of the discovered resource(s). As outlined in CEQA, the applicant shall make a good faith effort to redesign the project area in such a way that impacts to the identified resource(s) can be avoided/preserved in place. Should any resource(s) not be a candidate for avoidance/preservation in place, and therefore the removal of the resource(s) is necessary to mitigate impacts, a research design shall be developed in consultation with SMBMI.</p> <p>The research design will include a plan to formally evaluate the resource(s) for significance under CEQA criteria, as well as to formally address the resource(s) place within the landscape</p>	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>identified as a Tribal Cultural Resource (TCR) by the San Manuel Band of Mission Indians. Additionally, the research design shall include a comprehensive discussion of sampling strategies, resource processing, analysis, and reporting protocols/obligations. Removal of any cultural resource(s) shall be conducted with the presence of a Tribal Monitor representing the Tribe, unless otherwise decided by SMBMI. All plans for analysis shall be reviewed and approved by the applicant, Lead Agency, and SMBMI prior to implementation, and all removed material shall be temporarily curated on-site.</p> <p>It is the preference of SMBMI that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by SMBMI, the landowner, and the Lead Agency, and all finds shall be reburied within this location. Additionally, in the case of a single reburial area, reburial shall not occur until all ground-disturbing activities associated with the project have been completed, all cataloguing and basic recordation of cultural resources have been completed, and a final report has been approved by SMBMI and the Lead Agency. All reburials are subject to a reburial agreement that shall be developed between the landowner and SMBMI outlining the determined reburial process/location and shall include measures and provisions to protect the reburial area from any future impacts (i.e. project plans, conservation/preservation easements, etc.).</p> <p>Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with SMBMI to identify an American Association of Museums (AAM)-accredited facility within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with</p>	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>the 1993 CA Curation Guidelines. A curation agreement with an appropriate qualified repository shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the obligation of the project developer/applicant to pay for those fees.</p> <p>All draft archaeological records/reports created throughout the life of the project shall be prepared by the archaeologist and submitted to the applicant, Lead Agency, and SMBMI for their review and approval. After approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the Lead Agency, and SMBMI.</p>	
3.5-6 Would the project result in cumulative impacts related to historical, archaeological, paleontological, or tribal cultural resources?	Potentially Significant	Mitigation measures CUL-1 through CUL-8	Less than Significant with Mitigation
Geology and Soils			
3.6-1a Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map?	Less than Significant	None Required	Less than Significant

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.6-1b Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?	Potentially Significant	GEO-1 Prior to the issuance of grading permits, the project proponent/operator shall retain a California registered and licensed engineer to design the proposed project facilities to withstand probable seismically induced ground shaking at the project site. All grading and construction on site shall adhere to the specifications, procedures, and site conditions contained in the final design plans, which shall be fully compliant with the seismic recommendations of the California-registered and licensed professional engineer and consistent with the recommendations in the <i>Preliminary Geotechnical Engineering Report</i> prepared by Terracon Consultants, Inc. (2018).	Less than Significant with Mitigation
3.6-1c Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	Potentially Significant	Mitigation measure GEO-1	Less than Significant with Mitigation
3.6-1d Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?	Less than Significant	None Required	Less than Significant
3.6-2 Would the project result in substantial soil erosion or the loss of topsoil?	Less than Significant	None Required	Less than Significant
3.6-3 Would the project site be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	Less than Significant	None Required	Less than Significant

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.6-4 Would the project be located on expansive soil, creating substantial risks to life or property?	Potentially Significant	Mitigation measure GEO-1	Less than Significant with Mitigation
3.6-5 Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	Less than Significant	None Required	Less than Significant
3.6-6 Would the project would not result in cumulative impacts related to geology and soils?	Potentially Significant	Mitigation measure GEO-1	Less than Significant with Mitigation
Greenhouse Gas Emissions			
3.7-1 Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (or conflict with applicable greenhouse gas emissions thresholds) or otherwise conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than Significant	None Required	Less than Significant
3.7-2 Would the project result in cumulative impacts related to greenhouse gases?	Less than Significant	None Required	Less than Significant

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Hazards and Hazardous Materials			
3.8-1 Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than Significant	None Required	Less than Significant
3.8-2 Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or would it create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Potentially Significant	<p>HM-1 The following actions shall be taken to address the potential RECs associated with the project site.</p> <ul style="list-style-type: none"> • Perform a review of relevant environmental documents of the properties associated with the RECs (Barstow-Daggett Airport) to validate the REC conclusion and further evaluate potential contaminants and areas of concern in order to inform locations where shallow soil sampling may be required and any soil disposal requirements prior to issuance of the grading permit for Phase 2. • Perform shallow soil sampling along the project site boundaries that are immediately adjacent to the Barstow-Daggett Airport in locations determined by the review required above and where grading is planned to screen the soils for elevated contaminant prior to issuance of the grading permit for Phase 2. • Prior to issuance of a grading permit, prepare a Soil Management Plan to provide background information regarding the project site, highlight areas of concern that the grading contractor should be aware of during grading activities, and define the procedures for addressing suspected contaminated materials or subsurface anomalies that may be encountered during grading activities. 	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.8-3 Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact	None Required	No Impact
3.8-4 Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Less than Significant	None Required	Less than Significant
3.8-5 Would the project result in a safety hazard for people residing or working in the project area and located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, or would it result in a safety hazard for people residing or working in the project area in the vicinity of a private airstrip?	Potentially Significant	HM-2 Prior to issuance of building and grading permits, the Applicant shall provide to the County a Determination of No Hazard issued by the Federal Aviation Association (FAA).	Less than Significant with Mitigation
3.8-6 Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	Less than Significant	None Required	Less than Significant

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.8-7 Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas and where residences are intermixed with wildlands?	Less than Significant	None Required	Less than Significant
3.8-8 Would the project result in cumulative impact related to hazards and hazardous materials?	Less than Significant	None Required	Less than Significant
Hydrology and Water Quality			
3.9-1 Would the project violate any water quality standards or waste discharge requirements?	Less than Significant	None Required	Less than Significant
3.9-2 Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a new deficit in aquifer volume or a lowering of the local groundwater table level?	Potentially Significant	No feasible mitigation measures are available.	Significant and Unavoidable
3.9-3 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, in a manner which would result in substantial erosion or siltation on- or off-site?	Less than Significant	None Required	Less than Significant

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.9-4 Would the project substantially alter the existing drainage pattern in the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	Less than Significant	None Required	Less than Significant
3.9-5 Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Less than Significant	None Required	Less than Significant
3.9-6 Would the project substantially degrade water quality?	Less than Significant	None Required	Less than Significant
3.9-7 Would the project be placed within a 100-year flood hazard area structures which would impede or redirect flows?	Less than Significant	None Required	Less than Significant
3.9-8 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	None Required	Less than Significant
3.9-9 Would the project result in inundation by seiche, tsunami, or mudflow?	No Impact	None Required	No Impact
3.9-10 Would the project result in cumulative impacts to hydrology and water quality?	Potentially Significant	No feasible mitigation measures are available.	Significant and Unavoidable

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Land Use and Planning			
3.10-1 Would the project physically divide an established community?	Less than Significant	None Required	Less than Significant
3.10-2 Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	Potentially Significant	Mitigation measure HM-2	Less than Significant with Mitigation
3.10-3 Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?	No Impact	None Required	No Impact
3.10-4 Would the project result in cumulative impacts to land use and planning?	Less than Significant	None Required	Less than Significant
Noise			
3.11-1 Would the project result in exposure of people to, or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Potentially Significant	NOI-1 The following noise mitigation measures are required to minimize noise impacts: <ul style="list-style-type: none"> • Maintain all construction tools and equipment in good operating order according to manufacturers' specifications. • Limit use of major excavating and earthmoving machinery to daytime hours. • To the extent feasible, schedule construction activity during normal working hours on weekdays when higher sound levels are typically present and are found acceptable. Some 	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>limited activities, such as concrete pours, may occur continuously until completion.</p> <ul style="list-style-type: none"> • Equip any internal combustion engine related to the job with a properly operating muffler that is free from rust, holes, and leaks. • For construction devices that utilize internal combustion engines, ensure the engine's housing doors are kept closed, and install noise-insulating material mounted on the engine housing consistent with manufacturers' guidelines, if possible. • Limit possible evening shift work to low noise activities such as welding, wire pulling, and other similar activities, together with appropriate material handling equipment. • Utilize a complaint resolution procedure to address any noise complaints received from residents. • Post signage showing the overall construction schedule. • Deploy temporary sound barrier or other engineering solution when construction activities are located within 200 feet of a residence so that the noise level at the residents' property line is less than the federal transit authority threshold of 80 dBA. The sound barriers should be placed so that the construction equipment is blocked with a buffer of approximately 20 feet from the equipment to edges of the barrier. This reduction in noise can also be accomplished using a comparable engineering solution to minimize noise. <p>NOI-2 Battery storage containers located in the eastern portion of the project shall be rotated so that the heating, ventilation and air conditioning units are pointed away from receptors; or a comparable engineering solution to minimize noise from this equipment shall be implemented, such that noise levels do not exceed the County daytime threshold of 55 dBA.</p>	

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.11-2 Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	Potentially Significant	Mitigation measure NOI-2	Less than Significant with Mitigation
3.11-3 Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Potentially Significant	Mitigation measure NOI-1	Less than Significant with Mitigation
3.11-4 Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant	None Required	Less than Significant
3.11-5 Would the project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Less than Significant	None Required	Less than Significant
3.11-6 Would the project be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	Less than Significant	None Required	Less than Significant
3.11-7 Would the project result in cumulative noise impacts?	Potentially Significant	Mitigation measures NOI-1 and NOI-2	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
Transportation and Traffic			
3.12-1 Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	Potentially Significant	<p>TRA-1 Prior to commencement of construction activities, the applicant shall prepare and submit a Construction Traffic Control Plan to the County in accordance with both the Caltrans (2014) California Manual on Uniform Traffic Control Devices (CA MUTCD) and the Work Area Traffic Control Handbook for review and approval by the County, which will include:</p> <ul style="list-style-type: none"> • Timing the delivery of heavy equipment and building materials under the contractors' control during non-peak commute hours, to the extent feasible. • Directing construction traffic with a flag person. • Placing temporary signing, lighting, and traffic control devices if required, including but not limited to appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic. • Ensuring access for emergency vehicles to the project site. • Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections. • Designating bicycle and pedestrian detour plans if/where applicable. • Maintaining access to adjacent property. • Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the a.m. and p.m. peak hours, distributing construction traffic flow across alternative routes to access the project site in a way that maintains level of service conditions at the time of construction, and avoiding residential neighborhoods to the maximum extent feasible. • Coordinating the traffic control plan with the County, as well as potential traffic control plan adjustments, in the event of 	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
		<p>concurrent projects generating potentially overlapping traffic effects.</p> <ul style="list-style-type: none"> • Conducting additional traffic control plan coordination with Caltrans regarding the SR-58 Hinkley Expressway Project if construction of the proposed project occurs concurrently with construction of the expressway project. 	
3.12-2 Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	Less than Significant	None Required	Less than Significant
3.12-3 Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	Potentially Significant	Mitigation measure HM-2	Less than Significant with Mitigation
3.12-4 Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less than Significant	None Required	Less than Significant
3.12-5 Would the project result in inadequate emergency access?	Potentially Significant	Mitigation measure TRA-1	Less than Significant with Mitigation

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.12-6 Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	Less than Significant	None Required	Less than Significant
3.12-7 Would the project result in cumulative traffic impacts?	Less than Significant	None Required	Less than Significant
Utilities and Service Systems			
3.13-1 Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	Less than Significant	None Required	Less than Significant
3.12-2 Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities in which the construction would cause significant impacts?	Less than Significant	None Required	Less than Significant
3.13-3 Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities in which construction would cause significant impacts?	Less than Significant	None Required	Less than Significant
3.13-4 Would the project have sufficient water supplies available to serve the project from existing entitlements and resources?	Less than Significant	None Required	Less than Significant

Table ES-1, continued

Impact	Level of Significance without Mitigation	Mitigation Measure	Resulting Level of Significance
3.13-5 Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less than Significant	None Required	Less than Significant
3.13-6 Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	Less than Significant	None Required	Less than Significant
3.13-7 Would the project comply with federal, state, and local statutes and regulations related to solid waste?	Less than Significant	None Required	Less than Significant
3.17-8 Would the project result in cumulative impacts related to utilities and service systems?	Less than Significant	None Required	Less than Significant

SUMMARY OF PROJECT ALTERNATIVES

CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to a project that could feasibly attain the basic objectives of a project and avoid or lessen the environmental effects of a project. Further, CEQA Guidelines Section 15126.6(e) requires that a “no project” alternative be evaluated in an EIR as well as any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process. Section 4.0, Alternatives to the Proposed Project, of this EIR includes a detailed discussion and a qualitative analysis of alternatives that have been rejected by the County, as well as the following scenarios considered to be feasible alternatives to the project as proposed.

ALTERNATIVES TO THE PROPOSED PROJECT

As noted previously, the CEQA Guidelines (Section 15126.6l(2)) require that the alternatives discussion include an analysis of the No Project Alternative. Pursuant to CEQA, the No Project Alternative refers to the analysis of existing conditions (i.e., implementation of current plans) and what would reasonably be expected to occur in the foreseeable future if the project was not approved. Potential environmental impacts associated with the No Project Alternative, and two project alternatives are compared below to assess impacts from the proposed project. These alternatives include: (1) No Project Alternative, (2) Reduced Footprint Alternative, and (3) Kramer Junction Alternative.

Table ES-2, Comparison of Alternatives and Environmental Considerations, summarizes the impact of each alternative on the environmental resources evaluated in the EIR when compared with the impact of the proposed project. Several criteria are considered for each resource topic and the conclusion considers the aggregate impact of each alternative relative to the impacts of the proposed project.

Table ES-2:
Comparison of Alternatives and Environmental Considerations

Topic	1: No Project Alternative	2: Reduced Footprint Alternative	3: Kramer Junction Alternative
Aesthetics and Visual Resources	<	<	>
Agriculture and Forestry Resources	<	<	<
Air Quality	<	<	>
Biological Resources	<	<	>
Cultural, Tribal Cultural, and Paleontological Resources	<	<	>
Geology and Soils	<	<	>

Table ES-2, continued

Topic	1: No Project Alternative	2: Reduced Footprint Alternative	3: Kramer Junction Alternative
Greenhouse Gas Emissions	>	<	>
Hazards and Hazardous Materials	<	<	<
Hydrology and Water Quality	>	<	>
Land Use and Planning	<	<	>
Noise	<	<	<
Utilities and Service System	>	<	>
Transportation and Traffic	<	<	<
Attains Most Project Objectives	No	Yes	Yes

ALTERNATIVE 1: “NO PROJECT” ALTERNATIVE

Description of Alternative

Under the No Project Alternative, the proposed solar energy and storage facility would not be constructed. The existing conditions in the project site would remain. The No Project Alternative does not achieve any of the basic project objectives.

Under the No Project Alternative, impacts associated with construction and operation of the solar energy and storage facility would be avoided.

Alternative 1 Summary and Feasibility

Implementation of Alternative 1, the No Project Alternative, would avoid the environmental impacts of the proposed project because no solar energy and storage facility would be constructed. The baseline environmental conditions on the project site would remain under the No Project Alternative. The No Project Alternative would not retire the existing agricultural operations on the site, which would continue to use groundwater resources and produce greenhouse gas emissions from agricultural equipment use. The No Project Alternative would have fewer impacts than the proposed project on most environmental resources because no construction would occur and land use patterns of the site would remain. The No Project Alternative would have greater impacts on water resources and greenhouse gases due to continued agricultural operation on the site under the No Project Alternative. The No Project Alternative is inherently feasible as it represents no change from existing conditions. However, it would not meet any of the basic project objectives.

ALTERNATIVE 2: REDUCED FOOTPRINT ALTERNATIVE

Description of Alternative

Alternative 2, the Reduced Footprint Alternative, would substantially reduce the footprint of the solar energy facility to reduce significant air quality impacts to a less than significant level. The Alternative 2 solar facility would encompass approximately 1,015 acres, approximately 29 % of the 3,500 acres required for the proposed project. Alternative 2 would produce up to 185 MW of energy. Alternative 2 construction would occur over 13.5 months for Phase 1 (57.5 MW), 13.5 months for Phase 2 (57.5 MW) and 19 months for Phase 3 (70-MW). The phases and stages within each phase would not overlap. An average of 85 workers would be on site during each stage of construction, depending on the activities.

A conceptual layout and reduced footprint for the Alternative 2 solar energy and storage facility is provided on **Exhibit 4-1, Reduced Footprint Alternative (Concept)**.

Alternative 2 Summary and Feasibility

Implementation of Alternative 2 would result in reduced impacts on aesthetics, agricultural resources, air quality, biological resources, cultural, tribal cultural, and paleontological resources, geology and soils, greenhouse gases, hydrology and water quality, hazards and hazardous materials, land use, noise, transportation and traffic, and utilities when compared to the proposed project. Alternative 2 attains most project objectives (refer to **Table 4-3**) and is potentially feasible.

ALTERNATIVE 3: KRAMER JUNCTION SOLAR SITE ALTERNATIVE

Description of Alternative

Alternative 3, the Kramer Junction Solar Site Alternative, would include 650 MW of electric generation solar PV panels, battery storage, on-site substations, and a gen-tie line. Given the land area, Alternative 3 could have a similar generation capacity as the proposed project. The Alternative 3 site includes approximately 3,913 acres on Bureau of Land Management (BLM) administered land, located west of Interstate 395 (I-395) and north of U.S. Route 58, just north of the community of Boron as shown on **Exhibit 4-2, Kramer Junction Solar Site Alternative**. The northern two-thirds of the Alternative 3 site is designated as a Development Focus Area (DFA) in the Desert Renewable Energy Conservation Plan (DRECP) and the remainder of the site is undesignated in the DRECP.

The DRECP requires California Department of Fish and Game (CDFW) to develop a county-wide conservation strategy that addresses Mohave ground squirrel, prior to developing land in DFA-

designated areas. The time it would take to develop the conservation strategy would likely delay any solar development in the area, however; the Alternative 3 site is considered a feasible location for solar development because it is an allowable use under the DRECP. Although the Alternative 3 solar site covers approximately 3,913 acres, the actual area of development would be similar to the proposed project (approximately 3,500 acres).

The anticipated route of the Alternative 3 gen-tie is shown on **Exhibit 4-2** but has not been fully determined at this time. It is assumed that the gen-tie line would require an approximately 5-mile long gen-tie line and associated right-of-way. The point of interconnection would be at the Kramer Substation. Upgrades to the Kramer Substation may be required to allow for the interconnection. Depending on the final location of the gen-tie, existing rights-of-way may be required for the entirety, or a portion, of the gen-tie line.

An off-site alternative was recommended by the public to reduce impacts on the Daggett community. Alternative 3 would locate the proposed solar facility farther from residences than the proposed project and would avoid potential land use and air traffic safety impacts associated with location of a solar facility in proximity to an airport.

Alternative 3 Summary and Feasibility

Implementation of Alternative 3 would result in reduced impacts on agricultural resources, hazards, noise, and transportation and traffic. Implementation of Alternative 3 would result in greater impacts on aesthetics, air quality, biological resources, cultural and tribal resources, geology and soils, greenhouse gas emissions, hydrology and water quality, land use and planning and utilities and service systems than the proposed project.

Alternative 3 is located wholly on BLM-administered land and would require a BLM right-of-way grant for development, in addition to a CUP from the County for development of an overhead gen-tie line. Obtaining BLM approval would require CDFW to develop a conservation strategy for Mohave ground squirrel, which would substantially increase the cost and length of time required for permitting the project. Alternative 3 would meet some of the project objectives and is considered potentially feasible because it is located within DRECP land use areas that are suitable for solar development.

This page is intentionally blank.

Section 1.0

Introduction to the Environmental Analysis

PURPOSE OF THE EIR

This Environmental Impact Report (EIR) addresses the environmental effects of the proposed Daggett Solar Power Facility (project). The California Environmental Quality Act (CEQA) requires that government agencies consider the environmental consequences of projects over which they have discretionary approval authority.

The County of San Bernardino (County) is the lead agency under CEQA and has determined that an Environmental Impact Report is required for the proposed project (State Clearinghouse No. 2018041007). An EIR is an informational document that provides both government decision-makers and the public with an analysis of the potential environmental consequences of a proposed project in their jurisdiction. This EIR has been prepared in accordance with the requirements of CEQA as set forth in Public Resources Code Section 21000 et seq., and 14 California Code of Regulations Section 15000 et seq. (CEQA Guidelines).

This EIR addresses the project's environmental effects, in accordance with CEQA Guidelines Section 15161. As referenced in CEQA Guidelines Section 15121(a), the primary purpose of an EIR is to inform decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects of a project, and describe reasonable alternatives to a project.

This document analyzes the project's environmental effects to the degree of specificity appropriate to the current proposed actions, as required by CEQA Guidelines Section 15146. The analysis considers the activities associated with the project to determine the short- and long-term effects associated with their implementation. This EIR also considers the project's direct and indirect impacts, and the cumulative impacts associated with other past, present, and reasonably foreseeable future projects.

Where potentially significant impacts are identified, the EIR specifies mitigation measures that are required to be adopted as conditions of approval or may be incorporated into the project to avoid or minimize the significance of impacts resulting from the project. In addition, this EIR is the primary reference document in the formulation and implementation of the project's Mitigation Monitoring and Reporting Program (MMRP).

The Final EIR will be considered for certification and approval by the County. A decision to approve the Daggett Solar Power Facility project would be accompanied by specific, written

findings, in accordance with CEQA Guidelines Section 15091, if potentially significant impacts remain significant and unavoidable, and a specific, written Statement of Overriding Considerations, in accordance with CEQA Guidelines Section 15093.

EIR SCOPE, ISSUES, AND CONCERNS

NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT

In accordance with CEQA Guidelines Section 15082, a Notice of Preparation (NOP) was distributed to initiate the County's CEQA review process for the project, identify and seek public input for the project's potential environmental effects, and identify a date for the project's public scoping meeting. The NOP was distributed on March 26, 2018, and identified a public review period through April 26, 2018, in compliance with the State's mandatory 30-day public review period.

SCOPING MEETING

A scoping meeting was held to discuss the proposed project on April 11, 2018, from 4:00 to 7:00 p.m. at the Daggett Community Services District located at 35277 Afton Street in Daggett, California. A presentation was provided, including an overview of the project and the CEQA process. Following the presentation, participants were encouraged to provide oral or written comments to aid the County in refining the scope of issues to be addressed in the EIR.

Approximately 40 individuals attended the scoping meeting. In addition, a total of 53 written comment letters were received in response to the NOP and scoping meeting. Comment letters were received from agencies, organizations, and individuals.

Key issues of environmental concern expressed by individuals and/or agencies during the scoping period include:

- Sand storms from ground disturbance
- Impacts to biological resources and natural habitat
- Impacts to historical resources including Route 66, the BNSF railroad line, and portions of the local airport which are considered historical in nature
- Water usage, water supply, groundwater, and drought
- Impacts to Daggett Airport and Fort Irwin's training facility
- Visual Impacts
- Impacts to airport operations

- Impacts to Camp Cady

Appendix A includes a copy of the NOP, comment letters received in response to the NOP and scoping meeting, and a scoping meeting summary memorandum. The County has made a good faith effort to address all the identified concerns in this EIR.

DRAFT EIR PUBLIC REVIEW AND COMMENT

This Draft EIR, with an accompanying Notice of Completion (NOC), is being circulated to the State Clearinghouse, trustee agencies, responsible agencies, other government agencies, and interested members of the public for a 45-day review period in accordance with CEQA Guidelines Sections 15087 and 15105. The review period will begin the day the document is released for public review and will end 45 calendar days thereafter.

During this period, public agencies and members of the public may submit written comments on the analysis and content of the EIR. In reviewing a Draft EIR, readers should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and on ways in which the significant effects of the proposed project might be avoided or mitigated.

Comment letters should be sent to:

Tom Nieves, Contract Planner
County of San Bernardino
Land Use Services Department
385 North Arrowhead Avenue, First Floor
San Bernardino, CA 92415
Phone: (909) 387-5036
Email: Tom.Nieves@lus.sbcounty.gov

Following the close of the public comment period, a Final EIR will be prepared to respond to all substantive comments related to environmental issues. The Final EIR will be completed and made available prior to any public hearings on the project.

REPORT ORGANIZATION

The EIR is organized as follows:

- **Section ES, Executive Summary.** Summarizes the description and background of the proposed project, addresses the EIR format, discusses project alternatives, and identifies potential environmental impacts and mitigation measures for the proposed project.

- **Section 1.0, Introduction.** Describes the process and purpose of the EIR and gives an overview of the EIR content.
- **Section 2.0, Project Description.** Describes the project location, setting, objectives, and development components, and lists various agency approvals that are likely required in order for the project to move forward.
- **Section 3.0, Introduction to the Environmental Analysis.** Contains a detailed analysis of existing (baseline) conditions, potential project impacts, and required mitigation measures for the following environmental issue areas:
 - Aesthetics and Visual Resources (Section 3.1)
 - Agriculture and Forestry Resources (Section 3.2)
 - Air Quality (Section 3.3)
 - Biological Resources (Section 3.4)
 - Cultural, Tribal Cultural, and Paleontological Resources (Section 3.5)
 - Geology and Soils (Section 3.6)
 - Greenhouse Gas Emissions (Section 3.7)
 - Hazards and Hazardous Materials (Section 3.8)
 - Hydrology and Water Quality (Section 3.9)
 - Land Use and Planning (Section 3.10)
 - Noise (Section 3.11)
 - Transportation and Traffic (Section 3.12)
 - Utilities and Service Systems (Section 3.13)
 - Effects Found Not to Be Significant (Section 3.14)
- **Section 4.0, Alternatives to the Proposed Project.** Analyzes alternatives to the proposed project and their potential environmental effects.
- **Section 5.0, Other CEQA Considerations.** Summarizes the project's significant and unavoidable impacts and significant irreversible environmental changes and addresses the issues of growth inducement and energy conservation.
- **Section 6.0, Preparers and References.** Identifies reference resources used during preparation of the EIR, as well as persons and organizations responsible for authoring the technical reports and EIR.
- **Appendices.** Contain the project's technical reports and documentation of the NOP and scoping process.

INCORPORATION BY REFERENCE

In accordance with CEQA Guidelines Section 15150, this EIR incorporates by reference the following documents (available for review at the San Bernardino County Planning Department, 385 North Arrowhead Avenue, San Bernardino, CA 92415; or online at www.sbcounty.gov):

County of San Bernardino General Plan (as amended February 2019)

The County of San Bernardino General Plan is a long-range policy-planning document that defines the framework by which the county's physical and economic resources are to be managed over time. The goals and policies in the General Plan are intended to guide the County's decision-makers. The following elements are included in the General Plan: Land Use, Circulation and Infrastructure, Housing, Renewable Energy and Conservation, Open Space, Noise, Safety, and Economic Development Element. Information contained in the General Plan is incorporated herein because it is the primary source for County policies, objectives, and countywide planning analysis.

The County Board of Supervisors adopted an amendment to the Renewable Energy Conservation Element on February 28, 2019 prohibiting utility-scale renewable energy development on lands designated as Rural Living or on lands located within the boundary of an existing community plan, unless an application for development of a renewable energy project has been accepted as complete in compliance with California Government Code Section 65943 before the effective date of the resolution. Therefore, the proposed project is not subject to this new policy as the application for development was deemed complete on March 22, 2018.

County of San Bernardino General Plan Final EIR (SCH No. 2005101038, February 2007)

The General Plan EIR was prepared to assess the potential environmental impacts associated with the proposed General Plan. The EIR summarizes potential environmental impacts associated with implementation of the County's General Plan, including growth-inducing and cumulative impacts. Information from the General Plan EIR is incorporated herein because it contains relevant environmental information that pertains to the project.

County of San Bernardino Zoning Ordinances

The San Bernardino County Development Code implements the goals and policies of the General Plan by regulating land uses within the unincorporated areas of the County. Each piece of property is within a "zone" or "land use district" which describes the rules under which that land may be used. These districts generally cover the range of uses allowable within the land use district. The Code also establishes specific development standards for each district and the

procedures to follow in order to approve a particular use. In 2013, the County of San Bernardino passed an ordinance amending Chapter 84.29, Renewable Energy Generation Facilities, and Chapter 810.01, Definitions, of the San Bernardino County Development Code, relating to the regulation of commercial solar energy generation facilities. The ordinance requires that the County make findings for solar renewable energy projects prior to approving such projects. The findings require that prior to approval of a commercial solar facility, it must be determined that the location of the proposed commercial facility is appropriate in relation to the desirability and future development of communities, neighborhoods, and rural residential uses.

Stipulated Judgment

A Stipulated Judgment was issued by the Superior Court in January of 1996 (Superior Court, Judgment after Trial for City of Barstow, et al Vs. City of Adelanto, et al Case No. 208568, January 10, 1996) to address water supply shortages in the Mojave Basin Area where the project is located. The Adjudication of the Mojave Basin Area was the legal process that allocated the right to produce water from the natural water supply. As mandated in the Judgment, the Mojave Water Agency was appointed as the Basin Watermaster and tasked with the responsibility of sustainably managing water supplies in the Basin.

PROJECT OVERVIEW AND LOCATION

The project site is flat and is generally bounded by the town of Daggett approximately 0.5 miles to the west; the Mojave River, Yermo, and Interstate 15 to the north; Barstow-Daggett Airport, Route 66, and Interstate 40 to the south; and Newberry Springs and Mojave Valley to the east in San Bernardino County (**Exhibit 2.0-1, Project Location**).

The project area is in proximity to existing high voltage electrical infrastructure, existing energy generation facilities, and other industrial uses. These include the existing non-operating Coolwater Generating Station, a 626 MW natural gas-fired power plant, the 44 MW photovoltaic Sunray Solar Project, several high-voltage substations and transmission lines owned by Southern California Edison (SCE), the Los Angeles Department of Water and Power (LADWP) high-voltage transmission corridor of approximately 1,000 feet in width, major highway and railroad infrastructure, and Barstow-Daggett Airport.

The proposed project would construct and operate a utility-scale, solar photovoltaic (PV) electricity generation and energy storage facility that would produce up to 650 megawatt (MW) of power and include up to 450 MW of battery storage capacity on approximately 3,500 acres of land (**Exhibit 2.0-2, Project Site**). The project would use existing electrical transmission infrastructure adjacent to the Coolwater Generating Station, a recently retired natural gas-fired power plant, to deliver renewable energy to the electric grid.

The applicant selected the project site based on its proximity to existing electrical transmission infrastructure in order to repurpose former fossil fuel-based electricity generation capacity with renewable energy. The project is being designed in accordance with San Bernardino County's Solar Ordinance (an ordinance amending Development Code Chapter 84.29, Renewable Energy Generation Facilities) and the General Plan Renewable Energy and Conservation Element (RECE), which strives to preserve the character of the project area and surrounding communities.

The County Board of Supervisors adopted an amendment to the Renewable Energy Conservation Element (RECE) on February 28, 2019 prohibiting utility-scale renewable energy development on lands designated as Rural Living or on lands located within the boundary of an existing community plan, unless an application for development of a renewable energy project has been accepted as complete in compliance with California Government Code Section 65943 before the effective

date of the resolution. Therefore, the proposed project is not subject to this new policy because it was deemed complete on March 22, 2018.

The project is anticipated to be constructed in three phases and is seeking six separate CUPs to facilitate project phasing and financing. The phases would share certain facilities, such as the on-site project substations and generation tie (gen-tie) line. Development would occur on privately owned land.

PROJECT OBJECTIVES

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

1. Assist the State of California in achieving or exceeding its Renewables Portfolio Standard (RPS) and greenhouse gas (GHG) emissions reduction objectives by developing and constructing new California RPS-qualified solar power generation facilities producing approximately 650 MWs.
2. Produce and transmit electricity at a competitive cost.
3. Provide a new source of energy storage that assists the state in achieving or exceeding its energy storage mandates.
4. Use the existing interconnection at the Coolwater Substation that provides approximately 650 MW of capacity.
5. Utilize existing energy infrastructure to the extent possible by locating solar power generation facilities in close proximity to existing infrastructure, such as electrical transmission facilities.
6. Site solar power generation facilities in areas of San Bernardino County by 2020 that have the best solar resource to maximize energy production and the efficient use of land.
7. Develop a solar power generation facility in San Bernardino County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.

REGIONAL SETTING

In addition to the existing Coolwater Generating Station, the surrounding area includes transportation infrastructure, agricultural lands, undeveloped land, the Sunray Solar Project (built in 2016), and Barstow-Daggett Airport, a County-owned general aviation airport, located directly south of the project site. Route 66, the National Trails Highway, is to the south of the

project site and Interstate 15 is to the north. Route 66 is located between Interstate 40 and the project site. The BNSF (Burlington Northern Santa Fe) railroad tracks are to the south of the project site, and the Union Pacific tracks are to the north. An approximately 1,000-foot-wide LADWP high-voltage transmission corridor traverses the project site. In addition, many existing 60-foot high-voltage transmission structures and electrical substations are located in the project area. Private lands near the central and eastern portions of the project site consist of agricultural lands that produce primarily alfalfa and pistachios, sparsely spaced rural residential dwellings, previously disturbed and now fallow farmland, and some undeveloped desert land. **Exhibit 2.0-1, Project Location**, shows these and more distant land uses surrounding the project site. Figures C1 through C6 of the Visual Impact Assessment (see **Appendix B-1**) and Figure 2 of the Administrative Draft Addendum to Visual Impact Analysis - Key Observation Point 6 (see **Appendix B-2**) include existing site photos and post-development simulations from key observation points in the vicinity of the project site.

NATURAL FEATURES

The project site is in the Desert Planning Region of San Bernardino County. The Desert Planning Region consists of mountain ranges interspersed with long, broad valleys that often contain dry lakes. The elevation changes from near sea level, to desert valleys between 1,000 and 4,000 feet above mean sea level (amsl), to mountain ridges above 8,000 feet amsl. The dominant habitat is desert scrub. The Mojave River floodway is directly to the north of the project site.

The applicable Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) for the project site are map numbers 06071C3975H, 06071C4000H, 06071C4600H, and 06071C4625H (effective date 8/28/2008). Based on the National Flood Insurance Program (NFIP) FIRMs, the entire project site is in Zone D, which indicates flooding hazards for the site have not been determined. However, the Mojave River, north of the project site, has an overlay designation of Area of Inundation (Dam Inundation) in the County General Plan Land Use Plan's Hazard Overlay Maps. A detailed FEMA study of a portion of the Mojave River approximately 4.5 miles east classifies the Mojave River Area of Inundation as a 100-year flood zone. The detailed FEMA study also identifies an approximately 3,500-foot-wide strip on either side of the 100-year flood zone that is classified as a 500-year flood zone.

The northern boundary of the Bureau of Land Management's (BLM) Newberry Mountain Wilderness is approximately 1.2 miles south of the project site and on the south side of Interstate 40. The Mojave National Preserve is over 70 miles from the nearest project site boundary.

ROADS, HIGHWAYS, AND RAILROADS

Major transportation routes in the region include Interstate 15 and Interstate 40, which intersect to the west of the project site in Barstow. Interstate 15 runs generally southwest–northeast, connecting the Los Angeles area and Victorville to Barstow, and continuing to the Arizona border and to Las Vegas. Interstate 40 starts in Barstow and runs generally east, continuing to the Arizona border at Needles. In the project area, both interstates are eligible for state scenic highway designation.

Route 66 runs east–west, just south of the project site. Route 66 is also known as the National Trails Highway, and it is one of the oldest cross-country highways, stretching from Los Angeles to Chicago. Route 66 is a historic highway constructed in 1926 and was part of one of the country’s first transcontinental highways—the National Old Trails Road. The route is a designated scenic highway with a long history of serving families traveling west to California during the Great Depression, moving troops and supplies during World War II, and providing a scenic experience for travelers. Route 66 is located in between the project site and Interstate 40.

Amtrak has a passenger rail station in Barstow for routes between Los Angeles and Chicago. Additionally, there are two Class I freight railroads in the area: Burlington Northern Santa Fe (BNSF) and Union Pacific (UP). Both railroads move the majority of freight that passes through the Ports of Los Angeles and Long Beach, as well as through the Alameda Corridor in Los Angeles County, and into San Bernardino County to access states to the east.

Most roadways in the area are unimproved or paved without curb or sidewalk improvements. Minneola Road, which passes through the project site going north–south, is paved and without curb or sidewalk improvements. Minneola Road provides access to Interstate 15 to the north and Route 66 to the south, past the BNSF at-grade crossing.

Valley Center Road and Silver Valley Road are also paved and without curb or sidewalk improvements. Both roadways approach the project site from the east and intersect with Minneola Road, where they turn into unimproved roads running through the project site. Hidden Springs Road is paved, without curb or sidewalk improvements, and approaches the southern boundary of the project site. It then is an unimproved road near and within the project site.

Hidden Springs Road connects the project site to Route 66 and Interstate 40, both to the south, past a BNSF at-grade crossing. Sunray Lane crosses the southeastern project site from Santa Fe Street and provides access to the Sunray Solar Project facility adjacent to the project site on the east side. Santa Fe Street parallels and traverses the southern boundary of the project site and parallels the BNSF tracks. Both Sunray Lane and Santa Fe Street are paved, without curb or sidewalk improvements.

AIRPORT AND MILITARY FACILITIES

Barstow-Daggett Airport, a County-owned, public use, general aviation airport, is directly south of the project site. The Airport Comprehensive Land Use Plan for the airport was developed in 1992, when there were 45 fixed-wing aircraft and 25 military and California Highway Patrol helicopters based at the airport. The airport is registered with the Federal Aviation Administration (FAA). Facilities within the FAA's jurisdiction near the airport may be required to obtain a Determination of No Hazard (Form 7460) to verify that their height and location would not create a hazard for airport operations.

The Barstow Marine Corps Logistics Base (MCLB Barstow) is approximately 8 miles to the west of the project site and is presently the second largest employer in the Barstow area. The base was established as the Marine Corps Depot of Supplies at its present location in 1942, when the United States Navy turned it over to the Marine Corps as a storage site for supplies and equipment needed for Fleet Marine Forces in the Pacific theater during World War II. MCLB Barstow supports Marine forces west of the Mississippi and in the Far East and Asia. The base encompasses over 6,000 acres and includes headquarters and administration buildings, storage, recreational activities, shopping, housing, and rifle and pistol ranges.

AGRICULTURE

California's Farmland Mapping and Monitoring Program has mapped the important farmlands in the project area. The area includes Prime Farmlands, Farmlands of Statewide Importance, Unique Farmlands and Grazing Lands.

According to data from the California Department of Conservation's Farmland Mapping and Monitoring Program, the project site includes lands in the following Important Farmland categories: Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Additionally, lands are categorized as Grazing and Other Land (such as low-density rural, dense forested, mined, or government restricted), which are not important farmland categories. The acres of each type are shown in **Table 2.0-1**. The project site is not covered by Williamson Act or Farmland Security Zone contracts.

**Table 2.0-1:
Farmland Categories for Project Site**

Farmland Category	Gross Acres	Zoning District	Zoning Category Description	Gross Acres
Prime Farmland	~ 549	AG	Agriculture	~ 287
Farmland of Statewide Importance	~ 1,116	RC	Resource Conservation	~ 2,455
Unique Farmland	~ 294	IR	Regional Industrial	~ 284
Grazing	~ 110	RL	Rural Living	~ 367
Other Land (i.e., forested, mined, restricted)	~ 1,324			
Total	± 3,393¹			± 3,393

Source: HDR Engineering 2018

1. Although the total gross acreage of project parcels is ±3,393 acres, the full project is described as ±3,500 acres, which would include any easements, the gen-tie line, potentially temporary construction impacts, and any other miscellaneous project features. Where gen-tie routes are outside of existing rights-of-way, they traverse the same zoning districts identified above.

GENERAL PLAN AND DEVELOPMENT CODE

The County's General Plan (2013) designates the project site with the following land uses: General Industrial, Residential, Open/Non-Developed, and Agricultural. San Bernardino County's zoning districts for the project site are listed in **Table 2.0-1** and illustrated in **Exhibit 2.0-3, Land Use Zoning Districts**.

On April 8, 2017, the San Bernardino County Board of Supervisors adopted the General Plan Renewable Energy and Conservation Element (RECE). The policies in this element, along with the County's Solar Ordinance (amending Development Code Chapter 84.29, Renewable Energy Generation Facilities), comprise specific goals, policies, and standards for renewable and specifically solar projects.

As stated previously, the County Board of Supervisors adopted an amendment to the RECE on February 28, 2019 prohibiting utility-scale renewable energy development on lands designated as Rural Living or on lands located within the boundary of an existing community plan, unless an application for development of a renewable energy project has been accepted as complete in compliance with California Government Code Section 65943 before the effective date of the resolution. Therefore, the proposed project is not subject to this new policy because its application was deemed complete on March 22, 2018.

FACILITIES AND DESIGN

The proposed project would consist of solar PV panels mounted on a single-axis tracking system that follows the sun throughout the day. The tracking system would be supported by steel piles, with the panels arranged into long narrow rows, grouped into regions, referred to as solar arrays

or blocks. The proposed design also includes inverters and transformers mounted on small concrete pads or steel foundations, distributed across the site. Inverter equipment pads may be accompanied with distributed Battery Energy Storage System (BESS) equipment. Electricity produced by the solar arrays would be collected and routed to an on-site substation where voltage would be increased to the interconnection voltage.

Each phase would have its own on-site substation, which may also include a Battery Energy Storage System. From the on-site substations, each phase would include a segment of the overhead gen-tie line, which would connect the project to the existing SCE-owned 115-kilovolt (kV) and 230-kV Coolwater substations, which are adjacent to the retired Coolwater Generating Station. The project would also include security fencing for all phases, a Supervisory Control and Data Acquisition system (SCADA), telecommunications equipment and an operations and maintenance (O&M) building to be constructed with the first phase.

Solar Array

Solar panels would be mounted on a tracking system that would be supported, when practical, by driven piers (piles) directly embedded into the ground. Panels would be organized in rows in a uniform grid pattern, with each row separated by approximately 10-20 feet (from post to post). A fixed-tilt racking system, which does not track the sun, may also be used if deemed suitable. Panels are proposed to be a maximum of 20 feet in height.

The specific equipment chosen for the proposed project would be determined prior to final design and construction. However, at this time, the solar panels are expected to be either crystalline silicon or thin-film cadmium telluride.

Inverters and Switchgear

Individual PV panels would be electrically connected in series to create a “string” to carry direct current (DC) electricity. Strings of DC electricity would be routed to inverters, which would take the DC output and convert it to alternating current (AC) electricity.

The system may use either centralized or string inverters. Centralized inverters and transformers would be supported on small concrete or steel equipment pads, on a foundation of either a concrete footing approximately 10 feet by 50 feet in size or foundational piers. The inverters and transformers would be approximately 10 feet in height. Small string inverters would be mounted throughout the solar array and attached to each of the tracker rows. The power from inverters in each phase would be collected and transported to a new project substation. Power from each of the new project substations would be transported via a new gen-tie line to the two existing SCE-owned Coolwater substations, where power would then flow into the utility-owned electric system.

The Battery Energy Storage System (BESS) would be either AC or DC coupled, meaning the battery would be electrically connected either between the DC panels and the inverter input (in the case of a DC coupled system) or further downstream, after the output of the inverters (in the case of an AC coupled system). In a DC-coupled configuration, the BESS would be distributed through the solar array, collocated adjacent to the inverter equipment pads. In an AC-coupled configuration, the BESS would most likely be consolidated, located adjacent to the project substations.

Project Substations

One new substation would be constructed as a part of each of the three project phases for a total of three project substations. The substations (which contain high-voltage equipment) would be unenclosed, occupy an area of approximately 300 feet by 300 feet each, and be protected with security fences. The electrical equipment inside the substation fence would be approximately 70 feet tall at its highest points. A small one-story, rectangular control building, housing the communication and supervisory control and data acquisition (SCADA) equipment would also be located in the substation footprint. From the new project substations, a gen-tie line would be constructed to connect the solar facility to its point of interconnection, which are the two existing substations (115 kV and 230 kV) owned and operated by SCE and adjacent to the retired Coolwater Generating Station. The work SCE will perform to connect the gen-tie line to these substations will occur primarily inside the existing substations; therefore, no expansion of the existing substations' footprints is anticipated.

SCE would conduct a limited scope of work within and surrounding the existing Coolwater substations to facilitate connection of the solar project to the SCE system, including extending the gen-tie from the last pole structure into the substation and installing underground telecom facilities both inside and outside the existing substation fence line. **Exhibit 2.0-4, Representative Project Components**, illustrates the typical appearance of a substation.

Battery Storage

The project is anticipated to include up to 450 MW of battery storage to be constructed in three phases corresponding to the phased construction of the solar arrays. The battery storage system is expected to be either located adjacent to each of the substations or distributed throughout the solar array at the inverter equipment pads or tracker rows. Up to 16 acres may be utilized for the battery energy storage system throughout the project site at full buildout. The key components of the battery storage system are described below.

- Batteries. Individual lithium ion cells form the core of the battery storage system. Cells are assembled either in series or parallel connection, in sealed battery modules. The

battery modules would be installed in self-supporting racks electrically connected either in series or parallel to each other. The operating rack-level DC voltage currently ranges between 700 and 1,500 volts. The individual battery racks are connected in series or a parallel configuration to deliver the battery storage system energy and power rating.

- **Battery Storage System Enclosure and Controller.** The battery storage system enclosure would house the batteries described above, as well as the battery storage system controller. The battery storage system controller is a multilevel control system designed to provide a hierarchical system of controls for the battery modules, power conversion system (PCS), medium voltage system, and up to the point of connection with the electrical grid. The controllers ensure that the battery storage system effectively mimics conventional turbine generators when responding to grid emergency conditions. The battery storage system enclosure would also house required heating, ventilation, and air conditioning (HVAC) and fire protection systems.
- **DC/DC Converter.** In a DC-coupled system, the DC/DC converter allows the connection of the battery storage system to the DC side of the photovoltaic inverter. The DC/DC converter manages the battery and PV bus voltage and provides appropriate protections for the PV inverter.
- **Power Conversion System (PCS) - Inverter.** The PCS consists of an inverter, protection equipment, circuit breakers, air filter equipment, equipment terminals, and cabling. Electricity is transferred from the PV array (or power grid) to the project batteries during a battery charging cycle and from the project batteries to the power grid during a battery discharge cycle. The inverter is bi-directional, with the ability to convert power from AC to DC when the energy is transferred from the grid to the battery and from DC to AC when the energy is transferred from the battery to the grid. The inverter DC operating voltage would be between 700 and 1,500 volts, with a typical power rating of approximately 3,000 kW. The inverter AC operating voltage may be approximately 630 volts AC nominal. Voltage is increased to medium voltage levels (typically approximately 13–34.5 kV) when combined with an MV transformer. Voltage and power ratings are specific to the equipment manufacturer and product model. The installed equipment would be selected at a later date and therefore is subject to change.
- **Medium Voltage (MV) Transformer.** A separate medium voltage transformer may be present if not integrated into the inverter skid. This would be a pad-mounted transformer used to increase voltage on the AC side of the inverter from low to medium voltage. MV transformers are used to increase the efficiency of power transmission, associated with reduced resistive power losses higher voltage.

If batteries were located adjacent to the substations, they would be contained within either steel enclosures similar to a shipping container or a freestanding building, approximately 10 feet in height. The color of the metal enclosure has not yet been determined; it typically varies by manufacturer. If distributed throughout the solar array, the battery system would likely be contained within metal housings and electrically connected to the inverters at each of the equipment pads. **Exhibit 2.0-4, Representative Project Components**, illustrates a battery storage system.

The battery storage system would likely use one of several available lithium ion technologies, though alternatives may be considered (such as flow batteries) given continuing rapid technological change in the battery industry. In general, a lithium ion battery is a rechargeable battery consisting of three major functional components: a positive electrode made from metal oxide, a negative electrode made from carbon, and an electrolyte made from lithium salt. Lithium ions move from negative to positive electrodes during discharging and in the opposite direction when charging. Five major lithium ion battery sub-chemistries are commercially available:

- Lithium nickel cobalt aluminum (NCA)
- Lithium nickel manganese cobalt (NMC)
- Lithium manganese oxide (LMO)
- Lithium titanate oxide (LTO)
- Lithium iron phosphate (LFP)

Selection of the lithium ion sub-chemistry for the project would take into consideration various technical factors, including safety, life span, energy performance, and cost.

The proposed battery storage system would be designed, constructed, operated, and maintained in accordance with applicable industry best practices and regulatory requirements, including fire safety standards. Current best practices for fire safety use chemical agent suppressant-based systems to detect and suppress fires. The configuration of the safety system would be determined based on site-specific environmental factors and associated fire response strategy. The safety system would include a fire detection and suppression control system that would be triggered automatically when the system senses imminent fire danger. A fire suppression control system would be provided within each on-site battery enclosure. Components of the system would include a fire panel, aspirating hazard detection system, smoke/heat detectors, strobes/sirens, and suppression tanks. The safety system would operate in three phases: Pre-alarm, Stage 1, and Stage 2. If the safety system detects a potential issue, the Pre-alarm phase would be initiated and would shut down the heating, ventilation and air conditioning (HVAC) units and fans to help contain the potential fire. The control system would then wait

approximately 5 minutes to determine if the initiation of Stage 1, which would shut down the HVAC and fans indefinitely, is warranted. If reached, Stage 2 would then result in the fire panel discharging the suppression agent onto the fire. The safety system would either use a waterless evaporating fluid, sustainable clean agent (not a hydrofluorocarbon clean agent), or an alternative suppression agent, such as an inert gas.

Gen-Tie Line

The project is expected to be constructed in three phases. Each phase would include a new substation and segment of aboveground gen-tie transmission line. From each substation, a segment of gen-tie line would be constructed to connect the solar facility's output to the electrical grid at the existing SCE-owned 115-kV and 230-kV substations adjacent to the Coolwater Generating Station. The gen-tie poles are expected to be gray metal structures up to 120 feet in height and would be capable of accommodating both 115-kV and 230-kV electrical circuits. Each phase and its associated CUP(s) would share the substations and gen-tie facilities. The first segment of gen-tie line would be constructed with Phase 1. The second segment would be constructed with Phase 2, connecting it to Phase 1. The third segment of gen-tie line would be constructed with Phase 3, connecting it to Phase 2 such that at full build out, the gen-tie line would be one transmission line serving all phases of the project.

Three primary routes are being considered for the project gen-tie lines, as shown in **Exhibit 2.0-2**. These routes traverse the project site from east to west and would be primarily along Silver Valley Road. The route options deviate on Powerline Road, with one option turning east at approximately the location of Santa Fe Street and the second option turning east using an existing roadway alignment to SCE's Coolwater substations.

While the gen-tie line poles would generally be up to 120 feet in height to accommodate engineering and safety clearance requirements, some poles may need to be up to 159 feet in height at locations where the lines would cross over the existing 60-foot high-voltage transmission lines in the area, while other poles may be considerably shorter than 120 feet. Additionally, some sections of the gen-tie line may be placed underground where necessary, particularly in the areas of the Barstow-Daggett Airport and the LADWP right-of-way, thereby eliminating the need for poles in those sections. The final gen-tie alignments and associated pole locations and heights will not be known until the proposed project's final engineering stage.

The gen-tie line would be capable of accommodating both 115-kV and 230-kV electrical circuits. The gen-tie line would be built out in sequences to match the phases of the solar project. The gen-tie right-of-way may also include above- and belowground communications lines and a dirt road for accessing gen-tie structures where there is no existing access.

Access Roads

On-site access routes, with a minimum width of 20 feet, may be constructed along the project's fence line. All interior access roads would also be a minimum of 20 feet wide. Maximum width of all on-site roads would be 26 feet. All roads within the site would consist of compacted native soil per San Bernardino County Fire Department requirements. All roads would be stabilized with soil stabilization material, if necessary. Off-site access to the six CUP sites will be via existing or proposed right-of-way dedications of varying widths (as required by the County). Improvements to off-site access roads, including potential paving and widening, will be completed as required per County standards and in consultation with the County.

Perimeter Fencing

Fencing is proposed along the perimeter of the project site or set back a minimum of 15 feet from the existing/proposed right-of-way, as required by the County Development Code. Fencing will be at least 7 feet tall, in compliance with National Electrical Code (NEC). Chain-link fencing is likely to be used, potentially topped with 1 foot of barbed wire. In consultation with the County, slats or mesh may be added to the chain-link fence, as appropriate and in areas where needed, to manage windblown sand. Access gates would be installed at each site entry point. Substation sites and/or battery storage sites may be separately fenced.

Lighting and Signage

Manual, timed, and motion sensor lights may be installed at access gates, equipment pads and substations for maintenance and security purposes. Lighting would be shielded and aimed downward to the ground. In addition, remote-controlled cameras and other security measures would be installed. No other lighting is planned. Signage is proposed in compliance with all County's regulations.

Stormwater Facilities

Site drainage is designed to follow natural drainage patterns. None of the on-site facilities, including fences and panel posts, are expected to prevent stormwater flow. Therefore, the applicant anticipates that the project would have limited impact to on-site drainage. Long shallow strip retention basins are proposed to capture the anticipated 100-year, 24-hour increase in runoff volume resulting from clearing of vegetation, compacting of soil, and any limited impervious (paved or structural) improvements.

Other Infrastructure

An Operations and Maintenance building would be constructed on approximately 1.5 acres within the project footprint during the first phase of the project. The building would serve to store spare parts and vehicles and to accommodate full- and part-time staff associated with the project. Water would come from on-site wells.

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

CONSTRUCTION***Site Preparation and Grading***

Site preparation would consist of clearing, grubbing, scarifying, recompact, and grading to level the site and remove any mounds or holes that remain from the previous land use. Though grading is expected to occur throughout the site, the site's cut and fill would balance and no importing or exporting of materials would be necessary.

The following is a general estimate of the project's required grading by phase: Phase 1: 1,753,000 cubic yards; Phase 2: 1,888,000 cubic yards; Phase 3: 1,726,000 cubic yards; and gen-tie: 533,000 cubic yards. After grading, temporary fences would be placed around the project site, which would allow materials and equipment to be securely stored on the site.

Per Mojave Desert Air Quality Management District (MDAQMD) requirements, the project applicant will develop a dust control plan that describes all applicable dust control measures to address construction-related dust. Components of the plan are likely to include water trucks to spread water as well as road stabilization with chemicals, gravel, or asphaltic pavement to mitigate visible fugitive dust from vehicular travel and wind erosion.

Construction Access Routes and Laydown Areas

Construction vehicles would access the project site from Interstates 40 and 15. Primary access points are discussed further in Section 3.12, Transportation and Traffic, and include Santa Fe Street, Hidden Springs Road, Minneola Road, Valley Center Road, and Silver Valley Road. During construction, materials would be placed within the project boundaries adjacent to the

then-current phase of construction. To prevent theft and vandalism, materials would be secured within fenced areas at all times. Storage containers might be used to house tools and other construction equipment. In addition, security guards would regularly monitor the site.

Construction Activities and Equipment

Construction of the project would be accomplished in three phases. While construction of each phase could occur separately, this EIR conservatively assumes that construction of two phases would overlap. The applicant anticipates that construction would occur over a 27-month period for Phases 1 and 2 (together a 400 MW facility) and a 19-month period for Phase 3 (250 MW facility).

An average of 300 workers would be on-site during each phase of construction, depending on the activities. The peak number of workers on the project site at any one time is anticipated to be 500. The workforce would consist of laborers, craftspeople, supervisory personnel, and support personnel.

On average, it is anticipated that each worker would generate one round trip to the project site per workday. Most workers would commute to the site from nearby communities such as Barstow, with some traveling from more distant areas such as Victorville, Hesperia, and San Bernardino. Construction would generally occur during daylight hours, though exceptions may arise due to the need for nighttime work. Workers would reach the site using existing roads.

Portable toilet facilities would be installed for use by construction workers. Waste disposal would occur in a permitted off-site facility. Domestic water for use by employees would be provided by the construction contractor through deliveries to the site or from on-site wells.

Project construction for each phase is expected to consist of two major stages. The first stage would include site preparation, grading, and preparation of staging areas and on-site access routes. The second stage would involve installation of the racking system, foundations, solar panels, equipment pads, electrical components, transmission lines, and all other balance of systems equipment.

Placement of solar panels would require driving piles approximately 6 to 10 feet into the ground. In areas where geotechnical analysis has determined that piles might not be feasible or cost effective, conventional foundations (such as isolated spread foundations, continuous footings, ballasted racking which uses concrete or other heavy material to stabilize the feature) may be used, but this is not anticipated. Alternatively, piles may need to be driven deeper based on further geotechnical analysis.

OPERATIONS

The project would generate solar electricity from the PV system during daylight hours and may discharge power from batteries at various times. The site would include an O&M building and would be staffed with full- and part-time employees such as a plant manager, maintenance manager, solar technicians, and environmental specialists. In addition, the operations would be monitored remotely via the SCADA system.

Operations and maintenance vehicles would include light-duty trucks (e.g., flatbed pickup) and other light equipment for maintenance and PV module washing. Heavy equipment would not be used during normal operation. Large or heavy equipment may be brought to the facility infrequently for equipment repair or replacement or for vegetation control.

Water would be required for panel washing activities and general maintenance. The frequency of panel washing would be determined based on soiling of the PV panels and expected benefit from cleaning. Should cleaning be necessary, water would be sprayed on the PV panels to remove dust. An estimated 25 acre-feet per year of water would be necessary for panel washing (for all phases of the project or full 650 MW buildout). This water would be obtained from on-site wells.

Sanitary facilities for operations would be provided at the O&M building, located on approximately 1.5 acres within the project footprint.

DECOMMISSIONING

If operations at the site were permanently terminated, the facility would be decommissioned. Most components of the proposed system are recyclable or can be resold for scrap value. Panels typically consist primarily of silicon, glass, and an aluminum frame. Tracking systems typically consist of steel and concrete, in addition to motors and control systems. All of these materials can be recycled.

Numerous recyclers, for the various materials to be used on the project site, operate in San Bernardino and Riverside counties. Metal, scrap equipment, and parts that do not have free-flowing oil can be sent for salvage. Equipment containing any free-flowing oil would be managed as waste and would require evaluation. Oil and lubricants removed from equipment would be managed as used oil, which is a hazardous waste in California. Decommissioning would comply with federal, state and local standards and all regulations that exist when the project is decommissioned, including the requirements of San Bernardino County Development Code Section 84.29.060.

INTENDED USES OF THE EIR

This EIR is an informational document intended to inform public agency decision-makers and the public of significant environmental effects of the proposed project described above, identify ways to minimize the significant effects, and describe and evaluate a reasonable range of alternatives to the project.

The County of San Bernardino is the lead agency for the project, as it is the agency with primary authority over the project's discretionary approvals. Several other agencies, identified as responsible and trustee agencies, will also use the EIR for their consideration of approvals or permits under their respective authorities.

For the purpose of CEQA, the term "trustee agency" means a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the state of California. The term "responsible agency" includes all public agencies other than a lead agency that may have discretionary actions associated with the implementation of the proposed project or an aspect of subsequent implementation of the project. Accordingly, **Table 2.0-2** identifies a list of approvals that could be required from the lead agency, trustee agencies and responsible agencies.

**Table 2.0-2:
Matrix of Potential Approvals Required**

Permit/Action Required	Approving Agency	Lead/Trustee/Responsible Agency Designation
Lot Line Adjustment, Lot Merger, or Subdivision Map	County	Lead Agency
Environmental Impact Report Certification	County	Lead Agency
Conditional Use Permits	County	Lead Agency
Variance for Height of Gen-Tie Poles	County	Lead Agency
Road Vacations	County	Lead Agency
Encroachment Permits	County	Lead Agency
Clearance to cross high-voltage transmission lines, if required	LADWP	Responsible Agency
General Order 173 Public Utilities Code Section 851	California Public Utilities Commission	Responsible Agency
Air Quality Construction Management Plan	Mojave Desert Air Quality Management District (MDAQMD)	Responsible Agency
Waste Discharge Permit, if required	Lahontan Regional Water Quality Control Board (RWQCB)	Responsible Agency

Table 2.0-2, continued

Permit/Action Required	Approving Agency	Lead/Trustee/Responsible Agency Designation
General Construction Stormwater Permit	Lahontan RWQCB	Responsible Agency
Streambed Alteration Agreement, if required (Section 1603)	California Department of Fish and Wildlife (CDFW)	Trustee Agency
Incidental Take Permit, if required (Section 2081)	CDFW	Trustee Agency
Clean Water Act Permit, if required (Section 404)	US Army Corps of Engineers (USACE)	Responsible Agency
Incidental Take Permit, if required (Section 10(a))	US Fish and Wildlife Service	Responsible Agency
Clean Water Act Permit, if required (Section 401)	Lahontan RWQCB	Responsible Agency
Grading and Building Permit(s)	County	Lead Agency
Determination of No Hazard	Federal Aviation Administration	Responsible Agency

SUBDIVISION AND ROAD VACATIONS

The Daggett Solar Power Facility consists of 51 assessor parcels totaling approximately 3,393 acres. The project proposes to subdivide and/or merge 47 of these 51 parcels into 14 new parcels. After the recordation of all phases of the Final Map, the site would consist of these 14 new parcels. The smallest legal parcel would be 5 acres and the largest would be 635 acres. All of the newly created parcels will have both physical and legal access to a public road. Lot mergers and/or lot line adjustments may be used in lieu of a tentative map on some project areas.

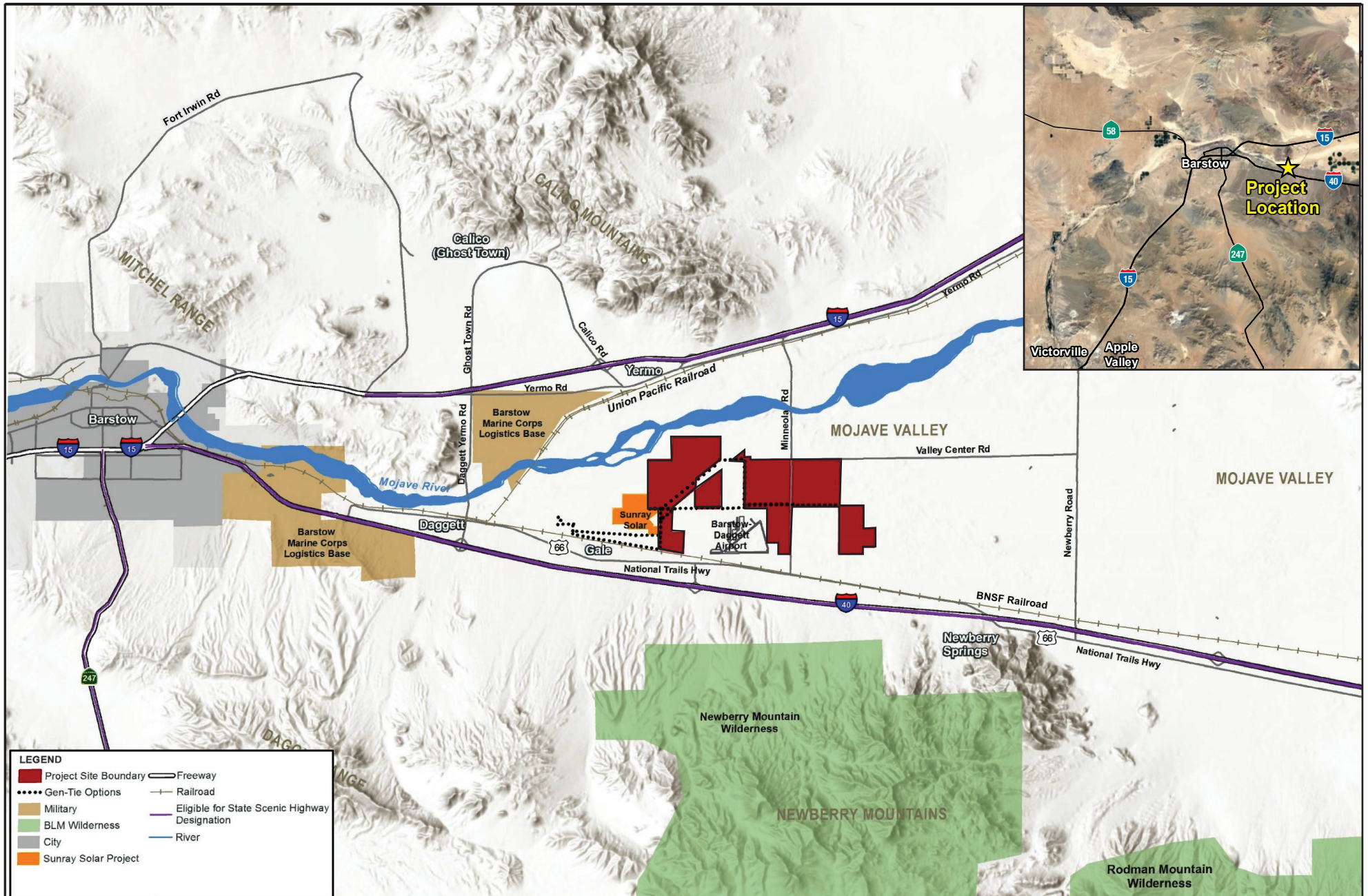
Subdivision Map(s)

It is anticipated that the applicant would seek a lot line adjustment or file a tentative map to create the new parcels followed by the phased recordation of 5 final maps. A number of dedications will be required by the County as part of the mapping process to help establish proper access (ingress/egress) based on County requirements.

Road/ROW Vacations

It is anticipated that the County Public Works Department may require one or more road or ROW vacations including Assessor Parcels 0515-111-14, -15 & -16 and 0515-051-16 & -17. Many of the dirt roads surrounding the site have offers of dedication that have not been accepted by the County. It is possible that the County may require a vacation on one or more of these roads if a solar array is planned to be constructed across any of these roads.

This page is intentionally blank.



Michael Baker
INTERNATIONAL

166360NOA.indd



0 1 2 4
Miles

Source: HDR

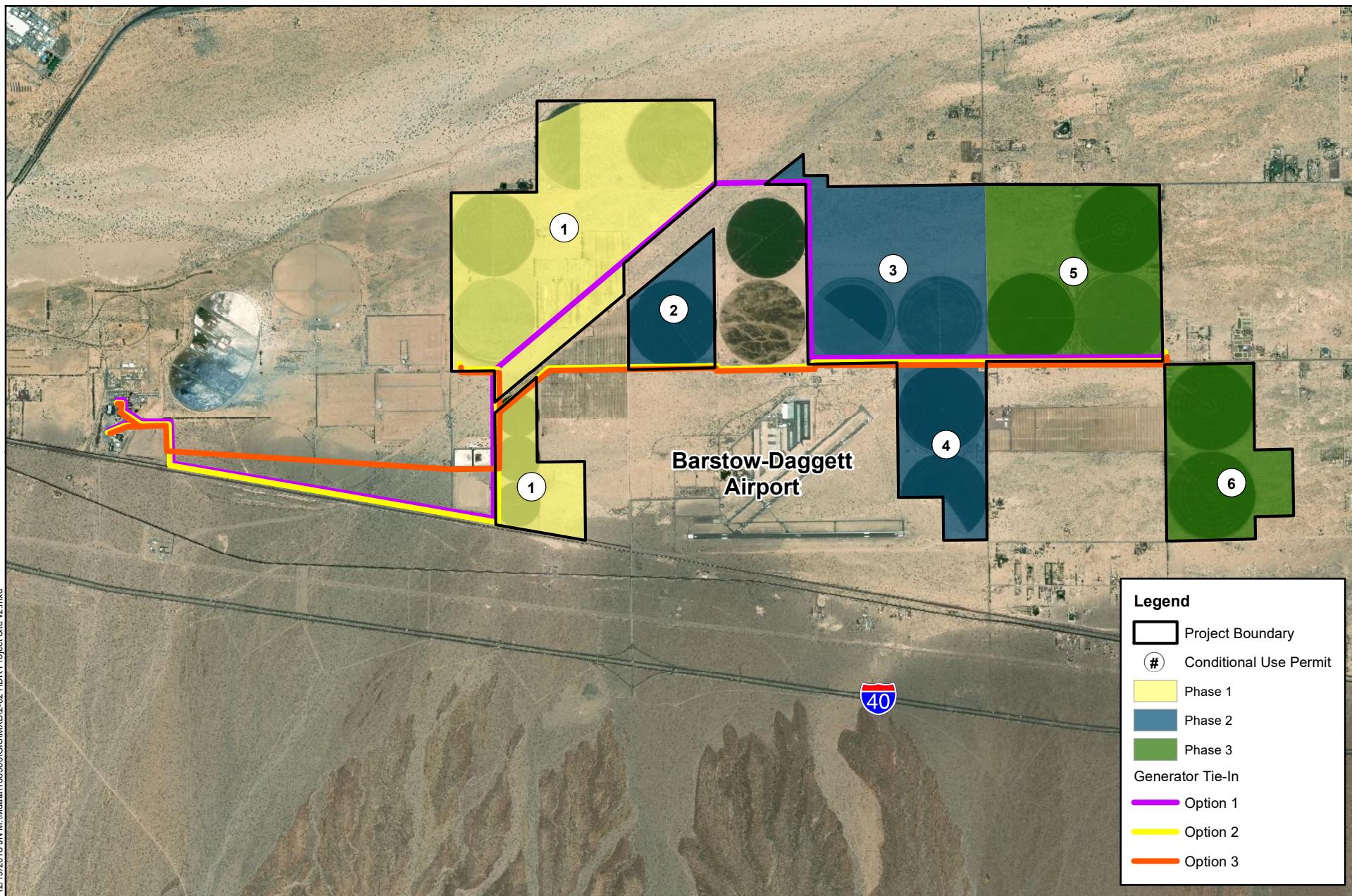
DAGGETT SOLAR POWER FACILITY
ENVIRONMENTAL IMPACT REPORT

Project Location

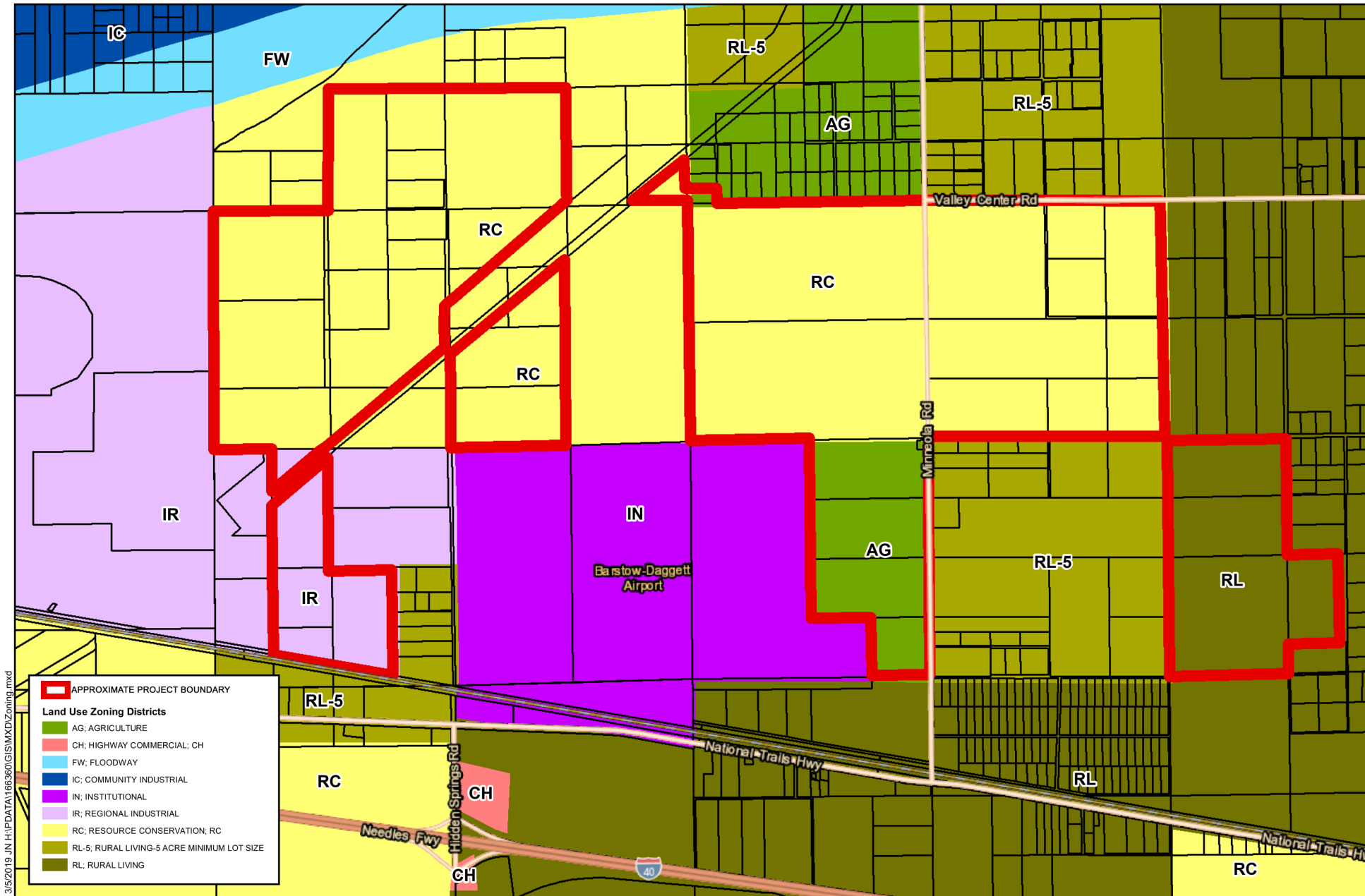
Exhibit 2.0-1

This page is intentionally blank.

12/19/2018 JN M:\Mdata\166360\GIS\MXD\2-02 HDR Project Site v2.mxd



This page is intentionally blank.



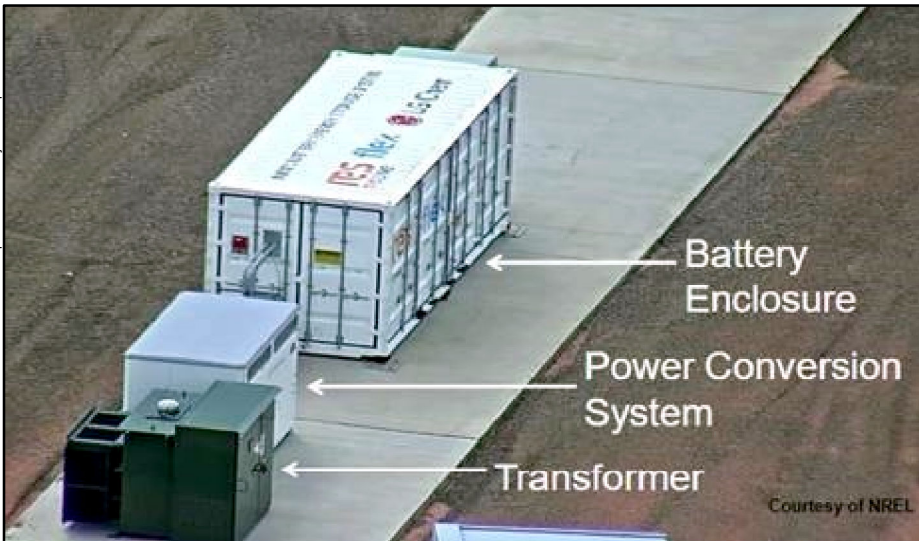
This page is intentionally blank.



Typical Substation



Typical Solar Array Layout



Battery Storage



Typical Tracker Panel Configuration

DAGGETT SOLAR POWER FACILITY
ENVIRONMENTAL IMPACT REPORT

Representative Project Components

This page is intentionally blank.

Introduction to the Environmental Analysis

This EIR analyzes those environmental issue areas identified during project scoping as having the potential for significant impacts.

The EIR examines the following environmental topics outlined in the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist Form:

- 3.1 Aesthetics and Visual Resources
- 3.2 Agriculture and Forestry Resources
- 3.3 Air Quality
- 3.4 Biological Resources
- 3.5 Cultural, Tribal Cultural, and Paleontological Resources
- 3.6 Geology and Soils
- 3.7 Greenhouse Gas Emissions
- 3.8 Hazards and Hazardous Materials
- 3.9 Hydrology and Water Quality
- 3.10 Land Use and Planning
- 3.11 Noise
- 3.12 Transportation and Traffic
- 3.13 Utilities and Service Systems

The following environmental issue areas are addressed in Section 3.14, Effects Found Not to Be Significant:

- Mineral Resources
- Population and Housing
- Public Services
- Recreation

Each potentially significant environmental issue is addressed in a separate section of the EIR (Sections 3.1 through 3.13) and is organized into the following general subsections:

- **Environmental Setting** describes the physical conditions that exist at this time and that may influence or affect the issue under investigation.
- **Regulatory Framework** describes the pertinent policy, standards, and codes that exist at this time and which may influence or affect the regulatory environment of the proposed project.
- **Impact Analysis and Mitigation Measures** identifies direct and indirect environmental effects associated with implementation of the proposed project and identifies proposed measures to mitigate environmental effects, where applicable.

IMPACT ANALYSIS

The level of significance identifies the degree or severity of an impact with implementation of the proposed project. Impacts are classified as potentially significant impact, less than significant impact, or no impact. Project impacts are the potential environmental changes to the existing physical conditions that may occur if the project is implemented.

Major sources used in crafting significance criteria include the CEQA Guidelines; San Bernardino County, state, federal, or other standards applicable to an impact category; and officially established significance thresholds. “An ironclad definition of significant effect is not possible because the significance of any activity may vary with the setting” (CEQA Guidelines Section 15064[b]). Principally, “a substantial, or potentially substantial, adverse change in any of the physical conditions within an area affected by the project, including land, air, water, flora, fauna, ambient noise, and objects of historic and aesthetic significance” constitutes a significant impact (CEQA Guidelines Section 15382).

Evidence, based on factual and scientific data, is presented to show the cause-and-effect relationship between the proposed project and the potential changes in the environment. The exact magnitude, duration, extent, frequency, range, or other parameters of a potential impact are ascertained, to the extent possible, to determine whether impacts may be significant when compared to the presented criteria. The discussion considers all of the potential direct and reasonably foreseeable indirect, construction-related (short-term), and operational and maintenance (long-term) effects. Each section also addresses cumulative impacts (described further below) and identifies any significant and unavoidable impacts. The project applicant submitted technical data, information and analysis related to the project and the County conducted a third-party, independent review of all submitted materials before presenting it in this document.

MITIGATION MEASURES

Mitigation measures are those project-specific measures that would be required of the proposed project to avoid a significant adverse impact, to minimize a significant adverse impact, to rectify a significant adverse impact by restoration, to reduce or eliminate a significant adverse impact over time by preservation and maintenance operations, or to compensate for the impact by replacing or providing substitute resources or environment. Mitigation measures are included throughout Sections 3.1 through 3.13, where necessary, to address an identified potentially significant impact.

Where significant impacts cannot be feasibly mitigated to less than significant levels, they would be considered significant and unavoidable impacts. To approve a project with unavoidable significant impacts, the lead agency must adopt a Statement of Overriding Considerations. In adopting such a statement, the lead agency is required to balance the benefits of a project against its unavoidable environmental impacts in determining whether to approve the project. If the benefits of a project are found to outweigh the unavoidable adverse environmental effects, the adverse effects may be considered “acceptable” and the project approved (CEQA Guidelines Section 15093[a]).

CUMULATIVE IMPACT EVALUATION

Cumulative impacts are defined in the State CEQA Guidelines (Section 15355) as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” A cumulative impact occurs from a “change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time.” Consistent with CEQA Guidelines Section 15130(a), the discussion in this EIR focuses on the identification of any significant cumulative impacts and, where present, the extent to which the proposed project would constitute a considerable contribution to the cumulative impact. CEQA Guidelines Section 15130(b) states the following:

The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

METHODOLOGY

To identify the projects to be analyzed in the evaluation of cumulative impacts, CEQA Guidelines Section 15130(b) requires that an EIR employ either:

- **The List Approach** – entails listing past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or
- **The Projection Approach** – uses a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document that has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

The approach and geographic scope of the cumulative impact evaluation vary depending on the environmental topic area being analyzed. The individual Cumulative Impact Analysis subsection in the section addressing each environmental topic discusses cumulative impacts and, if necessary, includes mitigation measures for the proposed project. Each impact begins with a summary of the approach and the geographic area relevant to that environmental topic area. The cumulative setting and methodology is discussed in each resource section.

Past projects include those land uses that have been previously developed and comprise the existing environment. Present projects include those projects recently approved or under construction. Probable future projects are those that are reasonably foreseeable, such as those for which an application is on file and in process with a local planning department. The cumulative projects listed in **Table 3.0-1, Cumulative Projects**, have been determined to be reasonably foreseeable and have been developed in consultation with the County Planning Department. These projects are considered in the cumulative impact analysis as appropriate. Refer to **Exhibit 3.0-1, Cumulative Projects Map**, for the location of each project relative to the project site.

**Table 3.0-1:
Cumulative Projects**

Map No.	Project Number	Project Name	Community	Description
1	P201700679	Daggett Solar Power (proposed project)	Daggett	650-MW photovoltaic solar and energy storage facility on approximately 3,500 acres.
2	P201700750	Sienna Solar (North and South)	Lucerne Valley	150-MW photovoltaic solar energy facility on approximately 400 acres. An active Interconnection Agreement (IA) is in place; the project would ultimately connect to the (proposed) Calcite Substation.
3	P201600510	Ord Mountain Solar, LLC	Lucerne Valley	60-MW photovoltaic solar and energy storage facility on approximately 484 acres.
4	P20180004	Minneola Solar ¹	Daggett	200-MW photovoltaic solar energy facility on approximately 1,200 acres.
5	P201600176	Camp Rock Solar Farm, LLC	Lucerne Valley	4-MW photovoltaic solar energy facility on approximately 20 acres. An active IA is in place; the project would not interconnect at the (proposed) Calcite Substation.
6	P201600569	Siena Solar East and West (formerly Yucca Solar Farm) – 99MT 8ME, LLC	Lucerne Valley	300-MW photovoltaic solar energy facility with associated on-site energy storage component, and a 3,200-square foot (sf) operations and maintenance building and 500 sf substation control building on two non-contiguous locations comprising 990 acres in Lucerne Valley. Site A (Siena East) is located on 650 acres, and Site B (Siena West) is located on 340 acres. Project coincides with SCE's proposal for the construction of the Calcite Substation at an off-site location, north of the project site, along SR 247. An active IA is in place; the project would ultimately connect to the (proposed) Calcite Substation.
7	P201700392 (Revises P200900523)	Kramer North Solar Farm – 12AT 8ME, LLC	Kramer Junction	70-MW photovoltaic solar energy facility on approximately 191 acres. An active IA is in place; the project would not interconnect at the (proposed) Calcite Substation.

¹ The project application for Minneola Solar was withdrawn in January 2019.

Table 3.0-1, continued

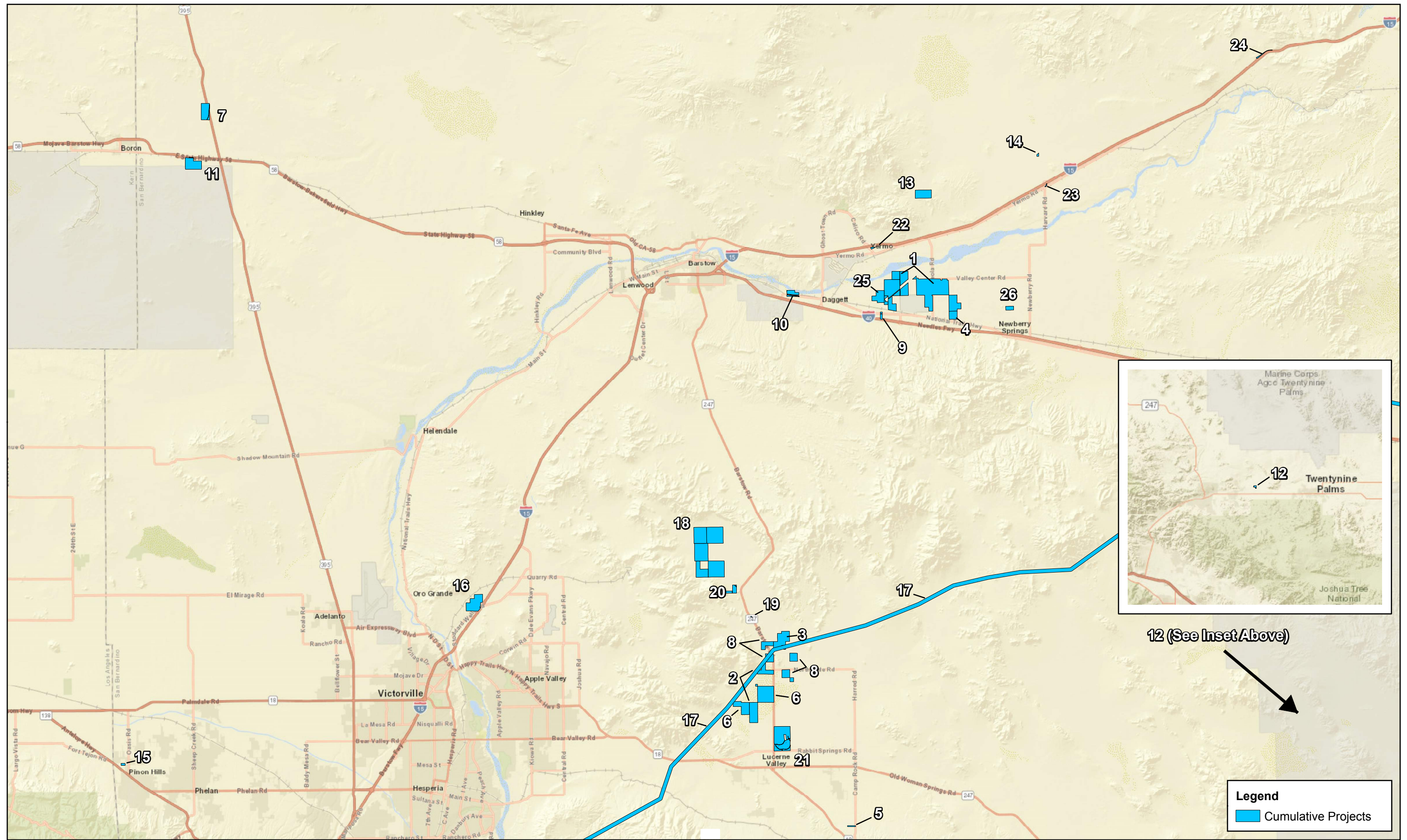
Map No.	Project Number	Project Name	Community	Description
8	P201700480	Calcite Solar I - Lendlease Energy Development, LLC	Lucerne Valley	100-MW photovoltaic solar energy facility on four separate units located on a total of 664 acres in Lucerne Valley (Calcite Solar I). Property 1 (25.6 MW) is located on 162 acres; Property 2 (23.1 MW) is located on 166 acres; Property 3 (25.6 MW) is located on 154 acres; Property 4 (30.7 MW) is located on 182 acres. Project coincides with SCE proposal for the construction of the Calcite Substation at an off-site location, north of the project site, along SR 247.
9	P201800520	Solar 33	Daggett	4.8-MW photovoltaic solar power facility on approximately 35 acres.
10	P201800521	Solar 66	Daggett	7-MW photovoltaic solar power facility on approximately 34 acres.
11	P201700466	Kramer South Solar Farm – 37BF 8ME, LLC	Kramer Junction	130-MW photovoltaic solar energy facility on approximately 386 acres.
12	P201400482	NextEra Energy Resources/Joshua Tree Solar Farm	Joshua Tree	20-MW photovoltaic solar energy facility on approximately 115 acres.
13	P201000223	Silver Valley	Yermo	20-MW photovoltaic solar energy facility on approximately 105 acres.
14	P201000018	Ned Araujo (formerly Soltech Solar, Inc./ Newberry Springs)	Newberry Springs	2-MW photovoltaic solar energy facility on approximately 14 acres.
15	P201300251	SunEdison – Pinon Hills	Phelan	1.3-MW photovoltaic solar energy facility on approximately 20 acres.
16	P201400141	Victorville Landfill Solar, LLC	Victorville	10-MW photovoltaic solar energy facility on approximately 90 acres.
17	-	Eldorado-Lugo-Mojave	Newberry Springs to Hesperia	The project increases capacity on existing transmission lines by installing capacitors. This will allow additional renewable energy to flow from Nevada to Southern California. The project will include the following major components: <ul style="list-style-type: none"> • Modifying Southern California Edison's (SCE's) existing Eldorado, Lugo, and Mohave electrical substations to accommodate the increased current flow from Nevada to Southern California.

Table 3.0-1, continued

Map No.	Project Number	Project Name	Community	Description
				<ul style="list-style-type: none"> Constructing capacitors along SCE's existing transmission lines; capacitors increase power flow through existing lines. Raising some transmission tower heights to meet ground clearance requirements. Installing communication wire on transmission lines to allow for communication between SCE substations.
18	-	Sorrel I Solar Farm Project	Lucerne Valley	201-MW photovoltaic solar energy facility. An active IA is in place; the project would ultimately connect to the (proposed) Calcite Substation.
19	P201500128	Meander Wireless	Lucerne Valley	Conditional Use Permit to construct a 60-foot high wireless communications facility designed as a faux water tank and a 784 SF equipment shelter on a 4.9-acre site in the Rural Living (RL) land use zoning district.
20	P201700152	Monastery	Lucerne Valley	Revision to an approved action for a phased project to build a 14,000 SF hall (Phase I) and a 14,165 SF residence to house monastery residents (Phase II) on approximately 117 acres.
21	P201700218	Rancho Lucerne	Lucerne Valley	Extension of time for Preliminary Development Plan (PDP) / 4,257 residential dwelling units on approximately 1,367 acres / Located northwest of the intersection of Rabbit Springs Road and State Highway 247 (Barstow Road).
22	P201800281	Eddie's World	Yermo	Conditional Use Permit to construct and operate commercial center. Second phase of existing Eddie's World commercial center.
23	P201500308	Harvard Junction	I-15/ Harvard Road	Conditional Use Permit to construct and operate commercial center.
24	P201600118	Baker/Afton Commercial, Truck Fuel	I-15/ Afton Road	Conditional Use Permit to construct and operate commercial center.
25	P201400484	Sunray Energy 2, LLC	Daggett	44-MW photovoltaic solar energy facility on 333 acres. Conditionally Approved - Construction Complete.
26	P200900339	Solutions for Utilities, Inc. Phase 1&2(Now Soitec)	Newberry Springs	3-MW photovoltaic solar energy facility on 22 acres. Conditionally Approved - Construction Complete.

Source: 2019, San Bernardino County.

This page is intentionally blank.



12 (See Inset Above)

Legend
 Cumulative Projects

This page is intentionally blank.

Section 3.1

Aesthetics and Visual Resources

This section evaluates potential aesthetics and visual resources impacts that may result from construction and/or operation of the proposed project. The following discussion addresses the existing aesthetics and visual resources of the affected environment, evaluates the project's consistency with applicable goals and policies, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid significant impacts anticipated from implementation of the project.

The analysis in this section is partially based on the *Visual Impact Assessment and Addendum to Visual Impact Analysis* prepared by HDR (2018; see **Appendices B-1** and **B-2**) that were peer reviewed by Michael Baker International and Panorama Environmental, Inc.

ENVIRONMENTAL SETTING

REGIONAL SETTING

San Bernardino County contains three distinct geographic regions: (1) the Mountain Region, (2) the Valley Region, and (3) the Desert Region. The project site and surrounding area are in the Desert Region. The region's visual character is defined by its arid landscape, consisting of sparsely vegetated mountain ranges and broad valleys with expansive bajadas and scattered dry lakes.¹ In addition, the Desert Region features extensive open space and expansive vistas (County of San Bernardino 2007a).

The project site is in the Mojave Valley, just south of the Mojave River. The area is generally flat and flanked by mountainous terrain to the north, east, and south. The project site is approximately 1.25 miles north of the Newberry Mountains Wilderness Area, approximately 4,496 feet above mean sea level (amsl), and approximately 1 mile west of Black Butte, approximately 1,978 feet amsl. Elephant Mountain is less than 3 miles northwest of the project site, with a peak of approximately 2,674 feet amsl. The Calico Mountains are 7.5 miles north of the project site and have a peak elevation of 4,542 feet amsl. The town of Daggett and the Barstow Marine Corps Logistics Base are to the west of the project site. Elements in the regional visual landscape setting are shown in **Exhibit 3.1-1, Regional Landscape Setting**.

¹ A bajada is a broad slope of alluvial material at the foot of an escarpment or mountain.

PROJECT SETTING

Representative photographs were taken of the project site from varying distances and view directions that depict existing visual elements in the project area. **Exhibit 3.1-2, Site Photograph Location Map**, shows the location and view direction of each photograph. Photographs of the existing visual character and visual elements in the project area are shown in **Exhibit 3.1-3, Site Photographs**.

VISUAL CHARACTER

General

The project site and surrounding area are characterized by active or formerly active agricultural land, transportation infrastructure, high voltage transmission and electrical infrastructure, undeveloped land, decommissioned and existing utility-scale solar arrays, residences, and the existing Coolwater Generating Station and associated electrical infrastructure. The desert landscape of the project site and immediate surrounding area is characterized by a broad, flat alluvial plain covered with exposed, tan soils that are intermixed with short golden grasses and dotted with low, mounded, coarse-textured desert shrubs. The Mojave River is just north of the project site.

The flat alluvial terrain in the project valley is flanked by the Calico Mountains, Newberry Mountains, and Cady Mountains. Mountainous terrain abuts the alluvial plain to the north, west, and south. The eastern portion of the valley descends gradually along the Mojave River, with mountainous terrain approximately 10 miles east of the project area.

Coolwater Generating Station

The retired Coolwater Generating Station is a 626 megawatt (MW) natural gas-fired power plant built in 1960. After 1960, the property continued to be developed for electrical generation with the addition of three more natural gas-fired power generation units. Although it is not currently in operation, the industrial facility, including the tall cooling stacks, is highly visible throughout the surrounding area.

Residential Use

Single-story rural residences are scattered throughout the landscape along the local road network. Clusters or stands of trees tend to be planted along properties where residences front local roads.

Transportation Infrastructure

The project area and surrounding agricultural areas are bounded by Interstate 15 (I-15) on the north and Interstate 40 (I-40) on the south. Other major roadways in the project vicinity include the Route 66 National Trails Highway, Hidden Springs Road, Valley Center Road, and Minneola Road. Several paved and unpaved roads are located off Elkhorn Street and Santa Fe Street, south of the project site. Two railways run east to west across the valley. The Burlington Northern and Santa Fe (BNSF) railroad tracks are south of the project area, and the Union Pacific railroad tracks are to the north. Railroad infrastructure that was used to deliver coal to the Coolwater Generating Station is located adjacent to the proposed project site.

Electrical Infrastructure

The surrounding landscape is characterized by regional transmission infrastructure associated with the Coolwater Generating Station and other utility-related uses, including high-voltage transmission lines and two high-voltage substations. A 1,000-foot-wide high-voltage transmission corridor with transmission lines owned by Los Angeles Department of Water and Power (LADWP) bisects the project site (**Exhibit 3.1-3**). The Sunray Project, a 44 MW PV solar project, is located west of the project site (**Exhibit 3.1-3**).

Airport

Barstow-Daggett Airport, a County-owned, public-use, general-aviation airport, is directly south of the project site. The airport includes two runways, hangars for aircraft maintenance and storage, and buildings for airport operations and air traffic control. The airport is also used by the Fort Irwin National Training Center.

Military Base

The Barstow Marine Corps Logistics Base (MCLB Barstow) is approximately 8 miles to the west of the project site and encompasses over 6,000 acres, including headquarters and administration buildings, storage, shopping, housing, and rifle and pistol ranges.

VISUAL QUALITY***Vividness***

The flat, broad valley and rugged, prominent mountainous terrain form a contrasting and moderately striking visual pattern. The texture and color of the desert vegetation are generally consistent and not overly striking. The project area mostly comprises active or formerly active agricultural land and industrial uses, which include an LADWP high-voltage transmission corridor and transmission lines owned by Southern California Edison (SCE). Adjacent industrial uses, including Barstow-Daggett Airport, the Coolwater Generating Station, interstate highways, and

railways, interrupt views of the flat agricultural areas and desert landscape. Transmission and distribution poles and conductors are aligned along other linear landscape features (e.g., roads) and within the existing transmission corridor. The scale of high-voltage electrical transmission towers in the area makes these features visible throughout the landscape and reduces the overall vividness of the project setting. Vividness of the landscape is moderately low.

Intactness

The rural landscape visible from the project area includes agricultural and undeveloped lands, mountainous terrain, the Coolwater Generating Station, an airport, high-voltage electrical transmission lines supported by large steel lattice towers, rural residential properties, and transportation infrastructure. The intactness of the existing landscape is low due to the existing industrial and transportation infrastructure within the viewshed.

Unity

Steel lattice towers bisect the western portion of the flat desert and agricultural landscape in the project area. Fences bordering the residential areas contrast in form and line with the surrounding desert and agricultural areas. Hangars and buildings at Barstow-Daggett Airport and buildings and exhaust stacks associated with the Coolwater Generating Station are visible in the landscape due to the height of these facilities in relation to the surrounding desert. These industrial facilities contrast in form, line, and color with the surrounding desert and mountains. The highway and railway infrastructure surrounding the project site also contrasts in form, line, and color with the surrounding vegetation and terrain. Visual unity of the landscape is low.

VIEWER RESPONSE

Approximately 100 rural residences are within a 0.5-mile radius of the project site. Residents adjacent to the project site with views of the existing desert and agricultural uses on the site and in the surrounding mountainous terrain will be aware of and sensitive to changes occurring in the visual landscape due to their long view duration. Area residents are expected to view the project from the adjacent roadways. Views from public roadways are considered within the context of CEQA. Regular motorists on local roadways, Route 66, I-15, and I-40 are assumed to be familiar with the landscape, and because of that familiarity, they are expected to be sensitive to changes in the landscape.

VIEWER GROUPS

Residents, motorists, and recreational users are the three viewer groups who would be afforded views of the proposed project. These viewer groups are discussed in greater detail below. Aircraft pilots and passengers traveling out of Barstow-Daggett Airport would be afforded short-duration

views of the project during takeoff and landing. Their focus would be on operation of the aircraft rather than the landscape below.

Landscape visibility and viewer perception of details, such as form, color, and texture, diminish as distance increases. The U.S. Bureau of Land Management (BLM) defines foreground and middleground views as 0 to 5 miles from the point of interest, and background reviews as 5 to 15 miles from the point of interest. Views that are seldom seen are over 15 miles away. A description of the BLM Visual Resource Methodology for evaluating visual change is provided in the methodology section below.

Residents/Motorists on Local Roads

Residences in the area are afforded both immediate and partial views of the project site, depending on proximity, orientation, and intervening elements. For example, trees, roadways, overhead power lines, and existing residential and industrial uses immediately adjacent to the project site tend to obstruct direct views of the site from more distant residences in the area.

Local residents experience views of the project site from public roads while driving to their homes. The views from the local roads would approximate views that would be experienced by residents at homes adjacent to those roads. Local roads surrounding the project site are shown on **Exhibit 3.1-2, Site Photograph Location Map**. Most of these roads have a low level of use and provide direct access to residences (approximately 100) surrounding the project area. A few local roads, including Hidden Springs Road, Minneola Road, and Valley Center Road, have a higher level of use (approximately 400 to 900 average vehicles trips per day) and provide access to Barstow-Daggett Airport and to I-40, I-15, and Route 66, all of which provide regional access to a far greater volume of motorists.

Motorists on I-15 and I-40

Motorists traveling on I-15, approximately 1.75 miles north of the project site, would have partial views of the project site in the middleground. I-15 is a major regional highway, and motorists would be a mix of people living in the surrounding communities and people passing through the area. The Mojave River separates I-15 from the project area. The average annual daily traffic on I-15 at Yermo Road is approximately 43,000 vehicles (Caltrans 2016a).

Motorists traveling on I-40 would have partial views of the project site in the middleground of their view. The foreground contains rural residential residences and other visual encroachments, including fencing, overhead utilities, and other roadways. The average annual daily traffic on I-40 at A Street is 14,400 vehicles (Caltrans 2016a).

Motorists on Route 66

Motorists traveling west on Route 66 would have partial views of the project site in the foreground and middleground. In the middleground, a combination of agriculture and rural residential uses and associated windrows are present. Ridgelines, including the Calico Mountains on the left and Alvord Mountain in the center, are visible in the background. Motorists traveling east on Route 66 would have partial views of the project site in the foreground and middleground, in addition to physical encroachments such as roadways, overhead poles and power lines, and rural residential structures. Mountains and ridgelines, including Solder Mountain, are visible in the distant background to the east. The average annual daily traffic on Route 66 adjacent to the project site is 472 vehicles per day (Tetra Tech 2018).

Recreational Users from Newberry Mountains Wilderness Area

Views near Camp Rock Road in the Newberry Mountains Wilderness Area include grazing lands in the foreground and large institutional facilities, railways, utility distribution lines, and agricultural fields in the middleground, which appear subordinate to the visible landscape. Recreationalists using the Newberry Mountains Wilderness Area are afforded middleground views of the project site over a moderate duration of time.

NIGHTTIME LIGHTING

Permanent sources of nighttime light in the project area are limited to streetlights, including lighting on I-15 and I-40, and structural lighting at scattered residential locations, the airport, and surrounding industrial facilities. Mobile sources of light and glare originate from railway trains, vehicles, and metal buildings.

REGULATORY FRAMEWORK**FEDERAL*****National Scenic Byways Program***

The National Scenic Byways Program, a part of the Federal Highway Administration (FHWA), recognizes, preserves, and enhances selected roads throughout the United States as All-American Roads or National Scenic Byways based on one or more archaeological, cultural, historic, natural, recreational, and scenic qualities. Route 66 is a designated National Historic Trail and is designated as Historic Highway Route 66, which makes the route eligible for consideration for designation as an All-American Road or National Scenic Byway by the FHWA.

STATE

Caltrans Scenic Highway Program

State scenic highways are those that are either officially designated as state scenic highways by the California Department of Transportation (Caltrans) or are eligible for such designation. The scenic designation is based on the amount of natural landscape visible by motorists, the scenic quality of the landscape, and the extent to which development intrudes on the motorist's enjoyment of the view.

According to Section 263.1 of the Streets and Highways Code, I-15 from Route 58 to Route 127 and I-40 from Barstow to Needles are included in the State Scenic Highway System (Caltrans 2016b). Both segments are eligible for the state scenic highway designation.

In 1991, the California Assembly officially designated historic Route 66 as Historic Highway Route 66 (under Assembly Concurrent Resolution No. 6 - Relative to Route 66, filed with the Secretary of State on July 11, 1991).

LOCAL

County of San Bernardino General Plan

Relevant policies from the County of San Bernardino General Plan are summarized below by element/section.

Land Use Element

- | | |
|----------------------|---|
| <i>Policy LU 1.2</i> | The design and siting of new development will meet locational and development standards to ensure compatibility of the new development with adjacent land uses and community character. |
| <i>Policy LU 1.4</i> | Encourage preservation of the unique aspects of the rural communities and their rural character. |

Conservation Element

- | | |
|----------------------|---|
| <i>Policy CO 8.1</i> | Maximize the beneficial effects and minimize the adverse effects associated with the siting of major energy facilities. The County will site energy facilities equitably in order to minimize net energy use and consumption of natural resources and avoid inappropriately burdening certain communities. Energy planning should conserve energy and reduce peak load demands, reduce natural resource consumption, minimize environmental impacts, and treat local communities fairly in providing energy efficiency programs and locating energy facilities. |
|----------------------|---|

Programs

3. Require undergrounding of new and existing transmission lines when feasible.
4. Assist in the development and use of new designs for major transmission line towers that are aesthetically compatible with the environment from a close viewing distance.
8. The County shall consult with electric utilities during the planning construction of their major transmission lines towers to ensure that they are aesthetically compatible with the surrounding environment.

Policy D/CO 1.2 Require future land development practices to be compatible with the existing topography and scenic vistas, and protect the natural vegetation.

Policy D/CO 3.1 Protect the Night Sky by providing information about and enforcing existing ordinances.

- a. Provide information about the Night Sky ordinance and lighting restrictions with each land use or building permit application.
- b. Review exterior lighting as part of the design review process.

Policy D/CO 3.2 All outdoor lighting, including street lighting, shall be provided in accordance with the Night Sky Protection Ordinance and shall only be provided as necessary to meet safety standards.

Open Space Element

Policy OS 5.1 Features meeting the following criteria will be considered for designation as scenic resources:

- a. A roadway, vista point, or area that provides a vista of undisturbed natural areas.
- b. Includes a unique or unusual feature that comprises an important or dominant portion of the viewshed (the area within the field of view of the observer).
- c. Offers a distant vista that provides relief from less attractive views of nearby features (such as views of mountain backdrops from urban areas).

- Policy OS 5.2* Define the scenic corridor on either side of the designated route, measured from the outside edge of the right-of-way, trail, or path. Development along scenic corridors will be required to demonstrate through visual analysis that proposed improvements are compatible with the scenic qualities present.
- Policy OS 5.3* The County desires to retain the scenic character of visually important roadways throughout the County. A “scenic route” is a roadway that has scenic vistas and other scenic and aesthetic qualities that over time have been found to add beauty to the County. Therefore, the County designates the following routes as scenic highways and applies all applicable policies to development on these routes (regarding the Desert Region): Route 66, from Oro Grande to the Arizona state line, and I-15 from I-215 to the Nevada state line.

Renewable Energy and Conservation Element

- Policy 4.1* Apply standards to the design, siting, and operation of all renewable energy facilities that protect the environment, including sensitive biological resources, air quality, water supply and quality, cultural, archaeological, paleontological and scenic resources.
- Policy 4.4* Encourage siting, construction and screening of RE generation facilities to avoid, minimize or mitigate significant changes to the visual environment including minimizing light and glare.
- Policy 4.4.1* Reduce visual impacts through a combination of minimized reflective surfaces, context-sensitive color treatments, nature-oriented geometry, minimized vegetation clearing under and around arrays, conservation of pre-existing native plants, replanting of native plants as appropriate, maintenance of natural landscapes around the edges of facility complexes, and lighting design to minimize night-sky impacts, including attraction of and impact to nocturnal migratory birds.
- Policy 5.1* Encourage the siting of RE generation facilities on disturbed or degraded sites in proximity to necessary transmission infrastructure.
- Policy 5.7* Support renewable energy projects that are compatible with protection of the scenic and recreational assets that define San Bernardino County for its residents and make it a destination for tourists.

Policy 5.7.1 Site renewable energy generation facilities in a manner that will avoid, minimize or substantially mitigate adverse impacts to sensitive habitats, cultural resources, surrounding land uses, and scenic viewsheds.

COMMUNITY PLANS AND ACTION PLANS

The project site is not located in an area covered by a Community Plan adopted in support of the County's General Plan. However, the County is currently preparing action plans for review by the Board of Supervisors to address land use planning issues relative to the Daggett, Newberry Springs and Yermo areas. The policy-guiding documents will be included in the County Policy Plan if adopted by the Board of Supervisors. After the adoption of the County Policy Plan, the Development Code will be updated to reflect the new policies.

No specific goals or policies for guiding future development from these proposed plans are applicable to the project because the proposed plans are still being reviewed and have not been adopted.

San Bernardino County Development Code

Section 82.19.040, Development Criteria within Scenic Areas

Section 82.19.040 establishes criteria to evaluate land use proposals in scenic areas. The following development criteria established in this code section are applicable to (1) areas with unique views of the county's desert, mountain, and valley areas or any other aesthetic natural land formations and (2) an area extending 200 feet on both sides of the ultimate road right-of-way of State- and County-designated scenic highways as identified in the General Plan. The area covered may vary to reflect the changing topography and vegetation along the right-of-way.

- **Report.** A special viewshed analysis may be required if it is determined that the proposed project may have a significant negative impact on the scenic values of the subject parcel.
- **Building and Structure Placement.** Structure placement must be compatible with and not detract from the visual setting or obstruct significant views.
- **Aboveground Utilities.** Utilities must be constructed and routed underground except in those situations where natural features prevent the underground siting or where safety considerations necessitate aboveground construction and routing. Aboveground utilities are required to be constructed and routed to minimize detrimental effects on the visual setting of the designated area. Where practical, aboveground utilities must be screened from view from either the scenic highway or the adjacent scenic or recreational resource by existing topography, or by placement of structures.

- **Grading.** The alteration of the natural topography of the site is to be minimized and avoid detrimental effects to the visual setting of the designated area and the existing natural drainage system. Alterations of the natural topography are required to be screened from view from either the scenic highway or the adjacent scenic or recreational resource by landscaping and plantings that harmonize with the natural landscape of the designated area and that are capable of surviving with a minimum of maintenance and supplemental water.
- **Storage Areas.** Outside storage areas associated with commercial activities are required to be completely screened from view of the right-of-way with landscaping and plantings that are compatible with the local environment and are capable of surviving with a minimum of maintenance and supplemental water.

Section 83.07.040, Glare and Outdoor Lighting – Mountain and Desert Regions

Section 83.07.040 establishes standards for outdoor lighting in the County's Mountain and Desert Regions (the proposed project site is located in the Desert Region). This section requires new permitted lighting for construction and operational lighting to be fully shielded to preclude light pollution or light trespass on adjacent property, other property within the line of sight (direct or reflected) of the light source, or members of the public who may be traveling on adjacent roadways or rights-of-way.

Section 84.29.035, Required Findings for Approval of a Commercial Solar Energy Facility

Section 84.29.035 includes the following provisions:

- a) In order to approve a commercial solar energy generation facility, the Planning Commission shall, in addition to making the findings required under Section 85.06.040(a) of the San Bernardino County Development Code, determine that the location of the proposed commercial solar energy facility is appropriate in relation to the desirability and future development of communities, neighborhoods, and rural residential uses, and will not lead to loss of the scenic desert qualities that are key to maintaining a vibrant desert tourist economy by making each of the findings of fact in subdivision (C).
- b) In making these findings of fact, the Planning Commission shall consider:
 - 1. The characteristics of the commercial solar energy facility development site and its physical and environmental setting, as well as the physical layout and design of the proposed development in relation to nearby communities, neighborhoods, and rural residential uses; and

2. The location of other commercial solar energy generation facilities that have been constructed, approved, or applied for in the vicinity, whether within a city of unincorporated territory, or on state or federal land.
- c) The finding of fact shall include the following:
1. The proposed commercial solar energy generation facility is either:
 - A. Sufficiently separated from existing communities and existing/developing rural residential areas so as to avoid adverse effects, or
 - B. Of a sufficiently small size, provided with adequate setbacks, designed to be lower profile than otherwise permitted, and sufficiently screened from public view so as to not adversely affect the desirability and future development of communities, neighborhoods, and rural residential use.
 2. Proposed fencing, walls, landscaping, and other perimeter features of the proposed commercial solar energy generation facility will minimize the visual impact of the project so as to blend with and be subordinate to the environment and character of the area where the facility is to be located.
 3. The siting and design of the proposed commercial solar energy generation facility will be either:
 - A. Unobtrusive and not detract from the natural features, open space and visual qualities of the area as viewed from communities, rural residential uses, and major roadways and highways, or
 - B. Located in such proximity to already disturbed lands, such as electrical substations, surface mining operations, landfills, wastewater treatment facilities, etc., that it will not further detract from the natural features, open space and visual qualities of the area as viewed from communities, rural residential uses, and major roadways and highways.
 4. The siting and design of project site access and maintenance roads have been incorporated in the visual analysis for the project and shall minimize visibility from public view points while providing needed access to the development site.
 5. The proposed commercial solar energy generation facility will avoid modification of scenic natural formations.

Section 84.29.040, Solar Energy Development Standards

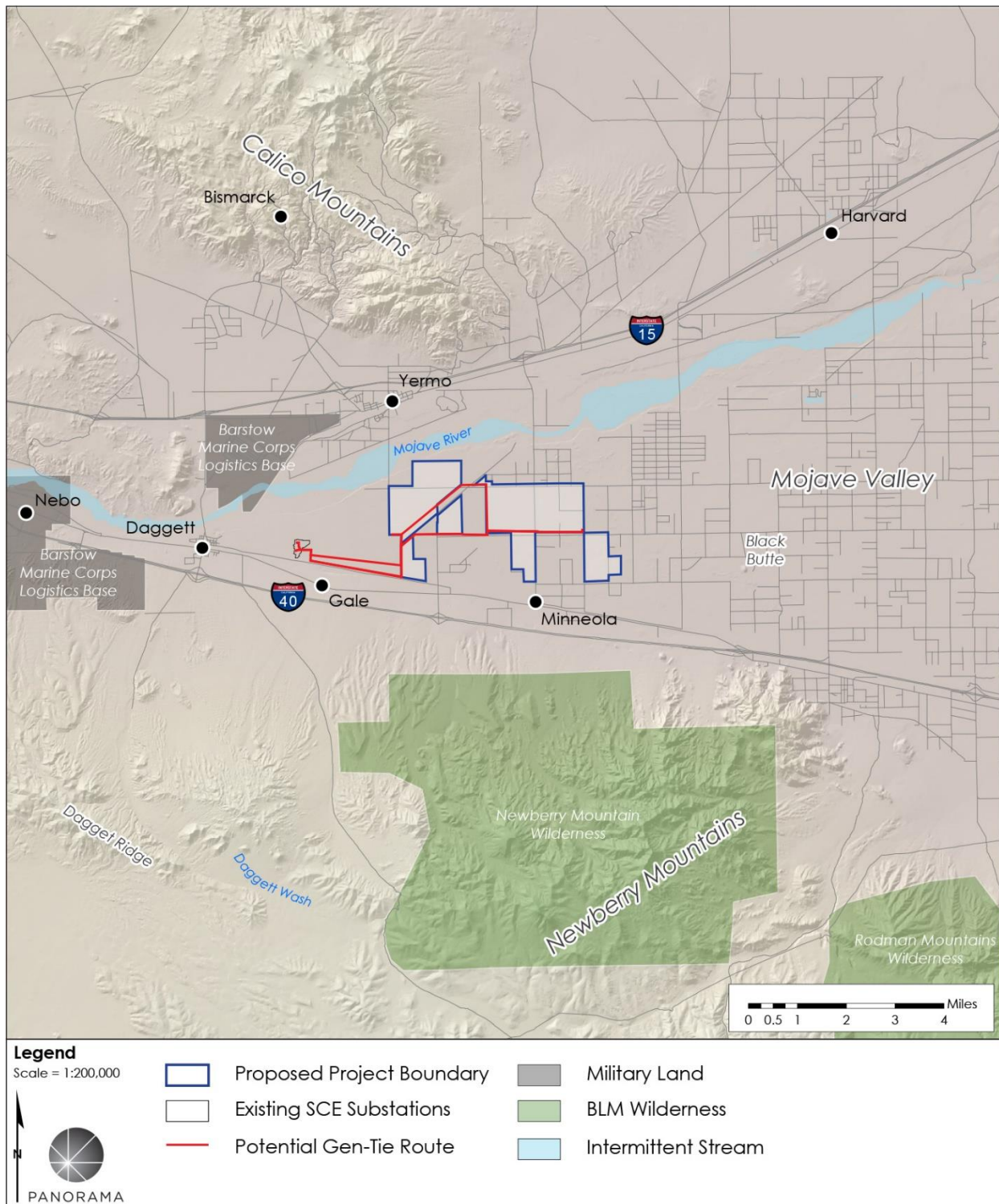
Section 84.29.040 includes the following standards applicable to the proposed project:

- b) *Glare*. Solar energy facilities shall be designed to preclude daytime glare on any abutting residential land use zoning district, residential parcel, or public right-of-way.
- c) *Night Lighting*. Outdoor lighting within a commercial solar energy generation facility shall comply with the provisions of Chapter 83.07 of the Development Code.

San Bernardino County Ordinance No. 3900

Because desert and mountain residents value the night sky conditions, the County adopted Ordinance No. 3900, also known as the Night Sky Ordinance. This ordinance outlines specific standards relating to glare and outdoor lighting. These standards are included in the sections of the Development Code described previously.

This page is intentionally blank.

Exhibit 3.1-1 Regional Landscape Setting

Source: USGS 2016a, 2016b; Tele Atlas North America 2018

This page is intentionally blank.

This page is intentionally blank.

Exhibit 3.1-3 Site Photographs

Photograph A. Southwesterly view of the LADWP Transmission Corridor from Valley Center Road. The multiple steel lattice towers of the LADWP Transmission Corridor, crossing the project site, are visible from the area surrounding the project site and when seen in close proximity dominate the view.



Photograph B. View facing west from SunRay Lane, approximately 1.2 miles west of the project site. The SunRay Project facilities are visually prominent in the foreground. The terrain is flat with low density vegetation. The electrical transmission lines and mountains are visible in the background.



Photograph C. View from the north side of Santa Fe Street, approximately 1 mile west of the project site, facing north towards the project site and the surrounding area. Views of the SunRay Project facilities are dominated by the LADWP Transmission Corridor. The surrounding terrain is generally flat with low shrubs and residential development and mountains in the background.



Photograph D. View from the south side of Northern Access Road, approximately 0.12 mile south of the project site, facing east towards the airport and the project site. The Barstow-Daggett Airport's large structures dominate the view with fencing and flat terrain with low shrubs in the foreground.

Exhibit 3.1-3 Site Photographs (continued)

Photograph E. View from the north side of Santa Fe Street, approximately 2.5 miles west of the project site, facing north towards the surrounding area. Structures on northern end of Coolwater Generating Station are visually prominent. Flat terrain, desert shrubs and tan soils are visible in the foreground with views of the Calico Mountains in the background.



Photograph F. View from Yermo Road facing southwest, approximately 1.5 miles north of the project site. The Union Pacific railroad tracks, located on a slightly, elevated berm, are visually prominent. Electrical distribution and transmission infrastructure traverse the landscape and are noticeable visual features, with distant views of mountains in the background. The terrain is generally flat with low shrubs.



Photograph G. View facing east from Santa Fe Street, approximately 2.2 miles west of the project site. The BNSF railroad tracks, located on a slightly, elevated berm, are visually prominent in views to the south, with distant views of mountains in the background. Electrical distribution lines are visually prominent in views to the north. The terrain is generally flat with low shrubs.



Photograph H. View of Route 66 National Trails Highway and I-40 looking east approximately 7 miles from the project site. Views include low hills to the south and generally flat terrain to the north, covered by low shrubs with distant views of mountains are available in the background.

Exhibit 3.1-3 Site Photographs (continued)

Photograph I. View looking north from Route 66 National Trails Highway, approximately 1.2 miles south of the project site. Views of the Barstow-Daggett Airport site includes runways, hangars, airport operations buildings, fencing houses, a sewage treatment plant, and a water tank. The BNSF railroad tracks on a slightly, elevated berm, is visible in the foreground. The surrounding terrain is generally flat with low shrubs and mountains in the background.



Photograph J. View from the east side of Minneola Road, facing north. The project site is immediately adjacent and visible on the west side of the road. Views of agricultural support buildings and actively farmed land are prominent in the foreground with irrigation equipment and mountains in the background. Stands of trees and electrical distribution lines are visible along the roadway.



Photograph K. View from the south side of Yermo Road, approximately 1.5 miles northeast of the project site, facing north towards the surrounding area. Single family, single story, residential uses are visible foreground and middleground with Calico Mountains making up the background.

This page is intentionally blank.

IMPACT ANALYSIS AND MITIGATION MEASURES

METHODOLOGY

Viewshed Analysis

The viewshed is generally the area that is visible from an observer's viewpoint and includes the screening effects of intervening vegetation and/or physical structures. A topographic viewshed analysis was conducted for the project to illustrate the geographic extent of potential views of the project area and to comply with Development Code Section 82.19.040. The topographic viewshed analysis for the project is shown in **Exhibit 3.1-4, Topographical Viewshed Analysis**. The analysis indicates that the project site may be visible from the surrounding valley areas for up to approximately 5 miles to the north and south and up to approximately 10 to 12 miles to the east, southeast, and northwest, depending on elevational differences and intervening topography. Although some portion of the project site may be visible from a relatively large area, the degree of visibility would depend on distance and view angle.

Generally, the project site would be most visible from viewpoints within 1 mile, while site visibility would diminish as distance increases and view angle decreases. Air quality, including dust and other visible particulates, can affect visibility in the area.

Key Observation Points

Six key observation points (KOPs) were selected as representative vantage points in the landscape that offer motorists, including local residents traveling on area roadways, views of the proposed project. KOPs 1 through 6 are shown on **Exhibit 3.1-2, Site Photograph Location Map**. Factors considered in the selection of KOPs included locations with sensitive viewers (e.g., local residences, Route 66) and potential for the project site to be visible (e.g., distance and view angle). The KOPs were selected to capture representative vantages from scenic routes (I-15, I-40, and Route 66), residential areas northeast of the project site, the Calico Ghost Town, and the Newberry Mountains Wilderness Area.

Digital photographs were taken from the selected KOP locations to support the discussion on existing visual setting and the analysis of potential visual impacts associated with the proposed project. Photographs of existing conditions were taken in August 2017 using a digital single-lens reflex (DSLR) Canon 5D Mark III camera. Photographs from KOPs 1 through 6 are provided below (see **Exhibits 3.1-5 through 3.1-11**). Version "a" of **Exhibits 3.1-5 through 3.1-11** depicts existing views.

Visual Simulations

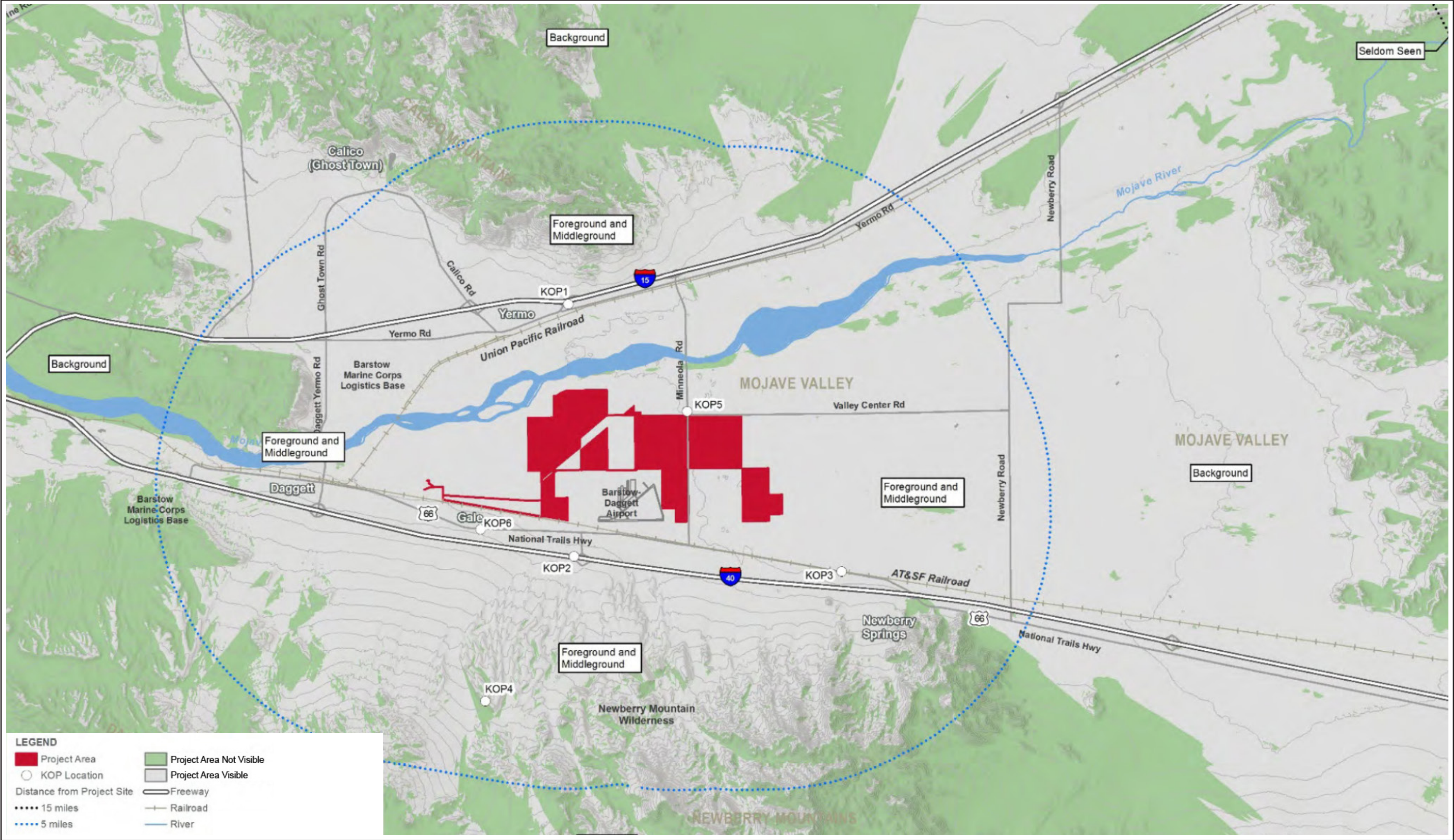
Three-dimensional (3-D) visual simulations from each KOP were rendered to approximate the visual conditions resulting with project implementation. Using the photographs acquired at KOP 1 through KOP 6, a 3-D physical massing model was created that incorporated the PV scale model, placed in array configurations as shown in the site plan provided in **Exhibit 2.0-2, Project Site** (see Section 2.0, Project Description). The model was then georeferenced and placed on GPS-controlled site-specific photographs to create simulations that demonstrate visual changes from the project. Version “b” of **Exhibits 3.1-5 through 3.1-11** provides simulated views of project features.

Visual Change Analysis

The existing view photographs were compared to the simulated views to define the degree of visual change and visual impacts of the proposed project. The BLM Visual Resource Management (VRM) System was used to evaluate visual change by comparing the project features with the basic features (i.e., landform, vegetation, and structures) in the existing landscape using the basic design elements of form, line, color, and texture. The BLM VRM System was used to evaluate visual change for the project because the County has not developed or adopted its own visual resource analysis methodology and the VRM System is an industry standard method for analysis of landscape visual change. The BLM also manages landscapes with similar characteristics to the project site. Visual contrast rating forms (BLM Form 8400-4) were completed for each KOP and are provided in Appendix D of the Visual Impact Assessment (HDR 2018; refer to **Appendix B-1**). The anticipated degree of viewer sensitivity (i.e., low, moderate, or strong) is disclosed for each KOP. Consistent with the BLM’s VRM System, factors considered in determining degree of contrast include distance, view angle, view exposure, relative size or scale, and spatial relationships.

Glint and Glare Review

The FAA interim policy for Solar Energy System Projects on Federally Obligated Airports and Sandia National Laboratories Solar Glare Hazard Analysis Tool (SGHAT) were used to evaluate the potential for glint and glare associated with the proposed project. The FAA interim policy provides standards for measuring ocular impact of proposed solar energy systems on pilots and/or air traffic controllers, and they required the use of the SGHAT to demonstrate compliance with the interim policy standards. Refer to Attachment 4 of **Appendix H-3** for further details on the glare analysis study that was conducted for the project.



This page is intentionally blank.

Exhibit 3.1-5a KOP 1 (Existing View)

Eastbound on-ramp to I-15 at Yermo Road, facing south



This page is intentionally blank.

Exhibit 3.1-5b KOP 1 (Visual Simulation)

Eastbound on-ramp to I-15 at Yermo Road, facing south



This page is intentionally blank.

Exhibit 3.1-6a KOP 2 (Existing View)

Westbound on-ramp of I-40 at Hidden Springs Road, facing north



This page is intentionally blank.

Exhibit 3.1-6b KOP 2 (Visual Simulation)

Westbound on-ramp of I-40 at Hidden Springs Road, facing north



This page is intentionally blank.

Exhibit 3.1-7a KOP 3 (Existing View)

Route 66, facing north toward the BNSF railway berm



This page is intentionally blank.

Exhibit 3.1-7b KOP 3 (Visual Simulation)

Route 66, facing north toward the BNSF railway berm



This page is intentionally blank.

Exhibit 3.1-8a KOP 4 (Existing View)

Newberry Mountains Wilderness Area near Camp Rock Road, facing north



This page is intentionally blank.

Exhibit 3.1-8b KOP 4 (Visual Simulation)

Newberry Mountains Wilderness Area near Camp Rock Road, facing north



This page is intentionally blank.

Exhibit 3.1-9a KOP 5A (Existing View)

Valley Center Road at Condor Road, facing west-southwest



This page is intentionally blank.

Exhibit 3.1-9b KOP 5A (Visual Simulation)

Valley Center Road at Condor Road, facing west-southwest



This page is intentionally blank.

Exhibit 3.1-10a KOP 5B (Existing View)

Valley Center Road at Minneola Road, facing south



This page is intentionally blank.

Exhibit 3.1-10b KOP 5B (Visual Simulation)

Valley Center Road at Minneola Road, facing south



This page is intentionally blank.

Exhibit 3.1-11a KOP 6 (Existing View)

Route 66, east of the town of Daggett between A Street and Hidden Springs Road, facing east-northeast



This page is intentionally blank.

Exhibit 3.1-11b KOP 6 (Visual Simulation)

Route 66, east of the town of Daggett between A Street and Hidden Springs Road, facing east-northeast



This page is intentionally blank.

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

A project would result in a significant aesthetic impact if it would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

PROJECT IMPACTS AND MITIGATION

SCENIC VISTA

Impact 3.1-1	The project would not have an adverse effect on a scenic vista. No impact would occur.
---------------------	---

No designated scenic vistas are in the viewshed of the proposed project. Policy OS 5.1 of the General Plan Open Space Element states that a roadway, vista point, or area can be considered a scenic resource if it (a) provides a vista of undisturbed natural areas, (b) includes a unique or unusual feature that comprises an important or dominant portion of the viewshed, or (c) offers a distant vista that provides relief from less attractive views of nearby features, such as views of mountain backdrops from urban areas. The project site is not considered an undisturbed natural area and does not have unique or unusual features that dominate a portion of the viewshed. The project site includes existing and previously farmed land and is surrounded by rural residential land uses and transportation, industrial, and utility infrastructure. The project area is subject to agricultural use and contains existing industrial infrastructure; it is not a distant vista that provides relief from less attractive views of nearby features. The project area is not a scenic vista or visible from any designated scenic vista. No impact on scenic vistas would occur.

Mitigation Measures: None required.

Level of Significance: No impact.

SCENIC HIGHWAY

Impact 3.1-2 The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Impacts would be less than significant.

Route 66 is eligible to be designated as a National Scenic Byway, and I-15 and I-40 in proximity to the project site are part of the state scenic highway system. I-15 is also a County-designated scenic route; however, the portion of I-15 with views of the project site is not designated as a scenic route by the County. The project site and surrounding landscape include existing and previous agricultural uses, an airport, various transportation and utility infrastructure, and scattered residences, most of which are located to the east of the project site. The project site is generally flat and contains no significant geologic feature or vegetation that is particularly unique for the area, nor does it contain vegetation that would be considered scenic. Development of the proposed facilities would not involve the removal of visually significant trees, rock outcroppings, and/or historic buildings, as these features do not occur on the project site.

The proposed project would convert active and fallow agricultural land that contributes to the scenic qualities of views from Route 66, I-40, and I-15. From I-15 (KOP 1, **Exhibit 3.1-5**), the solar arrays would be visible in the middleground view. The solar panels and related fencing would be barely discernable and would blend into the agricultural land use pattern at this distance and obstructed by existing residential structures to the east. The new gen-tie structures would be barely discernable at this distance and would blend in with the existing lattice structures already located in the existing transmission corridor. The project would result in a low visual change in the viewshed from I-15.

From I-40 (KOP 2, **Exhibit 3.1-6**), the solar arrays would be visible in the foreground (on the west) and middleground views, with the solar panels and related fencing becoming less discernable at a distance and blending into the agricultural land use pattern. Few encroachments exist that otherwise shield the project from view. The new gen-tie structures would be barely discernable in the far middleground and would blend in with the existing lattice structures in the existing transmission corridor farther north. The landscape conversion at the solar site would be less apparent due to the setback from the highway. The project would result in a moderately low change to views from I-40.

From Route 66 (KOP 3, **Exhibit 3.1-7**, and KOP 6, **Exhibit 3.1-11**), the solar arrays and fencing would be visible in the foreground and middleground, north of the railway. From KOP 3, the solar arrays and fencing would be visible in the immediate foreground and middleground. From KOP 6, the solar arrays would replace the view of an irrigated pasture, also in the immediate foreground and middleground. The new gen-tie structures and substation would be visible

behind the solar array from KOP 6 in the middleground and just west of Barstow-Daggett Airport. Solder Mountain would continue to be visible in the background. From KOP 3, the gen-tie structures would be barely discernable at this distance in the middleground and would blend in with the existing lattice structures in the existing transmission corridor farther north. The project would add to the existing visual encroachments in the viewshed, and the conversion of landscape at the solar site would be less apparent and set back from the highways.

Converted landscape and project facilities may be visible to motorists traveling on Route 66, I-15, and I-40; however, project features would be indistinct at distances greater than two miles. Views of the surrounding mountains and desert landscape from the highways would still be experienced due to the setback between the highways and the project facilities.

Given the low existing scenic quality of the area based on the numerous existing visual encroachments, and the low to moderately low degree of visual change resulting from the solar facility, the impact on scenic resources from a scenic highway would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

VISUAL CHARACTER

Impact 3.1-3	The project would not substantially degrade the existing visual character or quality of the site and its surroundings. Impacts would be less than significant.
---------------------	---

The existing visual quality of the project site and surrounding lands is low to moderately low due to the presence of numerous anthropogenic elements in the landscape, including scattered rural residential properties, existing transportation infrastructure (i.e., I-15, I-40, Route 66, railroads), Barstow-Daggett Airport, the Coolwater Generating Station, and electrical infrastructure in the transmission corridor. Existing views and the analysis of visual change are described below for representative local roads surrounding the site, I-15, I-40, and Route 66. The location and view direction of KOP photos are shown on **Exhibit 3.1-2, Site Photograph Location Map**.

FOREGROUND VIEWS OF THE PROJECT

Immediate Foreground Views from Local Roads Less Than 0.25 Miles Away

KOP 5B (**Exhibit 3.1-10a**) represents a view of the solar and energy storage facility from just north of the intersection of Valley Center Road and Minneola Road, which have a volume of approximately 64 to 708 and 387 to 909 average daily trips, respectively. The project site is in the immediate foreground, and the visual simulation represents the change in visual quality at a close viewing distance. KOP 5b represents views available to nearby residents and to motorists on the

local road network adjacent to the project site. The post-project simulated views from KOP 5B is depicted in **Exhibit 3.1-10b**. As shown, the solar arrays and fencing would be visible in the foreground, and views of the solar panels and fence would be partially obstructed by desert shrubs, trees, and existing fencing. The new gen-tie structures are not visible from the KOP 5B vantage point. The Newberry Mountains would continue to be visible in the background, similar to existing conditions. The level of visual change would be moderate; the fence would blend in with the form and line of the existing fence line in the area, and the tops of the solar panels would be the predominant visible project features. The solar panels would have a uniform color, texture, and form, which would contrast with the color and form of the desert vegetation and landscape. The existing scenic quality of the area is moderately low due to the existing visual encroachments, including fences and introduced trees. The moderate level of visual change on the landscape in an area with moderately low visual quality would result in a less than significant impact on visual quality.

Foreground Views from Route 66 Less Than 0.5 Miles Away

Foreground views of the project site from Route 66 are represented by KOP 6, which faces east-northeast and is situated just south of the project site. KOP 6 represents views of the project site available to nearby residents, just east of KOP 6, and to motorists traveling eastbound on Route 66.

The solar arrays and fencing would be visible in the foreground and middleground and would replace the view of an irrigated pasture, as shown in the simulation on **Exhibit 3.1-11b**. The new gen-tie structures and substation would be visible behind the solar array, in the middleground and just west of Barstow-Daggett Airport. Solder Mountain would continue to be visible in the background. The project would add to the existing visual encroachments in the viewshed; however, the landscape currently includes a number of visual encroachments, including power poles, the railroads, and buildings and infrastructure at Barstow-Daggett Airport. The project solar arrays would be vertically shallow and uniform in form, line, and color. The transmission poles and substation in the middleground view would not be visually prominent due to the existing infrastructure in the middleground view. The visual change would be moderately low. The moderately low visual change in scenic quality in a landscape with low visual quality would result in a less than significant impact on visual quality.

MIDDLEGROUND VIEWS OF THE PROJECT

Middleground views of the proposed project from I-40 and Route 66 are represented by KOPs 1, 2, and 3. Project facilities would be indistinct and not visually prominent in middleground views from I-15, I-40, and Route 66. Project components would appear low to the ground and less discernable in middleground views. The project facilities would become visually imperceptible at

the distance and viewing angle of KOP 1 (**Exhibit 3.1-5b**). Intervening topography and infrastructure, including berms along the railroads north and south of the project site, would provide some screening of the solar facilities.

The proposed project would appear as a series of flat, greyish horizontal forms from KOP 2 at I-40 (**Exhibit 3.1-6b**), and the mountains in the background (i.e., Calico Mountains) would remain visually prominent. The proposed project elements would be slightly noticeable in the middleground at KOP 2 due to the contrast in color with the surrounding desert and agricultural landscape; however, the proposed project elements would result in a low level of visual change on views from I-40.

The solar arrays and fencing would be visible in the middleground behind the existing railroad when viewed from KOP 3 (**Exhibit 3.1-7b**). The project would add to the existing encroachments in the viewshed for KOP 3, including residential structures, power lines, and fencing. The new gen-tie structures would be barely discernable in the middleground and would blend in with the existing lattice structures in the existing transmission corridor farther north of KOP 3. The project would result in a low level of visual impact on the low existing scenic quality due to the viewing distance to the project and the numerous existing visual encroachments, including the railroad, berms, airport, and existing electrical generation and transmission infrastructure. The impact on visual quality from middleground views of the project would be less than significant.

BACKGROUND VIEWS OF THE PROJECT

The project would be visible in the background from recreational areas at the Newberry Mountains Wilderness Area. KOP 4 (**Exhibit 3.1-8b**) represents views of the project that would be afforded to recreational users at a distance of approximately 4 miles. Project facilities would be indistinct and barely discernable in background views. The solar arrays would blend in with the existing agricultural land uses. The gen-tie structures would be barely discernable at this distance and would blend in with the existing lattice structures already located in the existing transmission corridor. The project would result in a low level of visual change on the moderate existing scenic quality due to the viewing distance to the project and the numerous existing visual encroachments. The project features would barely be discernable from the Calico Ghost Town, which is in the general direction of KOP 1, but farther from the project. The impact on visual quality from background views of the project would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

LIGHT OR GLARE

Impact 3.1-4	The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Impacts would be less than significant.
---------------------	---

NIGHTTIME LIGHTING***Construction***

Construction of the proposed project is anticipated to occur during daytime hours as permitted by the County of San Bernardino. However, if necessary and approved by the County, nighttime construction activities could occur, which may involve the use of temporary construction lighting equipment. The use of any bright construction lighting would only occur for a short duration if nighttime work was necessary and approved by the County. Any construction lighting would be directed away from adjacent residences and toward active construction areas. The impact would be less than significant.

Operation and Maintenance

Manual, timed, and motion sensor lights would be installed at equipment pads and substations for maintenance and security purposes. Such lighting would be shielded and aimed downward, and would comply with the County dark sky ordinance. No other lighting is proposed. Project lighting would normally be off unless activated by project personnel. The project would result in a change in the environment where Fort Irwin training exercises occur, primarily at the airport. However, the limited locations and amount of nighttime lighting proposed for the project, in addition to the motion sensors and shades directing the lights toward the ground will minimize the extent of light pollution from the site. Therefore, the project's use of nighttime security lighting would not result in a significant impact to Fort Irwin's nighttime training exercises.

Nighttime lighting associated with the proposed project would be subject to County approval and compliance with County requirements. As summarized in the Regulatory Framework subsection above, County Ordinance No. 3900 regulates glare, outdoor lighting, and night sky protection. County Development Code Section 83.07.040, Glare and Outdoor Lighting, regulates outdoor lighting practices geared toward minimizing light pollution, glare, and light trespass; conserving energy and resources while maintaining nighttime safety, visibility, utility, and productivity; and curtailing the degradation of the nighttime visual environment. Proposed lighting would be shielded and directed downward, and motion-activated lighting would normally be turned off unless needed for nighttime emergency work, consistent with County requirements. County lighting regulations require submittal of an approval of exterior lighting plans per General Plan Conservation Element Policy D/CO 3.1(b). Compliance with General Plan Conservation Element

Policy D/CO 3.2 would ensure that impacts associated with new sources of nighttime lighting for the proposed project would be less than significant.

GLINT AND GLARE

Solar PV Panels

The proposed project would use darkly colored matte PV solar panels featuring an anti-reflective coating. Photovoltaic solar panels are designed to be highly absorptive of light that strikes the panel surfaces, generating electricity rather than reflecting light. The solar panels are also designed to track the sun to maximize panel exposure to the sun, which would direct the majority of any reflected light back toward the sun in a skyward direction. PV panels have a lower index of refraction/reflectivity than common sources of glare in residential environments. The glare and reflectance levels from a given PV system are lower than the glare and reflectance levels of steel, snow, standard glass, plexiglass, and smooth water (Shields 2010). The glare and reflectance levels of panels are further reduced with the application of anti-reflective coatings. PV suppliers typically use stippled glass for panels as the “texturing” of the glass to allow more light energy to be channeled/transmitted through the glass while weakening the reflected light. With the application of anti-reflective coatings and use of modern glass technology, project PV panels would display overall low reflectivity.

The PV solar panels would be angled perpendicular to the general east–west direction of the sun and are designed to track the position of the sun throughout the day to maximize panel exposure if a tracking system is used. Alternatively, the panels could be installed on a fixed-tilt system and would face to the south. The greatest potential for light reflection to reach viewer locations would occur with a tracking system when the panels would be angled toward the horizon at sunrise and sunset. During these periods, the solar panels would be tilted approximately 10 degrees below a horizontal plane in the direction of the sun. Unabsorbed incoming light would reflect at approximately 20 degrees above the opposite horizon.

The solar power facility would be located in a broad flat valley. Potential viewers of the facility, including motorists on I-15, I-40, and Route 66, and residents, would be less than 20 degrees above the facility. Residents and motorists would not be exposed to the glare at sunrise or sunset due to the low viewing angle. Residents and motorists may perceive indirect glare as an increase in color contrast in the early morning hours when the darkly colored PV panels could appear as lightly colored or white (Sullivan and Abplanalp 2013). This indirect glare would be brief (a few minutes in the morning and evening hours) and would not cause a nuisance to residents or motorists.

A glint and glare study was prepared to identify whether the proposed project would significantly impact Barstow-Daggett Airport operations (see **Appendix H-3**). Specifically, this analysis

considered the impact on aircraft approaching Runways 08/26 and 04/22. The results of the study show that there is a “low potential for after image” associated with glare emanating from Array 6 of the proposed project. This glare may be seen by aircraft making approaches to Runway 22. This level of glare is deemed acceptable by FAA standards per the interim policy for Solar Energy System projects on Federally Obligated Airports. No glare was identified that would have an effect on Runway 08/26 from any of the project arrays. Therefore, there would be a less than significant impact on airport operations as a result of glint and glare from the proposed project.

The proposed project would also be designed to ensure consistency with San Bernardino County Code Section 84.29.040, which requires solar energy facilities to be designed to preclude daytime glare on any abutting residential land use zoning district, residential parcel, or public right-of-way. The solar PV panels would not create a substantial source of glare due to the use of anti-reflective coating on the panels and the elevation of potential receptors relative to the facility. The impact would be less than significant.

Metallic Electrical Equipment, Power Poles, and Buildings

Proposed project facilities, including the gen-tie line, battery storage facilities, and on-site substations, would be constructed with metallic components, which could introduce new sources of glare compared to the undeveloped area. Any glare associated with the proposed facilities would be minor and highly scattered because the metallic components would be separated geographically and would not concentrate potential glare in any area. The new overhead conductor and steel support structures installed for the on-site substation and gen-tie line and in the existing SCE substations would reflect approximately the same level of light as the existing transmission line facilities in the project area. The facilities would not involve concentrated light reflection that would become a nuisance or adversely affect daytime views. The impact would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 3.3-5	The project would not result in cumulative aesthetic impacts. Impacts would be less than significant.
---------------------	--

GEOGRAPHIC SCOPE

The geographic scope for the analysis of cumulative impacts on aesthetic resources includes both the local viewshed within a one-mile radius of the project site and area (generally the Daggett area). Local cumulative effects could occur in the immediate project viewshed if related projects,

activities, and landscapes are visible in the same field of view as the proposed project and could generally be visible from the proposed project area. Beyond 1 mile, structures become less distinct or not visible because they blend sufficiently with background forms, colors, and textures. Also, beyond 1 mile, it is likely that sight lines will become impaired or blocked by intervening terrain and vegetation. However, regional cumulative effects could still occur if viewers perceive that the general visual quality or landscape character of a regional area is diminished by the proliferation of visible similar structures or construction, even if the changes are not in the same field of view as existing or known future structures or facilities. The result is a perceived “industrialization” or “urbanization” of the existing landscape character. The extent of regional cumulative effects is limited to the project valley.

POTENTIAL CUMULATIVE IMPACTS

The Minneola Solar Project (#4) and Solar 33 Project (#9) are the only cumulative projects that are proposed within 1 mile of the project site. Minneola Solar is the closest and is proposed adjacent to the proposed project and just north of Route 66. The Solar 33 Project is located southwest of the proposed project, between I-40 and Route 66.

The Solar 66 Project (#10), and Silver Valley Solar Project (#13), and Eddie’s World (#22) are located within 5 miles of the project site, but the Silver Valley Solar project is outside of the project viewshed. Due to the visual separation between the proposed project and the Silver Valley Solar Project north of I-15, the proposed project’s aesthetic impacts would not be cumulative with the projects north of I-15 or solar projects in other valleys. Eddie’s World, a proposed commercial development, would not contribute to cumulative aesthetic impacts with the proposed project because the visual elements of the commercial development would appear visually distinct and unrelated to the proposed project solar facility. The Solar 66 Project is within the project viewshed and could contribute to regional cumulative aesthetic impacts. The Solar 66 Project is considered in the cumulative impact analysis below.

Scenic Vistas

The proposed project and cumulative project are not located within a scenic vista or visible from any designated scenic vistas. No cumulative impact on scenic vistas would occur.

Scenic Highways

The proposed project is in proximity to I-40, I-15, and Route 66. The Minneola Solar Project, Solar 33 Project, and Solar 66 Project would be adjacent to Route 66 and within view of I-40 and I-15. Converted landscape and Minneola Solar, Solar 33, and Solar 66 Project facilities may be visible to motorists on Route 66, I-15, and I-40. However, given the low scenic quality of the area based on the numerous existing visual encroachments and the low to moderately low degree of visual

change expected from the Minneola Solar Project, Solar 33 Project, Solar 66 Project, and the proposed project, substantial cumulative damage to scenic resources within a state scenic highway is not anticipated. Cumulative impacts would be less than significant.

Visual Quality

Construction and operation of the Minneola Solar, Solar 33, and Solar 66 Projects would modify the local and regional landscape in the Daggett area. The Minneola Solar Project and Solar 33 Project would be visible from the proposed project area and in the immediate proposed project viewshed. The Minneola Solar Project may appear as an extension of the proposed project and would extend the area where solar facilities would be visible from nearby roads and highways. Similar to the proposed project, the Minneola Solar, Solar 33, and Solar 66 Projects would be expected to result in a moderate level of visual change on the landscape due to existing encroachments in the viewshed, including the adjacent airport, railroad, and electrical transmission infrastructure. Implementation of the cumulative project and proposed project in an area with moderately low visual quality would result in a less than significant cumulative impact on visual quality.

Light and Glare

San Bernardino County is known for its dark skies. All of the cumulative projects would be subject to the County's outdoor lighting ordinance, which would limit the amount of lighting that would be introduced in the area and restrict the type of lighting that could be used. The cumulative impact on the night sky would be less than significant due to conformance with the County's lighting ordinance.

The proposed project and cumulative projects would not introduce new sources of glare that would be directed cumulatively onto any area. No cumulative glare impacts would occur.

Mitigation Measures: None required.

Level of Significance: Less than significant.

Section 3.2

Agriculture and Forestry Resources

This section discusses the environmental setting, existing conditions, regulatory context, and potential impacts of the project in relation to agriculture and forestry resources. The information and analysis in this section is largely based on the *San Bernardino County Code*, Title 8, Development Code, Chapter 82.01, *Land Use Plan, Land Use Zoning Districts, and Overlays*; the *County of San Bernardino 2006 General Plan Program Final Environmental Impact Report* and Appendices (County of San Bernardino County 2007a); the *County of San Bernardino 2007 General Plan* (2007b); and a *Land Evaluation and Site Assessment* (LESA) study prepared by Tetra Tech and peer reviewed by Michael Baker International (2018a; see **Appendix C**).

ENVIRONMENTAL SETTING

REGIONAL SETTING

San Bernardino County supports a number of large-acreage national forests. The US Department of Agriculture (USDA), US Forest Service (USFS) manages the majority of the geographic area in the County's Mountain Region, which totals more than 671,000 acres in the San Bernardino Mountains and a portion of the San Gabriel Mountains (County of San Bernardino 2007a). The Angeles National Forest is approximately 54 miles to the southwest of the project site, with the San Bernardino National Forest approximately 34 miles to the southwest of the site. In the San Bernardino County portion of the San Bernardino National Forest are the Cucamonga Wilderness, San Gorgonio Wilderness, and Bighorn Mountain Wilderness. Other national forests in the county include the Cleveland National Forest and the Los Padres National Forest.

As indicated in the County General Plan EIR, agricultural use in the County has declined over the last several decades as the result of urban expansion and economic conditions. Agricultural development is generally located in areas where relatively level terrain and stable soil conditions are present. However, for these reasons, such lands are also desirable (and economically valuable) for urban development. As urban growth encroaches into agricultural areas, the remaining agricultural operations have often become surrounded by urban-type activities and/or have been converted to other nonagricultural uses.

Lands surrounding the project site include Prime Farmlands, Farmlands of Statewide Importance, Unique Farmlands, and Grazing Lands, as mapped by the California Department of Conservation (2016b) Farmland Mapping and Monitoring Program (FMMP). According to the San Bernardino County General Plan EIR (County of San Bernardino 2007a), agricultural development in the

Desert Region, in which the project site is located, is generally limited to areas bordering the Mojave River as far north as the community of Harvard-Newberry Springs. Information on the occurrence of important farmland in the Desert Region is limited to the areas near Lenwood, Yermo, Newberry Springs, and Lucerne Valley. Large areas of grazing land are also present in the southwestern portion of the Desert Region. Historic alfalfa production occurs on a limited basis in areas that previously had sufficient groundwater for irrigation, such as Lucerne Valley and Harper Dry Lake.

PROJECT SETTING

On-site soils are varied. Dominant soil types generally consist of Cajon Sand, 0 to 2 percent slopes, with other soils present including, but not limited to, Cajon Sand, 2 to 9 percent slopes; Cajon Loamy Sand, Loamy Substratum, 0 to 2 percent slopes; and Halloran-Duneland Complex, 0 to 15 percent slopes, among others. Refer to **Exhibit 3.2-1, Soils Map**.

In addition to the existing Coolwater Generating Station, land uses surrounding the project site generally include transportation infrastructure, agricultural lands, undeveloped land, the Sunray Solar Project (built in 2016), and Barstow-Daggett Airport (directly to the south of the project site). Route 66 is to the south of the project site and Interstate 15 (I-15) to the north. The BNSF (Burlington Northern Santa Fe) railroad tracks are located to the south of the project site, while the Union Pacific tracks are located to the north.

In the project area, agricultural areas consist of active and abandoned alfalfa and Bermuda grass fields, as well as an active pistachio orchard. The alfalfa and Bermuda grass fields are irrigated using center-pivot irrigation, resulting in circular fields easily identifiable on aerial photographs. Sites immediately adjacent to most fields are disturbed and consist of disturbed saltbush scrub or developed/disturbed/ruderal vegetation. Portions of the site that are less disturbed consist of saltbush scrub and creosote bush scrub with low shrub variety and sparse understories. The southeastern portion of the project area supports sand dunes with creosote bush scrub vegetation. The approximately 220-acre pistachio orchard on the site consists of rows of young pistachio trees with no understory, aside from some weeds growing near irrigation drips.

As shown in **Table 3.2-1, Existing Farmland Categories and Zoning Districts**, on-site Farmland as designated by the California Department of Conservation includes approximately 549 acres of Prime Farmland, 1,116 acres of Farmland of Statewide Importance, and 294 acres of Unique Farmland, in addition to 110 acres of Grazing Land and 1,324 acres of Other Land. Refer also to **Exhibit 3.2-2, Farmland Map**. With the exception of Grazing and Other Lands, the designated farmland on-site is considered to be an important state and local agricultural resource. Refer also to discussion of the California DOC Farmland Mapping and Monitoring Program in the Regulatory Framework subsection, below.

REGULATORY FRAMEWORK

FEDERAL

Farmland Protection Policy Act

The US Department of Agriculture (USDA) administers the Farmland Protection Policy Act of 1981. The act is intended to minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses. The act also requires these programs to be compatible with state, local, and private efforts to protect farmland.

STATE

California Civil Code Section 3482.5 (Right to Farm Act)

The Right to Farm Act is designed to protect commercial agricultural operations from nuisance complaints that may arise when an agricultural operation is conducting business in a “manner consistent with proper and accepted customs.” The code specifies that established operations that have been in business for three or more years that were not nuisances at the time they began are not to be considered a nuisance as a result of a new land use.

California Land Conservation Act (Williamson Act)

The Williamson Act of 1965 was designed as an incentive to retain prime agricultural land and open space in agricultural use, thereby slowing its conversion to urban and suburban development. The program requires a 10-year contract between the county and the landowner. While in contract, the land is taxed on the basis of its agricultural use rather than its market value. The land becomes subject to certain enforceable restrictions, and certain conditions need to be met prior to approval of an agreement. The goal of the Williamson Act is to protect agriculture and open space.

The project site is not covered by Williamson Act or Farmland Security Zone contract. Therefore, no such contract aimed at retaining prime agricultural land and/or open space as agricultural use in order to slow its conversion to urban and suburban development affects the project site.

**Table 3.2-1:
Existing Farmland Categories and Zoning Districts**

Farmland Category	Gross Acres	Zoning District	Zoning Category Description	Gross Acres
Prime Farmland	~ 549	AG	Agriculture	~ 287
Farmland of Statewide Importance	~ 1,116	RC	Resource Conservation	~ 2,455
Unique Farmland	~ 294	IR	Regional Industrial	~ 284
Grazing	~ 110	RL	Rural Living	~ 367
Other Land (i.e., forested, mined, restricted)	~ 1,324			
Total	± 3,393¹			± 3,393

Source: HDR Engineering 2018

1. Although the total gross acreage of project parcels is ± 3,393 acres, the full project is described as ± 3,500 acres, which would include any easements, the gen-tie line, potentially temporary construction impacts, and any other miscellaneous project features. Where gen-tie routes are outside of existing rights-of-way, they traverse the same zoning districts identified above.

California Land Evaluation Site Assessment Model (LESA)

The USDA National Resources Conservation Service (NRCS) developed the LESA to assist state and local officials in making sound decisions regarding land use. Combined with forest measures and rangeland parameters, a LESA can provide a technical framework to numerically rank land parcels through local resource evaluation. In determining whether impacts to agricultural resources are significant environmental effects, the CEQA Guidelines reference the California Agricultural LESA Model prepared by the California Department of Conservation (DOC) as an optional methodology that may be used to assess the relative value of agriculture and farmland.

The LESA model evaluates land resources based upon two main factors: land evaluation and site assessment. Land evaluation considers two categories: land capability and storic index which rate the suitability of soils to support a diverse range of crops and their potential for intensive agricultural use, respectively. Site assessment considers three categories: project size, water resources availability and surrounding agricultural rating. Project size rates the acreage of the project to determine whether the proposed converted farmland could be a viable commercial agricultural operation. Water resource availability rates the project site based on available water sources in the area and whether the water supply would be consistent in periods of drought and non-drought. Surrounding agricultural land rating measures the level of agricultural land use for lands within the *zone of influence* of the project area; the LESA model assigns a greater significance rating of converted farmland if a project is surrounded by a high percentage of agricultural lands.

For a given project, the factors are rated, weighted, and combined, resulting in a single numeric score. The project score then becomes the basis for determining a project's potential significance relative to the loss or conversion of agriculture or farmland. The California Department of Conservation encourages local agencies to develop local agricultural models to account for the variability of local agricultural resources and conditions.

Farmland Mapping and Monitoring Program (FMMP)

The FMMP, established in 1982, and implemented by and mapped by the California DOC, produces maps and statistical data used for analyzing impacts to the state's agricultural resources. Agricultural land is rated according to soil quality and irrigation status, with the best quality land called Prime Farmland. Maps are updated every two years, with current land use information gathered from aerial photographs, a computer mapping system, public review, and field reconnaissance. The minimum mapping unit is 10 acres. The DOC Prime Farmlands, Farmlands of Statewide Importance, and Unique Farmlands are referenced in CEQA Guidelines Appendix G as resources to consider in an evaluation of agricultural impacts.

Lands surrounding the project site include Prime Farmlands, Farmlands of Statewide Importance, Unique Farmlands, and Grazing Lands. According to available data from the FMMP, the project site includes lands in the following Important Farmland categories: Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Additionally, lands are categorized as Grazing Land and Other Land (such as low-density rural, dense forested, mined, or government restricted), which are not Important Farmland categories. The acreage of each type of farmland is listed in **Table 3.2-1** and illustrated in **Exhibit 3.2-2, Farmland Map**.

LOCAL***San Bernardino County General Plan***

The County's 2007 General Plan includes policies and programs that are intended to address agricultural and forestry resources and to guide future development in a way that lessens potential impacts. The Renewable Energy and Conservation Element of the General Plan includes relevant goals and policies aimed at the protection of such resources.

Conservation Element

GOAL CO 6	The County will balance the productivity and conservation of soil resources.
<i>Policy CO 6.1</i>	Protect prime agricultural lands from the adverse effects of urban encroachment, particularly increased erosion and sedimentation, trespass, and non-agricultural land development.
<i>Policy CO 6.2</i>	The County will allow the development of areas of prime agriculture lands supporting commercially valuable agriculture to urban intensity when it can be demonstrated that there is no long-term viability of the agricultural

uses due to encroaching urbanization, creating incompatible land uses in close proximity to each other.

Policy CO 6.3 Preservation of prime and statewide important soils types, as well as areas exhibiting viable agricultural operations, will be considered as an integral portion of the Open Space element when reviewing development proposals.

Desert Region Goals and Policies of the Conservation Element

GOAL D/CO 2 Encourage utilization of renewable energy resources.

GOAL D/CO 4 Protect agricultural lands from the effects of nonagricultural development.

Policy D/CO 4.2 The conversion of agricultural land to non-agricultural uses shall be discouraged unless the proposed use can be demonstrated to be preferable in terms of economic development, and resource availability and resource conservation.

Policy D/CO 4.3 Encourage adequate buffering between agricultural and non-agricultural land use zoning districts.

Renewable Energy and Conservation Element

GOAL RE 5 Renewable energy facilities will be located in areas that meet County standards, local values, community needs and environmental and cultural resource protection priorities.

RE Policy 5.2 Utility-oriented RE generation projects on private land in the unincorporated County will be limited to the site-types below, in addition to meeting criteria established herein and in the Development Code:

- i. Private lands adjacent to the federal Development Focus Areas supported by the Board of Supervisors that meet siting criteria and development standards
- ii. Waste Disposal Sites
- iii. Mining Sites (operating and reclaimed)
- iv. Fallow, degraded and unviable agricultural lands
- v. Airports (existing and abandoned or adaptively re-used)

- vi. Brownfields
- vii. California Department of Toxic Substance Control Cleanup Program Sites
- viii. Resource Conservation and Recovery Act Sites
- ix. Sites within or adjacent to electric transmission and utility distribution corridors
- x. Industrial zones proven to not conflict with economic development needs
- xi. Other sites proven by a detailed suitability analysis to reflect the significantly disturbed nature or conditions of those listed above

RE Policy 5.8 Discourage conversion of productive or viable prime agricultural lands to RE generation facilities.

San Bernardino County Zoning Ordinance

The project site is not located within a County-designated forestry or timberland production zone. However, a portion of lands affected by the project (approximately 287 acres) are zoned as AG (Agriculture). The County's zoning districts for the project site are listed in **Table 3.2-1**.

Community Plans and Action Plans

The project site is not located within an area for which a community plan in support of the County's General Plan has been adopted. However, the County is currently preparing such a plan to address land use planning issues relative to the Daggett, Newberry Springs and Yermo areas. The policy-guiding documents will be included in the County Policy Plan if adopted by the Board of Supervisors. After the adoption of the County Policy Plan, the Development Code will be updated to reflect the new policies.

No specific goals or policies for guiding future development from these proposed plans are applicable to the project because the proposed plans are still being reviewed and have not been adopted.

IMPACT ANALYSIS AND MITIGATION MEASURES

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

In accordance with the CEQA Guidelines, the effects of a project are evaluated to determine whether they would result in a significant adverse impact on the environment. An EIR is required to focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria used to determine the significance of impacts may vary, depending on the nature of the project. According to Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact related to agricultural and forestry resources if it would:

- 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 nonagricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- 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)).
- Result in the loss of forest land or conversion of forest land to non-forest 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.

PROJECT IMPACTS AND MITIGATION

CONVERT FARMLAND TO NONAGRICULTURAL USE

Impact 3.2-1	The project would 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 nonagricultural use. Impacts would be less than significant.
---------------------	---

As discussed above, the project site supports a mixture of industrial-related uses; disturbed land associated with residential and agricultural uses; and lightly disturbed desert scrub areas.

Agricultural areas consist of active and fallow agricultural fields and orchards, with disturbed saltbush scrub, ornamental tamarisk windrows, and ruderal vegetation adjacent to the fields. Agricultural areas consist of active and abandoned alfalfa and Bermuda grass fields, as well as an active pistachio orchard.

On-site soils are varied. Dominant soil types generally consist of Cajon Sand, 0 to 2 percent slopes, with other soils present including, but not limited to, Cajon Sand, 2 to 9 percent slopes; Cajon Loamy Sand, Loamy Substratum, 0 to 2 percent slopes; and Halloran-Duneland Complex, 0 to 15 percent slopes, among others. Refer to **Exhibit 3.2-1, Soils Map**.

As shown in **Table 3.2-1**, on-site farmland as designated by the California Department of Conservation includes approximately 549 acres of Prime Farmland, 1,116 acres of Farmland of Statewide Importance, and 294 acres of Unique Farmland, in addition to 110 acres of Grazing Land and 1,324 acres of Other Land. Refer also to **Exhibit 3.2-2, Farmland Map**. With the exception of Grazing and Other Lands, the designated farmland on-site is considered to be an important state and local agricultural resource. Development of the site with the proposed solar facility would therefore result in the conversion of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance to a nonagricultural use.

A Land Evaluation and Site Assessment (LESA) for the proposed project was prepared by Tetra Tech, Inc. and peer reviewed by Michael Baker International, Inc. (Tetra Tech 2018a; see **Appendix C**).

As stated above, the LESA model evaluates land resources based upon two main factors: land evaluation and site assessment. The site assessment considers three categories: project size, water resources availability and surrounding agricultural rating. Water resource availability rates a project site based on available water sources in the area and whether the water supply would be consistent in periods of drought and non-drought. The water resources availability rating particularly affects the outcome of the LESA model. This rating is based upon identifying the various sources that may supply a project area and then determining whether different restrictions in supply are likely to occur in years that are characterized as being periods of drought and non-drought.

Table 3.2-2, Water Resources Availability, summarizes the limited water availability in the project area. The Water Resources Availability Score is scored on a scale of 1 to 100. Water for the current agricultural operations is pumped from the Mojave River Basin, specifically from the Baja Subarea of the Basin. The Basin is subject to adjudication under a Stipulated Judgment and pumping is controlled by a Water Master. The Water Master has determined that the Baja Subarea is in a condition of overdraft and as a result the Water Master has steadily reduced pumping rights over time. Pumping rights are expected to be further reduced in 2019. Dryland

agriculture is not feasible in the region due to an annual precipitation rate of 5 to 6 inches. Refer also to Section 3.9, Hydrology and Water Quality, for additional discussion on project impacts relative to groundwater resources.

**Table 3.2-2:
Water Resources Availability**

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score ¹	Weighted Availability Score (C x D)
1	Groundwater	0.69	30	20.7
2	None	0.31	0	0
		Total Water Resource Score		20.7

1. Water Resources Availability Score was determined from the scoring table from the LESA Instruction Manual (California Department of Conservation 1997).

Overall, as shown in **Table 3.2-3, Final LESA Score Sheet**, the proposed project was determined to have a land evaluation score of 27.58 and a site assessment score of 18.11, for a Final LESA score of 45.69. A Final LESA score ranging from 40-59 points is considered significant only if both the land evaluation and site assessment weighted factor subscores are each greater than or equal to 20 points (CDC 1997). For the proposed project, the land evaluation score exceeds 20 points; the site assessment score is below the 20-point threshold due to primarily a lack of water resource availability. Therefore, the project would not result in a significant loss of Farmland and impacts would be less than significant.

**Table 3.2-3:
Final LESA Score Sheet**

	Factor Scores	Factor Weight	Weighted Factor Scores
Land Evaluation Factors			
Land Capability Classification	61.40	0.25	15.35
Storie Index	48.92	0.25	12.23
<i>Land Evaluation Subtotal</i>		<i>0.5</i>	27.58
Site Assessment Factors			
Project Size	100	0.15	15.00
Water Resources Availability	20.7	0.15	3.11
Surrounding Agricultural Land	0	0.15	0.00
Protected Resource Land	0	0.05	0.00
<i>Site Assessment Total</i>		<i>0.5</i>	18.11
Final LESA Score			45.69

Furthermore, development of the project site as proposed would not preclude future use for agricultural purposes. Once decommissioning occurs at the end of the operational life of the solar generating facility, and project-related elements are removed and properly disposed of, the affected lands could potentially be returned to their former agricultural use (refer to the discussion of decommissioning in Section 2.0, Project Description). Although the project would result in the installation of the solar panels and related transmission infrastructure, the actual footprint of the elements on the site would be limited to the footings (driven piers) for the solar arrays; concrete pads for the inverters/transformers, substations, battery storage, and supervisory control and data acquisition (SCADA) structures; gen-tie line infrastructure; perimeter security fencing; on-site access routes; and operations and maintenance (O&M) building, thereby reducing the actual disturbance to the property as compared to if it were fully developed with residential or commercial building pads or other such structures and supporting infrastructure.

Therefore, impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CONFLICT WITH AGRICULTURAL ZONING OR A WILLIAMSON ACT CONTRACT

Impact 3.2-2	The project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.
---------------------	--

Zoning districts for the project site are listed in **Table 3.2-1**. Approximately 287 acres of the site are zoned for agricultural use. County zoning for the project site allows for development of renewable energy generation facilities with a Conditional Use Permit (CUP) in each of the zoning districts currently applicable to the project site. Rezoning of the site is not required to allow for the proposed use and the project would be compatible with the current zoning.

The County Board of Supervisors adopted an amendment to the General Plan Renewable Energy and Conservation Element on February 28, 2019 prohibiting utility-scale renewable energy development on lands designated as Rural Living or on lands that are located within the boundary of an existing community plan, unless an application for development of a renewable energy project has been accepted as complete in compliance with California Government Code Section 65943 before the effective date of the resolution. Therefore, the proposed project is not subject to this new policy because it was deemed complete on March 22, 2018.

None of the lands affected by the proposed improvements are currently subject to a Williamson Act contract. Therefore, no conflict would occur in this regard and no impact would occur.

Mitigation Measures: None required.

Level of Significance: No impact.

CONFLICT WITH EXISTING ZONING FOR FOREST LAND OR TIMBERLAND

Impact 3.2-3	The project would not 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)). No impact would occur.
---------------------	---

There are no lands zoned for forest or timber production on any lands affected by the proposed project. Therefore, the project would not conflict with existing zoning for or cause the rezoning of forest land. No impact would occur.

Mitigation Measures: None required.

Level of Significance: No impact.

LOSS OR CONVERSION OF FOREST LAND TO NON-FOREST USE

Impact 3.2-4	The project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur.
---------------------	---

Refer to the discussion of Impact 3.2-3. No forest lands are located on the project site; therefore, no such lands would be affected by the proposed improvements. The project would not result in the loss of forest land or the conversion of forest land to non-forest use. No impact would occur.

Mitigation Measures: None required.

Level of Significance: No impact.

ENVIRONMENTAL CHANGES RESULTING IN CONVERSION OF FARMLAND OR FOREST LAND

Impact 3.2-5 The project would 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. Impacts would be less than significant.

As stated discussed under Impact 3.2-1, lands affected by the proposed development currently support active and fallow agricultural fields and an orchard, and designated Farmland is present on the site; refer to **Table 3.2-1**. Implementation of the project would result in the overall loss of approximately 1,959 acres of designated Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Typically, conversion of Farmland to nonagricultural use would result in a significant impact. However, as discussed under Impact 3.2-1, the LESA model performed for the proposed project determined that implementation of the project would not result in a significant loss of Farmland. Additionally, no designated forest lands are present on the project site and no impact due to the conversion of forest land to non-forest use would occur.

Lands surrounding the project site are zoned for Regional Industrial, Resource Conservation, Industrial, Agriculture and Rural Living. Developing the project site as a solar facility would temporarily preclude the site from being used for agricultural production. However, use of the site for generation of electricity through passive conversion of sunlight is not anticipated to negatively affect nearby agricultural production.

Additionally, the project is not anticipated to affect existing surrounding growers and would not require additional restrictions and limitations on pesticides, fungicides, and herbicides used on crops grown on surrounding farmlands. In addition, restrictions would not be placed on noise, burning, and dust generation associated with these nearby uses.

The proposed project would not adversely affect adjacent farmers' water supply because water in this area is allocated under the Stipulated Judgment. See Stipulated Judgment, Section 3.9 Hydrology and Water Quality for additional discussion.

Vehicle emissions from adjacent transportation routes and increased roadways can impact the health and survival of the crops. It is anticipated that construction traffic would increase vehicle emissions; however, this would be a temporary situation and would cease once construction is completed.

Operation and maintenance activities associated with PV solar power plants are minimal. The project site would have an on-site staff of up to approximately 8 personnel to conduct preventative and corrective maintenance, and to maintain the security of the project site. Operational traffic would be minimal and would be limited to the approximately 8 on-site

employees and routine maintenance vehicles. The PV modules are non-reflective and convert sunlight directly into electricity; therefore, they consume no fossil fuels and emit no pollutants during operations. Therefore, the proposed project would not include activities that would restrict or impair agricultural production on adjacent land. Because the activities proposed on the sites are not anticipated to affect the existing environment, the proposed project is not expected to result in the conversion of farmland on adjacent or nearby properties to non-farmland uses. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 3.2-6	The project would contribute to a significant cumulative impact related to agriculture resources. However, the project's contribution to the significant impact is less than cumulatively considerable. The project would not result in, nor contribute to, any cumulative impacts related to forestry resources.
---------------------	--

The cumulative study area for agricultural resources is considered to be the County of San Bernardino. As indicated in the County of San Bernardino General Plan EIR, agricultural use in the County has declined over the last several decades as the result of urban expansion and economic conditions. Agricultural development is typically located in areas where relatively level terrain and stable soil conditions are present. However, for these reasons, such lands are also desirable (and economically valuable) for urban development. As urban growth encroaches into agricultural areas, the remaining agricultural operations often become surrounded by urban-type activities.

The introduction of sewer, water, and other utilities furthers conversion of agricultural land as the associated increase in potential land values for urban uses that rely on such infrastructure begins to exceed the agricultural value. Many of the County's agricultural areas have been converted to other uses due to declining economic viability, increasing water costs, and uncertainties related to long-term water supplies, among other factors.

As shown in **Table 3.2-1**, development of the project site with the proposed solar facility would result in the use of approximately 549 acres of Prime Farmland, 1,116 acres of Farmland of Statewide Importance, and 294 acres of Unique Farmland for non-agricultural purposes. While the conversion of approximately 1,959 acres of designated Farmland to nonagricultural use would contribute to a loss of the County's agricultural resources, the contribution is not cumulatively considerable.

As discussed under Impact 3.2-1, the LESA model performed for the proposed project determined that implementation of the project would not result in a significant direct impact from the loss of agricultural lands, due primarily to a lack of reliable water resources.

The characteristics, acreages, and associated value of the agricultural lands that would be converted to non-agricultural use with the proposed project is not considered cumulatively considerable relative to the County's overall stock of agricultural resources. Additionally, following required decommissioning of the solar PV facility after its useful life, potential exists to return the project site to agricultural use. For these reasons, while the County-wide cumulative impact associated with the conversion of agricultural lands is significant, the project's contribution to the significant cumulative impact would be less than cumulatively considerable.

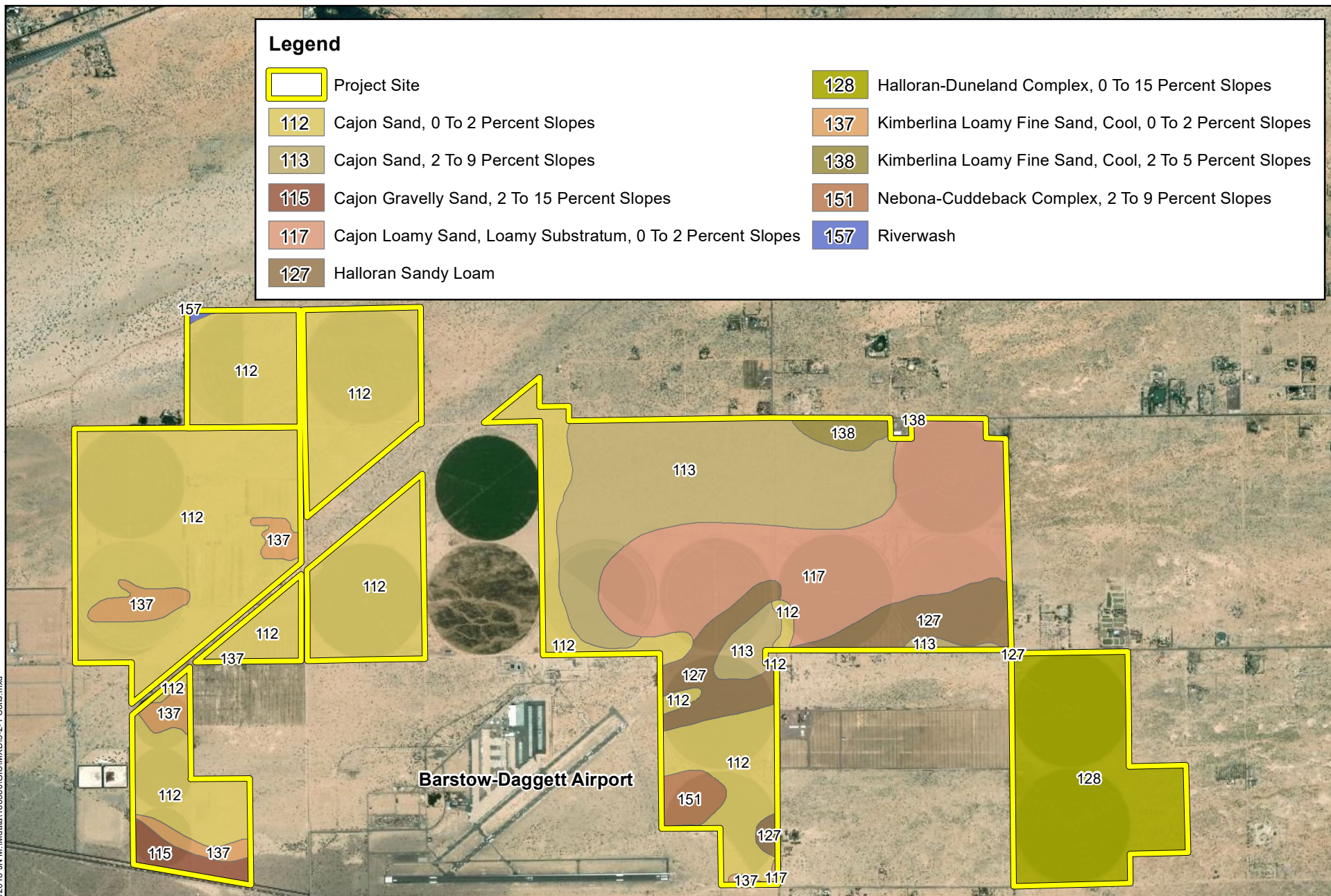
Additionally, there are no designated forest lands present on the project site. Therefore, the project would not contribute to a significant cumulative impact due to the conversion of forest land to non-forest use. No impact would occur.

Mitigation Measures: None required.

Level of Significance: Less than significant.

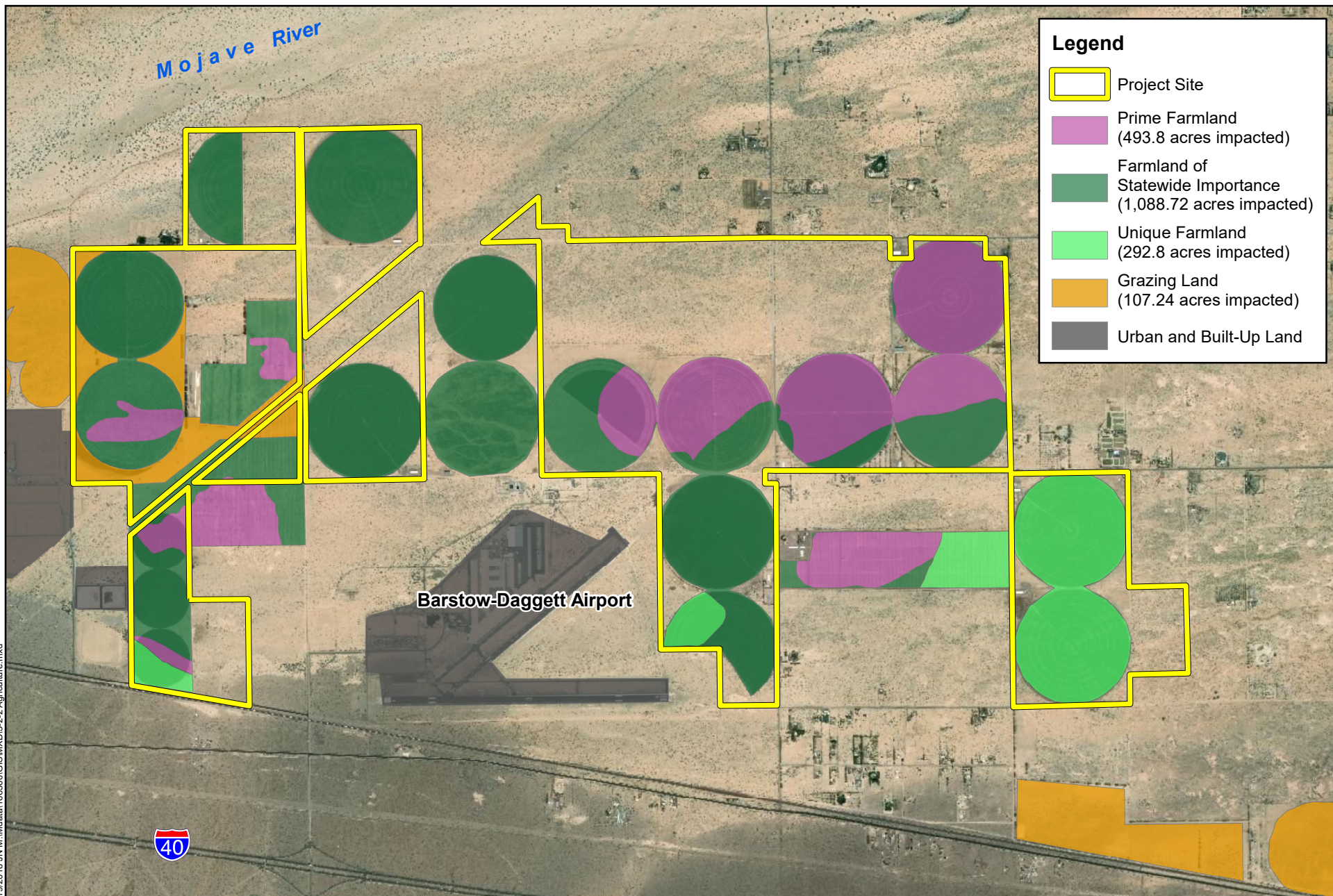
This page is intentionally blank.

8/2/2018 JN M:\data\166360\GIS\MXD\3-2-1 Soils.mxd



This page is intentionally blank.

12/19/2018 JN M:\Mdata\166360\GIS\MXD\3.2-2 Agriculture.mxd



This page is intentionally blank.

Section 3.3

Air Quality

This section addresses potential air quality impacts that may result from the project. The section discusses the existing air quality conditions in the project area, identifies applicable regulations, evaluates the project's consistency with applicable air quality plans, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from implementation of the project, as applicable.

The analysis in this section is based on the *Air Quality Technical Report* prepared by HDR (2019; see **Appendix D-1**), the *Dust Control Technical Memorandum* prepared by Tetra Tech (2018a; see **Appendix D-2**), and the *Heat Island Technical Memorandum* prepared by Tetra Tech (2018b; see Attachment 5 of **Appendix H-3**). All technical reports were peer reviewed by Michael Baker International.

ENVIRONMENTAL SETTING

Air quality and dispersion of air pollution in an area is determined by such natural factors as topography, meteorology, and climate, coupled with atmospheric stability. The factors affecting the dispersion of air pollution with respect to the air basin are described below.

TOPOGRAPHY

The project site is located in the Mojave Desert, east of Barstow, at an elevation of approximately 2,014 feet above mean sea level, where the Mojave River emerges from a constricted portion of its course and has historically spread deposits across a broad plain stretching between the locations of Interstate 15 to the north and Interstate 40 on the south. The width of alluvial deposition associated with the active Mojave River expands from less than 1,000 feet to over 4 miles near the project boundaries. Within the constriction, topographic relief extends upward a little over 600 feet from the river bottom to the adjacent ridgetop. The broad alluvial plain on which the project site is situated is relatively flat.

METEOROLOGY AND CLIMATE

Weather patterns in the area are generally influenced by moderately intense, anticyclonic circulation (associated with high pressure systems). During the summer, a large subtropical high-pressure system off the coast of California keeps the Mojave Desert area sunny and dry. However, the presence of a thermal low-pressure area above the Mojave Desert promotes atmospheric transport from the Los Angeles Basin. During the winter months, the strength of the

Pacific high-pressure area wanes, and 20 to 30 frontal systems may pass through the area each year. Some of these frontal systems are sufficiently strong to produce rain in the area. The most significant large-scale phenomena affecting air quality in the project area are the transport winds from the south and the west. These winds are responsible for bringing ozone and other pollutants through the mountain passes from the Los Angeles Basin and the San Joaquin Valley.

Climatic conditions for the project area are very arid, with an average annual rainfall of 4.1 inches and no month with an average of more than 1.0 inch. Temperature and precipitation data on the project site and in the vicinity have been recorded at a National Weather Service Station in Daggett since December 1, 1943. The area is characterized by very hot summer temperatures, with the mean maximum temperatures in July and August exceeding 100°F. Winter temperatures are more moderate, with mean maximum temperatures in the 60s and lows in the 30s. Minimum temperatures below freezing (32°F) occur on an average of 30 days per year.

SENSITIVE RECEPTORS

Sensitive receptors are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and carbon monoxide are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes. The nearest sensitive receptors are the rural residences along Valley Center Road. These residences are approximately 100 feet from the nearest proposed construction area.

AIR POLLUTANTS OF CONCERN

Pollutants of concern include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}), and lead. These pollutants are discussed below. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone

Ozone is a colorless gas that is formed in the atmosphere when volatile organic compounds (VOCs), sometimes referred to as reactive organic gases (ROGs), and nitrogen oxides (NO_x) react in the presence of ultraviolet sunlight. O₃ is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. Automobile exhaust and industrial sources are the primary sources of VOCs and NO_x, the precursors of ozone. Meteorology and terrain play major roles in O₃ formation. Ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm

temperatures, and cloudless skies. Short-term exposures (lasting for a few hours) to O₃ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Nitrogen Dioxide

Most nitrogen dioxide, like ozone, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO₂ are collectively referred to as NO_x and are major contributors to ozone formation. High concentrations of NO₂ can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. Some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million (ppm) by volume.

Carbon Monoxide

Carbon monoxide is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. Automobile exhaust accounts for a majority of CO emissions. Carbon monoxide is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. Concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide

Sulfur dioxide is a colorless, pungent gas formed primarily by the combustion of sulfur containing fossil fuels. Main sources of SO₂ are coal and oil used in power plants and industries; as such, the highest levels of SO₂ are generally found near large industrial complexes. In recent years, sulfur dioxide concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels. SO₂ is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. SO₂ can also yellow plant leaves and erode iron and steel.

Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{2.5} and PM₁₀ represent fractions of particulate matter. Fine particulate matter, or PM_{2.5}, is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and woodstoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x and VOC. Inhalable or coarse particulate matter, or PM₁₀, is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

PM_{2.5} and PM₁₀ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{2.5} and PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates, can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead

Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paint, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with

decrements in neurobehavioral performance including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Valley Fever

Valley fever is an illness caused by a fungus found in the soil and dirt of some areas of the southwestern United States and in parts of Mexico and Central and South America. It can cause fever, chest pain, and coughing, among other signs and symptoms. In California, the fungus is found in many areas of the San Joaquin Valley (Central Valley).

The fungi's spores can be stirred into the air by anything that disrupts the soil, such as farming, construction, and wind. The fungi can then be breathed into the lungs and cause valley fever, also known as acute coccidioidomycosis. Mild cases of valley fever usually resolve on their own. In more severe cases, doctors prescribe antifungal medications that can treat the underlying infection.

San Bernardino County is not considered a highly endemic region for valley fever. A report prepared by the California Department of Public Health (CDPH) identified that only 85 of the 7,466 suspected, probable, and confirmed annual cases of coccidioidomycosis recorded for California in 2017 occurred in San Bernardino County (CDPH 2018).

AMBIENT AIR QUALITY

Ambient air quality for the project site can be determined from ambient air quality measurements conducted at nearby air quality monitoring stations. Existing levels of ambient air quality and historical trends in the region are documented by measurements made by the Mojave Desert Air Quality Management District (MDAQMD), the air pollution regulatory agency in the air basin that maintains air quality monitoring stations which process ambient air quality measurements.

The closest ambient air quality monitoring station to the project site that monitors ozone and airborne particulates is the Barstow monitoring station, at 225 East Mountain View Street in Barstow, approximately 11.7 miles to the west of the project site. **Table 3.3-1, Ambient Air Quality Monitoring Data**, summarizes the data from 2014 to 2016 and the number of days exceeding the ambient air quality standards.

**Table 3.3-1:
Ambient Air Quality Monitoring Data**

Pollutant	Pollutant Concentration and Standard	Maximum Concentration		
		2014	2015	2016
Ozone	Maximum 1-Hour Concentration (ppm)	0.094	0.090	0.089
	Number of Days > 0.09 ppm (State 1-Hour Standard)	0	0	0
	Maximum 8-Hour Concentration (ppm)	0.087	0.082	0.083
	Number of Days > 0.070 ppm (State 8-Hour Standard)	33	18	25
	Number of Days > 0.070 ppm (Federal 8-Hour Standard)	33	18	25
Nitrogen Dioxide	Maximum 1-Hour Concentration (ppm)	0.0693	0.0613	0.0667
	Number of Days > 0.18 ppm (State 1-Hour Standard)	0	0	0
	Number of Days > 0.10 ppm (Federal 1-Hour Standard)	0	0	0
	Annual Arithmetic Mean (ppm)	0.017	0.016	0.016
	Exceed 0.030 ppm? (State Annual Standard)	No	No	No
	Exceed 0.053 ppm? (Federal Annual Standard)	No	No	No
Carbon Monoxide	Maximum 1-Hour Concentration (ppm)	3.1	2.2	3.8
	Number of Days > 20 ppm (State 1-Hour Standard)	0	0	0
	Number of Days > 35 ppm (Federal 1-Hour Standard)	0	0	0
	Maximum 8-Hour Concentration (ppm)	2.6	0.6	1.2
	Number of Days > 9 ppm (State 8-Hour Standard)	0	0	0
	Number of Days > 9 ppm (Federal 8-Hour Standard)	0	0	0
Sulfur Dioxide	Maximum 1-Hour Concentration (ppb)	4.8	60.2	26.3
	Number of Days > 250 ppb (State 1-Hour Standard)	0	0	0
	Number of Days > 75 ppb (Federal 1-Hour Standard)	0	0	0
	Maximum 24-Hour Concentration (ppb)	NA	NA	NA
	Number of Days > 40 ppb (State 24-Hour Standard)	NA	NA	NA
Coarse Particulate Matter (PM ₁₀)	Maximum 24-Hour Concentration (µg/m ³)	305.8	155.2	246.9
	Number of Days > 50 µg/m ³ (State 24-Hour Standard)	1	1	2
	Number of Days > 150 µg/m ³ (Federal 24-Hour Standard)	NA	NA	NA
	Annual Arithmetic Mean (µg/m ³)	27.7	24.8	27.0
	Exceed 20 µg/m ³ ? (State Annual Standard)	Yes	Yes	Yes
Fine Particulate Matter (PM _{2.5})	Maximum 24-Hour Concentration (µg/m ³)	24.1	50.2	41.5
	Number of Days > 35 µg/m ³ (Federal 24-Hour Standard)	0	1	1
	Annual Arithmetic Mean (µg/m ³)	NA	6.6	7.5
	Exceed 12 µg/m ³ ? (State Annual Standard)	NA	No	No
	Exceed 12 µg/m ³ ? (Federal Annual Standard)	NA	No	No

Source: HDR 2019

Notes: NA = not available; µg/m³ = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion

Table 3.3-2, Federal and State Ambient Air Quality Attainment Status, lists the attainment status for various pollutants in the Mojave Desert Air Basin. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. Areas for which there is insufficient data available are

designated unclassified. As shown in **Table 3.3-2**, the project site is a federal nonattainment area for O₃ and PM₁₀ and a state nonattainment area for O₃, PM₁₀, and PM_{2.5}.

**Table 3.3-2:
Federal and State Ambient Air Quality Attainment Status**

Pollutant	Federal	State
Ozone (O ₃)	Nonattainment	Nonattainment
Nitrogen Dioxide (NO ₂)	Unclassified/Attainment	Attainment
Carbon Monoxide (CO)	Attainment	Attainment
Sulfur Dioxide (SO ₂)	Unclassified/Attainment	Attainment
Coarse Particulate Matter (PM ₁₀)	Nonattainment	Nonattainment
Fine Particulate Matter (PM _{2.5})	Unclassified/Attainment	Nonattainment

Source: HDR 2019

TOXIC AIR CONTAMINANTS

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills.

Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC. The California Air Resources Board (CARB) has identified diesel engine exhaust particulate matter as the predominant TAC in California. Diesel particulate matter (DPM) is emitted into the air by diesel-powered mobile vehicles, including heavy-duty diesel trucks, construction equipment, and passenger vehicles. Certain reactive organic gases may also be designated as TACs.

REGULATORY FRAMEWORK

FEDERAL

Clean Air Act

The federal Clean Air Act (CAA), which was initially established by the US Congress in 1970 and substantially revised in 1977 and 1990, can be found in Title 42, Chapter 85 of the United States

Code. An important aspect of the CAA is its requirement for the US Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS). There are NAAQS in place for seven “criteria” pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution—further defined as particles having diameters equal to or less than 10 micrometers (PM₁₀) and particles having diameters equal to or less than 2.5 micrometers (PM_{2.5})—and sulfur dioxide. Standards are classified as primary and secondary. Primary standards are designed to protect public health, including sensitive individuals, such as children and the elderly, whereas secondary standards are designed to protect public welfare, such as visibility and crop or material damage. The EPA sets the NAAQS based on a process that involves science policy workshops, a risk/exposure assessment (REA) that draws on the information and conclusions of the science policy workshops to develop quantitative characterizations of exposures and associated risks to human health or the environment, and a policy assessment by EPA staff that bridges the gap between agency scientific assessments and the judgments required of the EPA administrator, who then takes the proposed standards through the federal rulemaking process.¹

The Clean Air Act requires the EPA to routinely review and update the NAAQS in accordance with the latest available scientific evidence. For example, the EPA revoked the annual PM₁₀ standard in 2006 due to a lack of evidence linking health problems to long-term exposure to PM₁₀ emissions. The 1-hour standard for O₃ was revoked in 2005 in favor of a new 8-hour standard that is intended to better protect public health.

CAA Section 182(e)(5) allows the EPA administrator to approve provisions of an attainment strategy in an extreme area that anticipates development of new control techniques or improvement of existing control technologies if the state has submitted enforceable commitments to develop and adopt contingency measures to be implemented if the anticipated technologies do not achieve planned reductions.

Nonattainment areas that are classified as “serious” or “worse” are required to revise their air quality management plans to include specific emission reduction strategies to meet interim milestones in implementing emission controls and improving air quality. The EPA can withhold certain transportation funds from states that fail to comply with the planning requirements of the act. If a state fails to correct these planning deficiencies within two years of federal notification, the EPA is required to develop a Federal Implementation Plan for the identified nonattainment area or areas.

¹ EPA, 2017. Available at <https://www.epa.gov/criteria-air-pollutants/process-reviewing-national-ambient-air-quality-standards>.

STATE

California Clean Air Act

The California Clean Air Act of 1988 requires all air pollution control districts in the state to aim to achieve and maintain state ambient air quality standards for O₃, CO, and NO₂ by the earliest practical date and to develop plans and regulations specifying how the districts will meet this goal. There are no planning requirements for the state PM₁₀ standard. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting state requirements of the federal Clean Air Act, administering the California Clean Air Act, and establishing the California Ambient Air Quality Standards (CAAQS). The California Clean Air Act, amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The CAAQS are generally stricter than national standards for the same pollutants, but there is no penalty for nonattainment. Similar to the federal process, the standards for the CAAQS are adopted after review by CARB staff of the scientific literature produced by agencies such as the Office of Environmental Health Hazard Assessment (OEHHA), the Air Quality Advisory Committee, which is comprised of experts in health sciences, exposure assessment, monitoring methods, and atmospheric sciences appointed by the Office of the President of the University of California, and public review and comment.²

State Implementation Plans

An important component of the MDAQMD's air quality planning strategy is contained in the State Implementation Plan (SIP) for the State of California. The federal Clean Air Act requires all states to submit a SIP to the EPA. This statewide SIP is often referred to as an "infrastructure" SIP. Infrastructure SIPs are administrative in nature and describe the authorities, resources, and programs a state has in place to implement, maintain, and enforce the federal standards. It does not contain any proposals for emission control measures.

In addition to infrastructure SIPs, the Clean Air Act requires submissions of SIPs for areas that are out of compliance with the NAAQS. These area attainment SIPs are comprehensive plans that describe how an out-of-compliance area will attain and maintain the particular NAAQS standard(s) it does not conform to. Once an out-of-compliance area has attained the standard in question, a maintenance SIP is required for a period of time to ensure the area will continue to meet the standard.

² ARB, 2009. Available at <https://www.arb.ca.gov/research/aaqs/ozone-rs/ozone-rs.htm>, <https://www.arb.ca.gov/research/aaqs/std-rs/std-rs.htm>, and <https://www.arb.ca.gov/research/aaqs/no2-rs/no2-rs.htm>.

State Implementation Plans are not single documents. They are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. Many of California's SIPs rely on the same core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations, and limits on emissions from consumer products. State law makes CARB the lead agency for all purposes related to SIPs. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards those revisions to the EPA for approval and publication in the Federal Register.

LOCAL

Mojave Desert Air Quality Management District

The MDAQMD has primary responsibility for controlling emissions from stationary sources of air pollution within its jurisdiction. The MDAQMD is responsible for monitoring air quality and for planning, implementing, and enforcing programs designed to attain and maintain federal and state ambient air quality standards. The MDAQMD has developed the following plans:

- 2016 8-Hour Ozone SIP: Western Mojave Desert Nonattainment Area
- 2015 8-Hour Ozone Reasonably Available Control Technology (RACT) SIP Analysis: Mojave Desert Air Quality Management District
- Mojave Desert AQMD 1995 Mojave Desert Planning Area Federal PM₁₀ Attainment Plan

The MDAQMD has adopted rules to limit air emissions. Many of these rules were put in place as required by measures specified in various SIPs and air quality management plans. The MDAQMD rules that are applicable to the project are:

- **Rule 401 – Visible Emissions.** This rule prohibits discharges of air contaminants or other material, which are as dark or darker in shade as that designated No. 1 on the Ringelmann Chart.
- **Rule 402 – Nuisance.** This rule prohibits the discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public.
- **Rule 403 – Fugitive Dust.** The purpose of this rule is to control the amount of PM entrained in the atmosphere from manmade sources of fugitive dust. The rule prohibits emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area to be visible beyond the emission source's property line.

- **Rule 403.2 – Fugitive Dust Control for the Mojave Desert Planning Area.** This rule requires reasonable precautions be taken to minimize dust during construction and operational activities and prevent track out upon public roadways. These measures may include, adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers and/or ceasing all activities (such as during periods of high winds). In addition, a Dust Control Plan (DCP) would need to be submitted to MDAQMD describing the dust control measures that will be implemented.

San Bernardino County General Plan

The County's General Plan Conservation Element includes the following countywide and Desert Region goals and policies pertaining to air quality in the project area:

GOAL CO 4 The County will ensure good air quality for its residents, businesses, and visitors to reduce impacts on human health and the economy.

Policy CO 4.1 Because developments can add to the wind hazard (due to increased dust, the removal of wind breaks, and other factors), the County will require either as mitigation measures in the appropriate environmental analysis required by the County for the development proposal or as conditions of approval if no environmental document is required, that developments in areas identified as susceptible to wind hazards to address site-specific analysis of:

- a. Grading restrictions and/or controls on the basis of soil types, topography or season.
- b. Landscaping methods, plant varieties, and scheduling to maximize successful revegetation.
- c. Dust-control measures during grading, heavy truck travel, and other dust generating activities.

Policy D/CO 1.4 Reduce disturbances to fragile desert soils as much as practicable in order to reduce fugitive dust. The County shall consider the following in the development of provisions to limit clearing.

- a. Parcels of one acre or larger shall not be disturbed or cleared of natural vegetation unless for the installation of building pads, driveways, landscaping, agriculture or other reasonable uses associated with the primary use of the land, including fire clearance areas.

- b. Fire abatement or local clean-up efforts shall be accomplished by mowing or means other than land scraping whenever possible to minimize fugitive dust and windblown sand. When de-brushing or blading is considered the most feasible alternative, additional methods shall be required for erosion control.
- c. The County Office of Building and Safety may issue permits for further grading or clearance of vegetation subject to proper review.

Policy D/CO 1.7 Encourage and educate the public to maintain properties in a manner to minimize fugitive dust.

San Bernardino County Development Code

Development Code Section 83.01.040 (pertaining to construction air quality) will apply to the construction phase of the project. Relevant provisions of the section are listed below.

(c) Diesel Exhaust Emissions Control Measures. The following emissions control measures shall apply to all discretionary land use projects approved by the County on or after January 15, 2009:

(1) On-Road Diesel Vehicles. On-road diesel vehicles are regulated by the State of California Air Resources Board.

(2) Off-Road Diesel Vehicle/Equipment Operations. All business establishments and contractors that use off-road diesel vehicle/equipment as part of their normal business operations shall adhere to the following measures during their operations in order to reduce diesel particulate matter emissions from diesel-fueled engines:

(A) Off-road vehicles/equipment shall not be left idling on site for periods in excess of five minutes. The idling limit does not apply to:

- (I) Idling when queuing;
- (II) Idling to verify that the vehicle is in safe operating condition;
- (III) Idling for testing, servicing, repairing or diagnostic purposes;
- (IV) Idling necessary to accomplish work for which the vehicle was designed (such as operating a crane);
- (V) Idling required to bring the machine system to operating temperature; and
- (VI) Idling necessary to ensure safe operation of the vehicle.

- (B) Use reformulated ultra-low-sulfur diesel fuel in equipment and use equipment certified by the U.S. Environmental Protection Agency (EPA) or that pre-dates EPA regulations.
- (C) Maintain engines in good working order to reduce emissions.
- (D) Signs shall be posted requiring vehicle drivers to turn off engines when parked.
- (E) Any requirements or standards subsequently adopted by the South Coast Air Quality Management District, the Mojave Desert Air Quality Management District or the California Air Resources Board.
- (F) Provide temporary traffic control during all phases of construction.
- (G) On-site electrical power connections shall be provided for electric construction tools to eliminate the need for diesel-powered electric generators, where feasible.
- (H) Maintain construction equipment engines in good working order to reduce emissions. The developer shall have each contractor certify that all construction equipment is properly serviced and maintained in good operating condition.
- (I) Contractors shall use ultra-low sulfur diesel fuel for stationary construction equipment as required by Air Quality Management District (AQMD) Rules 431.1 and 431.2 to reduce the release of undesirable emissions.
- (J) Substitute electric and gasoline-powered equipment for diesel-powered equipment, where feasible.

Development Code Section 84.29.035 (Required Findings for Approval of a Commercial Solar Energy Facility) includes the following requirements relevant to fugitive dust emissions:

(c) The finding of fact shall include the following:

- (20) The proposed commercial solar energy generation facility will be designed, constructed, and operated so as to minimize dust generation, including provision of sufficient watering of excavated or graded soil during construction to prevent excessive dust. Watering will occur at a minimum of three (3) times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust palliative, or other approved dust control measure.
- (21) All clearing, grading, earth moving, and excavation activities will cease during period of winds greater than 20 miles per hour (mph), averaged over one hour, or when dust

plumes of 20 percent or greater opacity impact public roads, occupied structures, or neighboring property, and in conformance with AQMD regulations.

- (22) For sites where the boundary of a new commercial solar energy generation facility will be located within one-quarter mile of a primary residential structure, an adequate wind barrier will be provided to reduce potentially blowing dust in the direction of the residence during construction and ongoing operation of the commercial solar energy generation facility.
- (23) Any unpaved roads and access ways will be treated and maintained with a dust palliative or graveled or treated by another approved dust control Chapter 83.09 of the Development Code.
- (24) On-site vehicle speed will be limited to 15 mph.

IMPACT ANALYSIS AND MITIGATION MEASURES

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

A project would result in a significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

PROJECT IMPACTS AND MITIGATION

CONFLICT WITH APPLICABLE AIR QUALITY MANAGEMENT PLAN

Impact 3.3-1	The project could conflict with or obstruct implementation of the applicable air quality plan. Impacts would be significant and unavoidable.
---------------------	---

A project is nonconforming with an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable MDAQMD rules and regulations, complies with all proposed control measures, and is consistent with the growth forecasts in the applicable plan. Zoning changes, specific plans, general plan amendments, and similar land use plan changes which do not increase dwelling unit

density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to comply with the applicable air quality plan.

The proposed project is consistent with the land uses identified in the San Bernardino County General Plan for the project site; therefore, implementation of the project would not require an amendment to the General Plan. However, as discussed under Impact 3.3-2 below, project construction would exceed MDAQMD thresholds for PM₁₀, and PM_{2.5}, even with mitigation incorporated; refer to **Table 3.3-5, Mitigated Construction Emissions by Stage (Pounds per Day)**. Therefore, although the project is consistent with the General Plan, it is not consistent with the Western Mojave Desert Air Quality Management Plans (AQAP) because it would delay AQAP attainment goals.

Mitigation measure **AIR-1** would reduce air quality impacts by requiring implementation of a County approved Air Quality Construction Management Plan that outlines required fugitive dust control measures. Mitigation measure **AIR-2** would reduce air quality impacts by requiring compliance with the US Environmental Protection Agency's final Tier 4 exhaust emission standards. However, such mitigation would not reduce impacts to a less than significant level. Therefore, this impact is considered significant and unavoidable. The effects on the environment from this significant impact are discussed further in Impact 3.3-2.

Mitigation Measures:

AIR-1 Prior to the issuance of grading permits, the project applicant shall submit an Air Quality Construction Management Plan to the County for review and approval. The plan shall describe the fugitive dust control measures which would be implemented and monitored at all locations of proposed project construction. The plan shall comply with the mitigation measures described in the Fugitive Dust Control Rules enforced by the Mojave Desert Air Quality Management District (MDAQMD) (Rules 403 and 403.2), San Bernardino County Development Code Sections 83.01.040 and 84.29.035, as well as the existing State Implementation Plan available for PM₁₀ and PM_{2.5}. The plan shall be incorporated into all contracts and contract specifications for construction work. The plan shall outline the steps to be taken to minimize fugitive dust generated by construction activities by:

- Describing each active operation that may result in the generation of fugitive dust.
- Identifying all sources of fugitive dust, e.g., earthmoving, storage piles, vehicular traffic.

- Describing the control measures to be applied to each of the sources identified. The descriptions shall be sufficiently detailed to demonstrate that the best available control measures required by air districts for solar projects are used.
- Providing the following control measures, in addition to or as listed in the applicable rules, but not limited to:
 - Manage and limit disturbance of ground surfaces from vehicle traffic, excavation, grading, vegetation removal, or other activities to lower the potential for soil detachment and reduce dust transport. Only trim vegetation (mow and roll) in areas where solar panels will be installed, rather than remove vegetation entirely (clear and grub) followed by excavation or grading where feasible. This process lessens the level of ground disturbance and leaves the root system in place for quicker regeneration of vegetative cover.
 - Maintenance and access vehicular roads and parking areas shall be stabilized with water, chemicals or gravel or asphaltic pavement sufficient to minimize visible fugitive dust from vehicular travel and wind erosion and comply with MDAQMD Rule 403.2. Actions, including sweeping sealed roads, use of stabilized construction/facility entrances, and, if needed, using one or more entrance/exit vehicle tire wash apparatuses, shall be taken to prevent project-related track-out. Any project-related track-out must be cleaned within 24 hours.
 - All perimeter fencing, as applicable, shall be wind fencing or the equivalent, to a minimum of 4 feet of height or the top of all perimeter fencing. The owner/operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. Strategically placed wind barrier fencing, to be constructed as part of the construction and operation phases (in locations shown in **Exhibit 3.3-1, Wind Fence Locations**) would be maintained to minimize dust blowing in the direction of the adjacent residences or the Barstow-Daggett Airport.
 - Use natural vegetation to stabilize disturbed or otherwise unstable surfaces to the extent feasible. A water truck shall be used to maintain most disturbed surfaces and to actively spread water

during visible dusting episodes to minimize visible fugitive dust and limit emissions to 20 percent opacity in areas where grading occurs, within the staging areas, and on any unpaved roads. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization or covering with a stabilizing layer of gravel may be required to eliminate visible dust/sand from sand/fines deposit, if water application does not achieve stabilization. Other controls could include application of hydromulch (with seed for re-establishment of vegetation), application of soil binders, or even the use of soil cement for particularly unstable areas.

- Minimize the idling time of diesel-powered construction equipment to two minutes, except in extreme heat events where workers require conditioned air to avoid health and safety issues.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- On-site vehicle speed shall be limited to 15 miles per hour.
- The following signage shall be erected not later than the commencement of construction:

A minimum 48-inch-high by 96-inch-wide sign containing the following information shall be located within 50 feet of each project site entrance, meeting the specified minimum text height, black text on white background, on 1-inch A/C laminated plywood board, with the lower edge between 6 and 7 feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day.

“Site Name” (4-inch text)

“Project Name/Project Number” (4-inch text)

IF YOU SEE DUST COMING FROM THIS PROJECT, CALL: (4-inch text)

[Contact Name]. PHONE NUMBER: XXX-XXX-XXXX (6-inch text)

IF YOU DO NOT RECEIVE A RESPONSE, PLEASE CALL the MDAQMD at 1-800-635-4617. (3-inch text)

- The project applicant or its designated representative shall obtain prior approval from the MDAQMD prior to any deviations from fugitive dust

control measures specified in the approved Air Quality Construction Management Plan. A justification statement used to explain the technical and safety reason(s) for the substitute dust control measures required shall be submitted to the appropriate agency for review.

- The provisions of the Air Quality Construction Management Plan shall also apply to project decommissioning activities.

AIR-2 All off-road construction equipment shall comply with the US Environmental Protection Agency's final Tier 4 exhaust emission standards.

Level of Significance: Significant and unavoidable (construction phase only).

VIOLATE AN AIR QUALITY STANDARD

Impact 3.3-2 The project could violate air quality standards and contribute substantially to an existing or projected air quality violation. Impacts would be significant and unavoidable.

The project involves the construction and operation of a large-scale, solar photovoltaic electricity generation and energy storage facility. Construction of the project would result in the temporary addition of pollutants to the local air basin caused by on- and off-site sources. Operation of the project would generate emissions from mobile sources, including vehicle trips from employees commuting to work and maintenance vehicles. A project impact would result in a significant impact if it exceeds the MDAQMD thresholds listed in **Table 3.3-3, MDAQMD Air Quality Thresholds of Significance**.

**Table 3.3-3:
MDAQMD Air Quality Thresholds of Significance**

Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NO _x)	25	137
Oxides of Sulfur (SO _x)	25	137
Particulate Matter (PM ₁₀)	15	85
Particulate Matter (PM _{2.5})	12	65
Reactive Organic Gases/Volatile Organic Compounds (ROG / VOC)	25	137

Source: HDR 2019

CONSTRUCTION

The proposed project is expected to be constructed in three phases. Within each development phase, the construction activities are separated into three different stages: site clearing and preparation, solar panel installation and constructing electrical components, and finally the activities involved in electrification of the facility. The construction emissions of each stage were calculated using the equipment list and construction schedule contained in **Appendix D-1**. Because the same equipment and staging would be used for each phase of the proposed project, the peak emissions listed in **Table 3.3-4, Construction Emissions by Stage (Pounds per Day)**, are applicable to each phase. The peak day emissions shown in **Table 3.3-4** are calculated using the assumption that stages 1, 2, and 3 would occur simultaneously, and that construction of two of the three phases would overlap (Phases 1 and 2). Although the analysis assumes that construction of two of the three phases would overlap, construction of each phase also may occur separately. If construction of each phase occurs separately, the air quality impacts of the peak day would be less than reported in **Table 3.3-4**. **Table 3.3-4** shows the emissions for constructing Phases 1 and 2 over 27 months. Construction of Phase 3 will not occur simultaneously with Phases 1 and 2. Since Phase 3 will involve fewer acres and is only a 250 MW project, the emissions will be lower than those shown in **Table 3.3-4** and will occur over a separate 19-month period.

Table 3.3-4:
Construction Emissions by Stage (Pounds per Day)

Construction Stage	CO	ROG/VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}
Stage 1	75.8	14.4	127.8	0.2	810.4	178.0
Stage 2	80.6	4.8	50.4	0.2	10.6	10.2
Stage 3	20.8	1.2	8.9	0.0	2.8	2.7
Peak Day	177.2	20.4	187.1	0.4	823.8	190.9
MDAQMD Threshold	548	137	137	137	82	65
Exceedance?	No	No	Yes	No	Yes	Yes

Source: HDR 2019

As shown in **Table 3.3-4**, peak daily construction emissions would exceed the MDAQMD's thresholds for NO_x, PM₁₀, and PM_{2.5}. Because the construction emissions would exceed the air district's thresholds, mitigation measures **AIR-1** and **AIR-2** are required to reduce the air quality impacts to the maximum extent feasible. Implementation of mitigation measures **AIR-1** and **AIR-2** would reduce air quality impacts from project construction by requiring implementation of an Air Quality Construction Management Plan and restricting exhaust emissions from off-road construction equipment, respectively.

Table 3.3-5, Mitigated Construction Emissions by Stage (Pounds per Day), lists the construction emissions after implementation of the mitigation measures. As shown, construction emissions would continue to exceed the thresholds for PM₁₀, and PM_{2.5}.

**Table 3.3-5:
Mitigated Construction Emissions by Stage (Pounds per Day)**

Construction Stage	CO	ROG/VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}
Stage 1	17.1	4.8	82.2	0.2	402.0	86.0
Stage 2	68.7	3.3	40.0	0.2	9.0	8.7
Stage 3	17.8	0.7	7.5	0.0	2.2	2.2
Peak Day	103.6	8.8	129.7	0.4	413.2	96.9
MDAQMD Threshold	548	137	137	137	82	65
Exceedance?	No	No	No	No	Yes	Yes

Source: HDR 2019

The proposed project would be constructed in a nonattainment area for multiple pollutants. Therefore, emissions from project construction would contribute incrementally to existing exceedances of the air quality standards. As shown in **Table 3.3-5**, even with mitigation measures **AIR-1** and **AIR-2**, construction emissions would exceed the MDAQMD's thresholds. Therefore, the project's impacts during construction would be considered significant and unavoidable.

OPERATION

Because the project would have no major stationary emissions sources and a relatively low number of employees traveling to the facility site, operation of the proposed project would result in substantially lower emissions than project construction. **Table 3.3-6, Operational Emissions (Pounds per Day)**, lists the average daily operation emissions associated with the on-site maintenance equipment and employee commutes.

**Table 3.3-6:
Operational Emissions (Pounds per Day)**

Emission Source	CO	ROGs	NO _x	SO _x	PM ₁₀	PM _{2.5}
On-Road Source	3.2	0.1	0.5	0.0	0.4	0.2
Off-Road Source	0.4	0.0	0.1	0.0	0.0	0.0
Maintenance Equipment	4.0	0.8	14.6	0.0	0.3	0.3
Total	7.5	0.9	15.1	0.0	0.7	0.4
MDAQMD Threshold	548	137	137	137	82	65
Exceedance	No	No	No	No	No	No

Source: HDR 2019

As shown, operational emissions would not exceed the MDAQMD thresholds. Therefore, impacts from operations would be less than significant and no mitigation measures are required.

CRITERIA POLLUTANTS AND HEALTH IMPACTS

A number of adverse health impacts have been associated with exposure to PM₁₀. Short-term exposures to PM₁₀ have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits. The effects of long-term exposure to PM₁₀ are less clear, although several studies suggest a link between long-term PM₁₀ exposure and respiratory mortality. The International Agency for Research on Cancer (IARC) published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer.³

A number of adverse health impacts have been associated with exposure to both PM_{2.5}. Short-term exposures to PM_{2.5} (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. Long-term (months to years) exposure to PM_{2.5} has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children.⁴

Health endpoints associated with increased PM_{2.5} levels include increased acute myocardial infarction (i.e., heart attack), asthma-induced hospital admission, asthma-induced emergency room visits, asthma exacerbation, lower respiratory symptoms, upper respiratory symptoms, premature mortality from lung cancer, and premature mortality from ischemic heart disease. Health impacts from PM₁₀ include those of PM_{2.5} (since PM_{2.5} is a subset of PM₁₀), but generally are less severe than PM_{2.5}.

Mitigated construction emissions are presented in **Table 3.3-5** and show that peak daily construction emissions for PM₁₀ and PM_{2.5} exceed the daily significance thresholds, shown in **Table 3.3-3**. Specifically, the peak daily emissions of PM₁₀ are 414 lb/day which is approximately 5 times the daily threshold of 82 lb/day. The peak daily emissions of PM_{2.5} are 98 lb/day which is approximately 1.5 times the daily threshold of 65 lb/day. The peak daily emissions represent a worst-case scenario in which Phases 1 and 2 overlap and when Stages 1, 2, and 3 of each phase occur simultaneously. As stated before, if Phases 1 and 2 do not overlap, then the emissions would be less than reported in **Table 3.3-5**. Also, the peak daily emissions are not expected to

³ CARB, Inhalable Particulate Matter and Health (PM_{2.5} and PM₁₀), available at <https://www.arb.ca.gov/research/aaqs/common-pollutants/pm/pm.htm>.

⁴ Ibid.

occur every day during construction. Rather, they represent the maximum emissions that may occur during a given day of construction and it is anticipated that such conditions would only be reached on an intermittent basis.

Potential health impacts resulting from construction emissions from the project would be minimal. First, construction activities are temporary and the emissions from construction activities would end once construction of the project is complete. Phases 1 and 2 are assumed to be concurrent over 27 months, a little over two years. Phase 3 would occur after Phases 1 and 2 and would be over 19 months. In total, the construction duration would be roughly 46 months or just under four years. Therefore, any health impacts associated with construction emissions would be limited to the construction period.

Second, while the peak daily emissions exceed the daily significance thresholds for PM₁₀ and PM_{2.5}, the annual emissions over 46 months do not exceed the annual significance thresholds. In fact, the annual emissions are well below the significance thresholds. Annualized emissions for PM₁₀ and PM_{2.5} are 2 and 1.9 tons per year, respectively, while the annual thresholds are 15 and 12 tons per year, respectively.⁵ The peak daily emissions would potentially exceed daily significance thresholds for the length of construction during the week but would not exceed the thresholds every day or on the weekend days when construction activities are not occurring.

Third, in comparison to other published studies in California where health impacts are evaluated, the project's construction emissions would be less than those in the published studies. It is important to note that emissions are not proportional to health effects. In 2011, the South Coast Air Quality Management District (SCAQMD) prepared a study for their Rule 1315.⁶ In that study, they analyzed the operational emissions from three proposed large power plants (in the range of 500 - 850 megawatts of electricity). Operational PM_{2.5} emissions ranged from 723 to 1,819 lbs/day and PM₁₀ emissions ranged from 731 to 1,837 lbs/day from each power plant. In the study, they estimated 0.05 to 1.77 annual premature deaths due to the power plants. In comparison, the project's construction emissions are 23 - 57% of the PM₁₀, and 5 - 14% of the PM_{2.5} emissions of the SCAQMD study. Moreover, as mentioned previously, the Project's construction emissions are temporary, in contrast to the ongoing, daily operations of the three power plants that would occur for the life of the power plants (about 35 years). The health

⁵ Annualized emissions are calculated by dividing the total emissions by the duration of 27 months and multiplying by 12 months (i.e., one year).

⁶ SCAQMD. 2011. Final Program Environmental Assessment for: Re-Adoption of Proposed Rule 1315 – Federal New Source Review Tracking System. January 7. Available at: <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2011/2011-feb4-026.pdf> (see Attachment G).

impacts are anticipated to be much lower than that was shown in the SCAQMD study due to much lower emissions and the temporary nature of construction.

MDAQMD currently has no guidance on evaluating potential human health impacts associated with criteria air pollutants. The SCAQMD, another air district in Southern California covering an air basin near the project, is forming a working group to develop a methodology for quantifying the health effects of criteria pollutants but has no current guidance regarding how to effectively evaluate the estimated health effects of criteria air emissions.

As described above, the project will exceed MDAQMD standards on a temporary basis during days of peak emissions in the construction phase. During the operational phase, the project will result in air quality benefits because, as a renewable energy project, it creates electricity without burning fossil fuel. In light of state goals to rely solely on carbon-free energy sources by 2045, the project likely would replace energy that otherwise would be generated from a fossil fuel burning source, thereby reducing overall air emissions and contributing a net positive impact on human health during the life of the project.

Additional health impact data is provided below under **Impact 3.3-3**, which examines health risks on nearby sensitive receptors from diesel particulate matter, the primary source of particulate matter emitted during construction.

Mitigation Measures: Implement mitigation measures **AIR-1** and **AIR-2**.

Level of Significance: Significant and unavoidable (construction phase only).

EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS

Impact 3.3-3	The project could expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant with mitigation.
---------------------	--

CONSTRUCTION IMPACTS

Toxic Air Contaminants (TACs)

Project construction would result in emissions of diesel particulate matter (DPM) from heavy-duty construction equipment and trucks (e.g., water trucks and haul trucks) operating in the project study area. More than 90 percent of DPM is a subset of PM_{2.5}.

CARB characterizes DPM as a toxic air contaminant (TAC). The Office of Environmental Health Hazard Assessment (OEHHA) has identified carcinogenic and chronic noncarcinogenic effects from long-term (chronic) exposure. For construction activities, the primary hazard is DPM emissions from construction equipment (e.g., excavators, bulldozers, backhoes, graders, etc.)

and vehicles associated with construction of the Project. DPM is a complex mixture of chemicals and particulate matter with potential cancer and chronic non-cancer effects. Although other exposure pathways exist (i.e., ingestion, dermal contact), the inhalation pathway is the dominant exposure pathway from DPM for both cancer risk and chronic non-cancer health effects.⁷ Therefore, only the inhalation cancer and chronic non-cancer effects of diesel exhaust are evaluated for the health impacts from construction activities.

Several farms and rural residences are located in close proximity to the proposed construction areas. Therefore, a human risk assessment (HRA) was conducted to assess the risk associated with the construction emissions. The Office of Environmental Health Hazard Assessment (OEHHA) has determined that the health risk from DPM is only of a concern for cancer and chronic non-cancer health effects, and potential acute (short-term) non-cancer health effects are not a concern. Therefore, the HRA focuses on the risk for cancer and chronic non-cancer health impacts from project construction.

Cancer risks are calculated for the project's DPM emissions during construction and summed to calculate the overall increase in cancer risk to an individual. The calculation procedure assumes that cancer risk is proportional to concentrations at any level of exposure and that risks from the Project's DPM and other TACs are additive.

Non-cancer health impacts from inhaled DPM is measure by the hazard quotient, which is the ratio of ambient concentration of a DPM in units of $\mu\text{g}/\text{m}^3$ divided by the reference exposure level (REL), also in $\mu\text{g}/\text{m}^3$. The inhalation REL is typically based on health effects to a particular target organ system, such as the respiratory system, liver, or central nervous system. Hazard quotients are then summed for each target organ system to obtain a hazard index.

The DPM emissions for all diesel trucks and associated construction equipment at the project site were estimated using the EPA's AERMOD v18081 air quality dispersion model. Project emissions were limited to the hours of 7 a.m. to 7 p.m. to simulate dispersion times of expected construction activities. Concentrations were calculated for a three-year annual average and listed in units of $\mu\text{g}/\text{m}^3$.

Cancer risk calculations were performed by multiplying the predicted annual DPM concentrations from AERMOD by the appropriate risk values. The exposure and risk equations that are used to calculate the cancer risk at residential, recreation, and school receptors are taken from the OEHHA Air Toxics Hot Spots Program Guidance Manual (OEHHA, 2015).

⁷ OEHHA, The Air Toxics Hot Spots Program Guidance for Preparation of Health Risk Assessments, August 2003.

Cancer risks were evaluated using the inhalation Cancer Potency Factor published by the OEHHA. The cancer risks were calculated using the “derived (adjusted) approach in the OEHHA risk assessment manual. The cancer potency factor for DPM is 1.1 per milligram per kilogram of body weight per day.

A chronic hazard index is calculated by dividing the annual average concentration of a toxic pollutant by the chronic REL for that pollutant. For DPM, the chronic REL is 5.0.

Table 3.3-7, Modeled Cancer Risks and Chronic Hazard Indexes, identifies the modeled annual average DPM concentration, and the associated cancer risks and chronic hazard index, at the closest land uses to the project site. **Exhibit 3.3-2, Air Quality Modeling Locations**, shows the modeling locations (ML) of sensitive receptors relative to the project site.

**Table 3.3-7:
Modeled Cancer Risks and Chronic Hazard Indexes**

Receptor	Land Use Type	Modeled Annual Concentrations ($\mu\text{g}/\text{m}^3$)	Cancer Risks (per million)	Chronic Hazard Index
ML-1	Residential	0.00030	0.1	0.00006
ML-2	Residential	0.00251	0.7	0.00050
ML-3	Residential	0.00095	0.3	0.00019
ML-4	Residential	0.00364	1.1	0.00073
ML-5	Residential	0.00138	0.4	0.00028
ML-6	Residential	0.00444	1.3	0.00089
ML-7	Residential	0.00032	0.1	0.00006
ML-8	Residential	0.00314	0.9	0.00063
Thresholds			10	1.0

Source: HDR 2019

As shown in **Table 3.3-7**, the peak cancer risks during construction would be less than the threshold of 10 in 1 million. In addition, the chronic hazard indexes would be less than the threshold of 1.0. Therefore, project construction would not expose sensitive receptors to substantial TAC pollutant concentrations that would have significant health impacts related to increased cancer and non-cancer chronic health risks.

OPERATIONAL IMPACTS

Emissions generated by daily maintenance activities would be below the MDAQMD thresholds, which are set forth in **Table 3.3-3**. Therefore, project operations would not expose sensitive receptors to substantial pollutant concentrations.

URBAN HEAT ISLAND EFFECT

As urban areas are developed, changes to the landscape can cause areas to become warmer than rural surrounding areas, forming an “island” of higher temperatures. The key to understanding urban heat islands is the concept of albedo, which is how much light bounces off a surface versus how much is absorbed. A pitch-black surface has an albedo of 0; a perfect mirror’s albedo is 1. Every material used by people has an albedo between these two extremes.

In an urban heat island, dark surfaces absorb sunlight and immediately convert it to heat during the day. Light surfaces immediately reflect some of that light away, before it can become heat. Dark colored materials tend to retain heat, releasing it well after sunset, making the environment hotter for longer into the night than it otherwise would be.

When incoming light hits a solar panel at a shallow angle, it tends to reflect off the top surface and go back into space. As the angle of the sun changes, the solar panel will absorb more and more sunlight. At solar noon, the albedo of the solar panel is nearly 0 and all the sunlight is absorbed and converted into electric or heat energy. However, bare ground and soil absorbs the same amount of sunlight regardless of the solar angle. Consequently, the bare ground around a solar panel would absorb more heat over the course of a day than the solar panel does.

Therefore, development of the project would decrease surface temperatures and would not result in a heat island and impacts would be less than significant. Refer also to Attachment 5 of **Appendix H-3** for additional information pertaining to urban heat island effects.

WIND-TRANSPORTED MATERIALS

Wind direction in the area remains very consistent throughout the year, blowing essentially from the west to the east. Wind speeds range from 9 mph to 15 mph throughout the year, with higher wind speeds (more than 13-17 mph) occurring between April and June. Soils in the area are predominantly sand. The combination of warm temperatures, limited rainfall, and windy conditions results in aeolian processes. Aeolian processes involve the erosion, transportation, and deposition of sediments by the wind.

The Mojave River bed is one of the primary natural source areas adjacent to the project where materials could be picked up by winds and moved significant distances. Though the river’s watershed is of significant size, at this location, the channel is still ephemeral and is dry for most of the year, so bed materials are available to winds of a certain velocity for movement. Additional source areas could include the agricultural lands adjacent to the project site, as well as the project site itself during construction.

Aeolian processes can result in two impacts: (1) the potential for air quality degradation and (2) physical impacts, including covering (burial) of facilities and equipment. Due to the local soil types with high sand texture content, and the common occurrence of windy conditions, airborne particles of a very fine size are a frequent occurrence under natural or disturbed conditions in the area. These particles pose a human health hazard due to the ease with which they can be inhaled.

The other potential impacts from winds and the materials they carry are the physical results from blowing sands primarily, but also from smaller-sized particles. Damage can occur from the impact of particles on surfaces, in effect a form of sand-blasting. Also, deposition of wind-transported materials can cause problems through burial of equipment or facilities (like roads) or even from the deposition of a coating of dust on a photovoltaic cell.

Wind erosion currently occurs at the project site, resulting in significant impacts to sensitive receptors. The wind erosion causes dust to move from the site to nearby receptors at residences where the airborne particulates can be inhaled by residents. Although impacts from wind-blown sand are not caused by the project, they could be exacerbated by the project's construction.

Mitigation measure **AIR-1** requires the project to develop an Air Quality Construction Management Plan with fugitive dust control measures that satisfy the requirements of MDAQMD's Rules 403 and 403.2, San Bernardino County Development Code Sections 83.01.040 and 84.29.035, and SIPs for PM₁₀ and PM_{2.5}. Mitigation measure **AIR-1** addresses impacts during project construction and decommissioning and requires measures such as the installation of wind fencing; surface treatment on disturbed areas, roads and parking areas, as well as vehicle speed limits. Mitigation measure **AIR-3** requires the applicant to develop a Dust Control Plan to address impacts from project operation. Similar to mitigation measure **AIR-1**, mitigation measure **AIR-3** includes measures such as the installation of wind fencing (see **Exhibit 3.3-1, Wind Fence Locations**), surface treatments for areas where natural vegetation has been removed, as well as vehicle speed limits which would reduce air quality impacts during project operations. Implementation of these measures will reduce impacts related to wind-transported materials to less than significant.

VALLEY FEVER

Coccidioidomycosis, more commonly known as Valley Fever, is primarily a disease of the lungs caused by the spores of the *Coccidioides immitis* fungus. The spores can occur naturally in some soils and there is the potential that spores could be stirred up during excavation, grading, and earth-moving activities and inhaled into the lungs.

Valley Fever is endemic to the southwestern United States, so fugitive dust emissions from the proposed project could cause exposure to the spores. Reduction of the potential for exposure to dust and the spores can be accomplished by providing dust control, training, job hazard assessments, and personal protective respiratory equipment when appropriate (CDPH 2018).

The primary way to avoid Valley Fever is to limit exposure to the spores. During construction, operation, and decommissioning phases of the project, the implementation of mitigation measures **AIR-1** and **AIR-3** would provide significant control of fugitive dust emissions and limit the potential for exposure. Therefore, implementing mitigation measures **AIR-1** and **AIR-3** would reduce the exposure to Valley Fever to a less than significant level.

Mitigation Measures:

Implement mitigation measures **AIR-1** and **AIR-3**.

AIR-3 Prior to the issuance of grading or building permits, the project applicant shall develop a Dust Control Plan (DCP) per the requirements of MDAQMD Rule 403.2. The DCP shall comply with MDAQMD Rules 403 and 403.2 to control fugitive dust, including PM₁₀, by addressing objectives, key contacts, roles and responsibilities, dust sources, and control measures.

The DCP shall address the following sources:

- Project-created dust sources
- Disturbed surfaces
- Unstable surfaces
- Unpaved roads
- Paved roads
- Unspecified sources

To mitigate each of the sources identified above during facility operation, including post-closure of a facility, there are often multiple mitigation measures available that can feasibly mitigate impacts to less than significant levels. The DCP would include but not be limited to the following measures:

- **Limit Ground Disturbance.** Manage and limit disturbance of ground surfaces from vehicle traffic, excavation, grading, vegetation removal, or other activities to lower the potential for soil detachment and reduce dust

transport. Only trim vegetation (mow and roll) in areas where solar panels will be installed, rather than remove vegetation entirely (clear and grub) followed by excavation or grading where feasible. This process lessens the level of ground disturbance and leaves the root system in place for quicker regeneration of vegetative cover.

- **Vegetation.** Use natural vegetation to stabilize disturbed or otherwise unstable surfaces to the extent feasible.
- **Wind Fencing.** Strategically placed wind barrier fencing shall be installed as part of the construction and operation phases (shown in **Exhibit 3.3-1, Wind Fence Locations**) and be maintained to minimize dust blowing in the direction of the adjacent residences or the Barstow-Daggett Airport. Wind barrier fencing should be inspected by the contractor no less than once quarterly and repaired or replaced as needed to maintain full functionality. Any accumulated sediment would be removed and either re-distributed onsite or transferred off-site for use or disposal elsewhere.
- **Surface Treatment.** Water trucks shall apply water and/or other controls to minimize the production of airborne dust, and limit emissions to 20 percent opacity in areas where grading occurs, within the staging areas, and on any unpaved roads used during project construction. Other controls could include application of hydromulch (with seed for re-establishment of vegetation), application of soil binders, or even the use of soil cement for particularly unstable areas.
- **Vehicle Speed Limits.** Vehicle speed shall be limited speeds to 15 mph. Speed limit signs shall be displayed prominently at all project/facility entrances.
- **Street Sweeping.** Sealed roads shall be swept as needed and track out opportunities limited through the use of stabilized construction/facility entrances or, if necessary, with one or more entrance/exit vehicle tire wash apparatuses.

Level of Significance: Less than significant with mitigation.

CREATE OBJECTIONABLE ODORS

Impact 3.3-4 The project would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant.

Individual responses to odors are highly variable and can result in various effects, including psychological (i.e., irritation, anger, or anxiety) and physiological (i.e., circulatory and respiratory effects, nausea, vomiting, and headache). Generally, the impact of an odor results from a variety of interacting factors such as frequency, duration, offensiveness, location, and sensory perception.

The frequency is a measure of how often an individual is exposed to an odor in the ambient environment. The intensity refers to an individual's or group's perception of the odor strength or concentration. The duration of an odor refers to the elapsed time over which an odor is experienced. The offensiveness of the odor is the subjective rating of the pleasantness or unpleasantness of an odor. The location accounts for the type of area in which a potentially affected person lives, works, or visits; the type of activity they are engaged in; and the sensitivity of the impacted receptor.

CARB's (2005) Air Quality and Land Use Handbook identifies the sources of the most common odor complaints received by local air districts. Typical sources include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. The project does not contain any of the land uses identified as typically associated with emissions of objectionable odors.

Construction of the project could result in the emission of odors from construction equipment and vehicles (e.g., diesel exhaust). It is anticipated that these odors would be short term, limited in extent at any given time, and distributed throughout the project area during the duration of construction. Additionally, project operations would not involve activities with the potential for producing objectionable odors. Therefore, they would not affect a substantial number of individuals. This impact is considered less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 3.3-5	The project could have a cumulatively considerable contribution to significant cumulative impacts related to air quality. Impacts would be significant and unavoidable.
---------------------	--

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the MDAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether the project's individual emissions would have a cumulatively significant impact on air quality. The MDAQMD significance thresholds take into account the cumulative impact of a project that adds emissions to the air basin. Therefore, this cumulative analysis considers all projects identified in **Table 3.0-1**, including the three solar projects located within ten miles of the proposed project; Minneola Solar,⁸ Silver Valley, and Ned Araujo. Overall, the air quality emissions from the projects considered in this cumulative analysis along with the proposed project's construction emissions would increase to levels exceeding MDAQMD significance thresholds.

CONSTRUCTION IMPACTS

The Mojave Desert Air Basin is a nonattainment area for O₃, PM₁₀, and PM_{2.5} under the NAAQS and/or CAAQS. The poor air quality in the basin is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emissions sources. Projects that emit these pollutants or their precursors (i.e., VOC and NO_x for ozone) potentially contribute to poor air quality. The MDAQMD significance thresholds take into account the cumulative impact of a project that adds emissions to the entire air basin, in this case a basin already in nonattainment for several criteria. As indicated in **Table 3.3-5**, daily project construction emissions would exceed the MDAQMD significance thresholds, even with mitigation, resulting in a cumulatively significant contribution to the overall cumulative impact to the basin. Other projects included on the cumulative project list could similarly contribute to the overall cumulative air impact in the basin by further exceeding the MDAQMD thresholds.

Based on the fact that the basin is already in nonattainment for O₃, PM₁₀, and PM_{2.5}, and other similar projects that could result in emissions that further exceed the MDAQMD thresholds for these pollutants, construction of the project, along with the other projects identified in **Table 3.0-1**, could result in a cumulatively considerable increase in emissions of nonattainment pollutants. Therefore, cumulative construction impacts would be significant and the project's

⁸ The project application for Minneola Solar was withdrawn in January 2019.

contribution to these significant cumulative impacts would be cumulatively considerable. Implementation of mitigation measures **AIR-1** to **AIR-3** would reduce the project's incremental contribution to exceedances of the air quality standards. However, even with mitigation measures **AIR-1** and **AIR-2**, impacts as a result of project construction activities would remain significant and unavoidable.

Sensitive Receptors

As discussed above, a HRA was conducted to assess the risk associated with the project's DPM emissions during construction which are categorized as TAC pollutants. The Office of Environmental Health Hazard Assessment (OEHHA) has determined that the health risk from DPM is only of a concern for cancer and chronic non-cancer health effects, and potential acute (short-term) non-cancer health effects are not a concern.

The results of the HRA show that peak cancer risks during construction would be less than the threshold of 10 in 1 million. In addition, the chronic hazard indexes would be less than the threshold of 1.0. Therefore, project construction would not expose sensitive receptors to substantial TAC pollutant concentrations that would have significant health impacts related to increased cancer and non-cancer chronic health risks.

As it is unlikely that other projects considered in this cumulative analysis would be under construction at the same time as the project and the lack of any nearby existing sources of DPM with which the project's construction emissions could combine, the project's contribution to cumulative TAC pollutant concentrations would be less than significant.

Valley Fever

During construction and decommissioning of the project, implementation of mitigation measures **AIR-1** and **AIR-3** would provide control of fugitive dust emissions and limit the potential for exposure. In addition, other cumulative projects in the area would implement similar measures to reduce fugitive dust emissions and the potential of Valley Fever. Therefore, with implementation of mitigation measures **AIR-1** and **AIR-3**, the project's contribution to potential dust emissions that may result in the exposure to Valley Fever would be less than significant.

Odors

As noted above, construction of the project could result in the emission of odors from construction equipment and vehicles (e.g., diesel exhaust). It is anticipated that these odors would be short term, limited in extent at any given time, and distributed throughout the project area during the duration of construction. In light of the location of other projects that likely would be under construction at the same time as the project and the lack of any nearby existing sources

of odors with which the project's construction emissions could combine, the project's contribution to cumulative orders would be less than cumulative considerable.

OPERATIONAL IMPACTS

Because the proposed project would have no major stationary emission sources, operation of the proposed solar farm would result in substantially lower emissions than project construction. The proposed facility does not burn fossil fuel to generate electricity and as a result does not produce a significant amount of emissions. Long-term operation of solar power generating facilities would result in a decrease of harmful emissions such as carbon dioxide, nitrogen dioxide, sulfur dioxide, mercury and particulates since it could replace fossil fuel-based energy production. In addition, the solar facility would replace agricultural uses that likely use fossil-fuel derived pesticides. Operation of the proposed project, along with projects identified in **Table 3.0-1** would not result in significant cumulative impacts. Cumulative operational impacts would be less than significant.

Valley Fever

During operation of the project, the implementation of mitigation measures **AIR-1** and **AIR-3** would provide significant control of fugitive dust emissions and limit the potential for exposure. In addition, other cumulative projects in the area would implement similar measures to reduce fugitive dust emissions and the potential of Valley Fever. Therefore, with implementation of mitigation measures **AIR-1** and **AIR-3**, the project's contribution to potential dust emissions that may result in the exposure to Valley Fever would be less than significant.

Odors

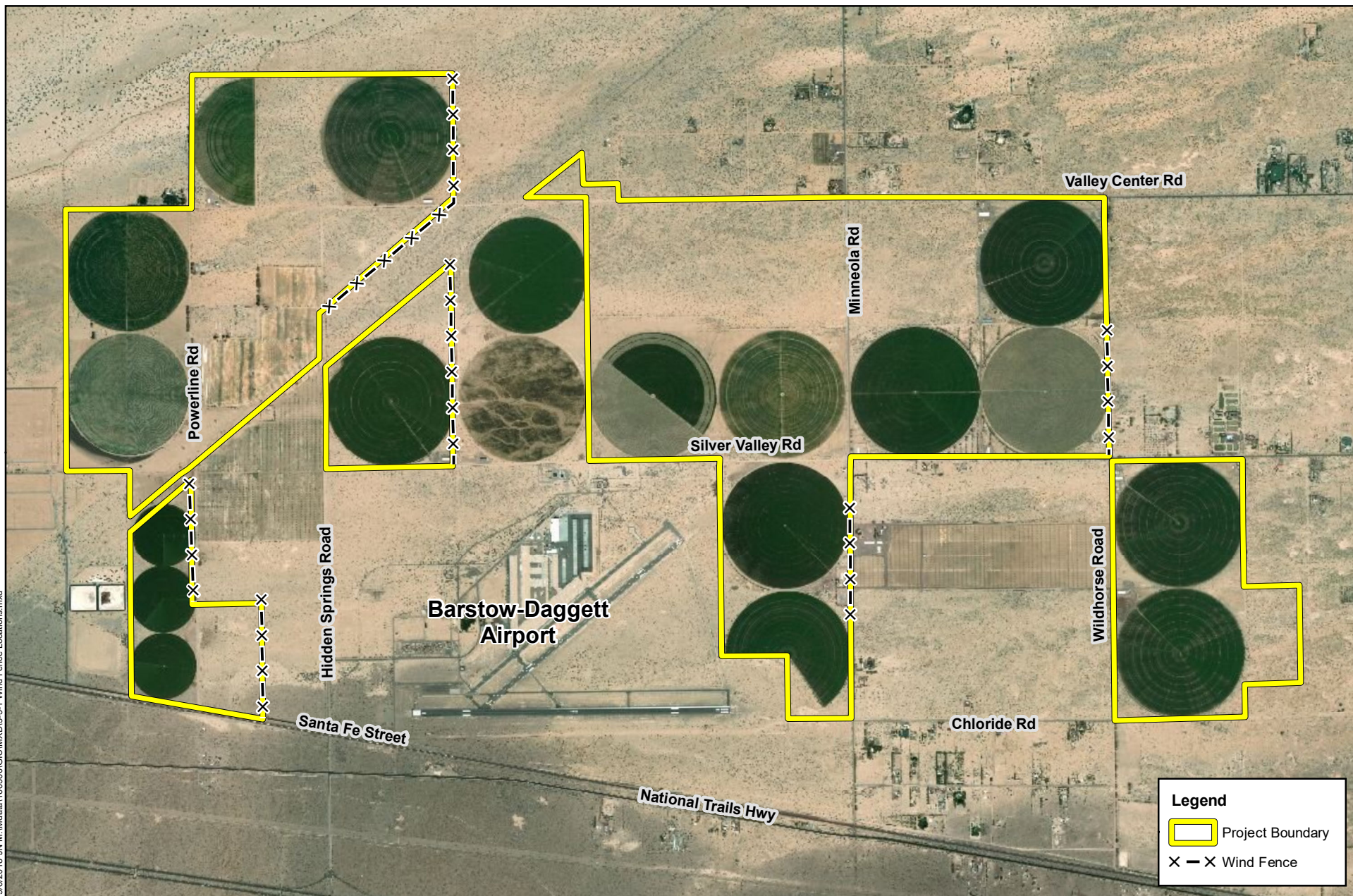
Project operations would not involve activities with the potential for producing objectionable odors and would not contribute to a significant cumulative impact relative to objectionable odor sources in the surrounding area. A less than significant cumulative impact would occur.

Mitigation Measures: Implement mitigation measures **AIR-1** through **AIR-3**.

Level of Significance: Significant and unavoidable (construction phase only).

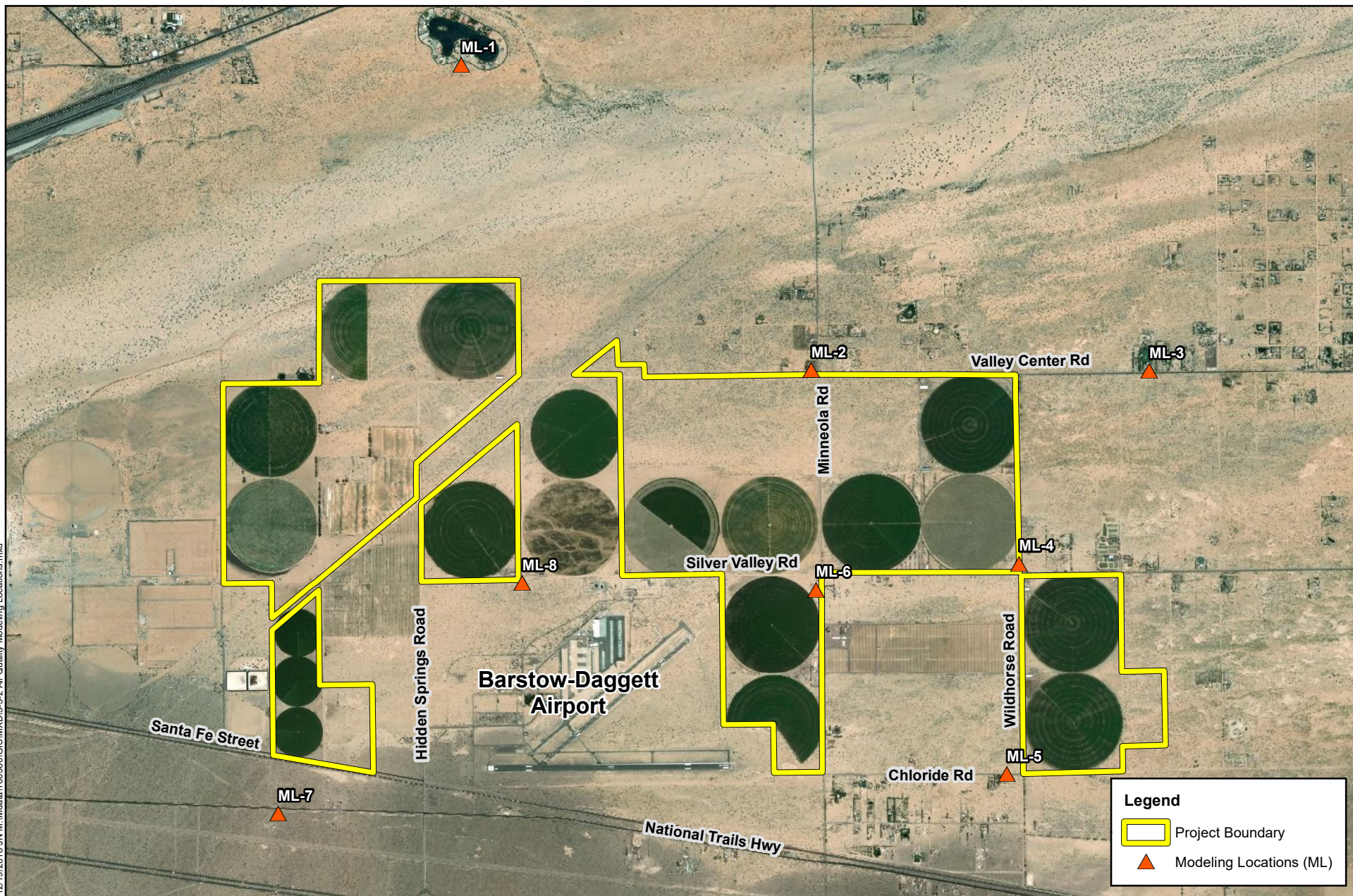
This page is intentionally blank.

9/6/2018 J:\M:\data\166360\GIS\MXD\3-3-1 Wind Fence Locations.mxd



This page is intentionally blank.

12/19/2018 JN M:\data\166360\GIS\MXD\3-3-2 Air Quality Modeling Locations.mxd



This page is intentionally blank.

Section 3.4

Biological Resources

This section evaluates the existing biological resource setting and the potential effects caused by implementation of the project, including impacts on sensitive and special-status species and habitat. The following discussion addresses the existing biological resources conditions of the affected environment, evaluates the proposed project's consistency with applicable goals and policies, identifies and analyzes environmental impacts, and requires measures to reduce or avoid adverse impacts anticipated from implementation of the project, as applicable.

The analysis in this section is substantially based on the *Biological Resources Technical Report* prepared by HDR (2018a; see **Appendix E-1**). Additional support for the analysis herein includes the *2018 Spring/Summer Survey Report* (HDR 2018b; see **Appendix E-2**), *Desert Tortoise Pre-Project Survey Report* (HDR 2018e; see **Appendix E-3**), *Jurisdictional Delineation Report* (HDR 2018c; see **Appendix E-4**) and *Special-Status Plant Species Survey Report* (HDR 2018d; see **Appendix E-5**). All of the reports listed here were peer-reviewed by Michael Baker International.

ENVIRONMENTAL SETTING

San Bernardino County is divided into three subregions for planning purposes: Valley, Mountain, and Desert. These regions have distinctive climates and geography, which in turn produce differing biological environments. The project site is in the Desert Region of the West Mojave Plan planning area.

Multiple biological surveys have been performed at the project site to identify natural resources—vegetation, jurisdictional resources, and special-status plants—including protocol surveys for burrowing owl (*Athene cunicularia*), Mojave fringe-toed lizard (*Uma scoparia*), and desert tortoise (*Gopherus agassizii*).

EXISTING CONDITIONS

Vegetation Communities

No vegetation communities considered high priority by the California Department of Fish and Wildlife (CDFW) or otherwise considered to be sensitive natural communities identified in local or regional plans, policies, regulations or by the CDFW or the US Fish and Wildlife Service (USFWS) are present in the project site (**Appendix E-1**). **Table 3.4-1, Existing Vegetation Communities/Land Cover Types**, indicates the types and amounts of vegetation communities and land covers on the project site. Approximately 1,726 acres, or about 50 percent of the site,

are in agricultural production. In the project area, agricultural areas consist of active and abandoned alfalfa (*Medicago sativa*) and Bermuda grass (*Cynodon dactylon*) fields, as well as an active pistachio (*Pistacia chinense*) orchard.¹ The predominant crop being grown on-site is alfalfa. In addition, the approximately 220-acre pistachio orchard on-site consists of rows of young pistachio trees with no understory, aside from some weeds growing near irrigation drips.

The nearest designated Critical Habitat is for desert tortoise, north of I-15 and south of I-40, approximately 1.25 miles north and south of the site.² The site is further divided by paved and dirt roads, the SunRay solar project, and transmission corridors.

Jurisdictional Resources

Jurisdictional resources (i.e., non-vegetated waters of the United States, non-vegetated streambed [sometimes referred to as waters of the State], riparian, and wetlands) serve a variety of functions for plants and wildlife. Wetlands and other water features provide habitat, foraging, cover, and migration and movement corridors for both special-status and common species. The Mojave River floodplain extends east–west to the north of the site, directly adjacent to the northwestern parcel. There are no riparian areas or wetlands associated with the dry channel of the Mojave River floodplain near the site.

**Table 3.4-1:
Existing Vegetation Communities/Land Cover Types**

Plant Community	On-Site Solar Field (acres)	Off-Site Alternative Gen-Tie Alignments (acres)		
		Option 1	Option 2	Option 3
Creosote Bush Scrub Alliance	634.6	35.1	62.9	60.5
Desert Allscale Scrub Alliance	301.4	23.8	7.7	7.7
Disturbed Desert Saltbush Scrub	136.2	28.5	0.1	0.1
Agriculture	1,725.8	1.9	17.9	17.8
Windrows of Tamarix spp. (Tamarisk Thickets)	20.1	6.6	<0.1	<0.1
Developed/Disturbed/Ruderal Habitat	368.6	46.6	87.0	79.8
Total	3,186.7	142.4	175.7	166.5

Note: No vegetation communities within the project area are designated as high priority by the CDFW or otherwise afforded special status for CEQA purposes.

¹ There are no project facilities proposed over this orchard, although a few trees may be removed to accommodate the gen-tie line.

² Critical habitat is designated by the USFWS and is defined under the federal Endangered Species Act as areas occupied by species listed as threatened or endangered within which are found physical or geographical features essential to the conservation of the species, or an area not currently occupied by the species which is itself essential to the conservation of the species.

According to the Jurisdictional Delineation Report (HDR 2018c; **Appendix E-4**), there is one jurisdictional feature in the southern portion of the site, immediately north of Powerline Road (identified as “Feature B” in **Appendix E-4**). This approximately 365-foot-long channel (0.08 acres) is disturbed with intermittent cut banks and no clear field evidence of an ordinary high water mark (OHWM). The channel is an isolated feature because it is more than 2.3 miles from (and does not have a significant nexus to) the nearby Mojave River or any other potentially regulated water.

Isolated features that do not have a significant nexus to a traditional navigable water (TNW) or other regulated waters generally are not regulated under Clean Water Act (CWA) Sections 401 and 404. The channel would be regulated by the CDFW under California Fish and Game Code (CFG) Section 1600, and by the Regional Water Quality Control Board (RWQCB) under California’s Porter-Cologne Water Quality Control Act, because it has evidence of a bed and bank and indicators of fluvial transport, and it appears to regularly convey ephemeral flows. Therefore, the project site contains one non-wetland drainage extending across the south-central edge, which is likely under RWQCB and CDFW jurisdiction.

Special-Status Species

Refer to **Appendix E-1** for special-status definitions for federally and state-listed endangered and threatened (FE, SE, FT, ST) species, California Special Species of Concern (SSC) and Fully Protected (FP) species, and California Rare Plant Rankings (CRPR) by the California Native Plant Society (CNPS). The presence and absence of special-status plant and animal species on the site is described below.

Plants

No special-status plants were observed on-site. However, the following have a moderate potential to occur within the identified habitats (refer to **Appendix E-1**, Table 3): Darlington’s blazing star (*Mentzelia puberula*) (all native desert scrubs), Beaver Dam breadroot (*Pediomelum castoreum*) (Mojave Creosote Bush Scrub and Desert Saltbush Scrub), and Parish’s phacelia (*Phacelia parishii*) (Desert Allscale Scrub and Desert Saltbush Scrub). These species are discussed in more detail below.

Darlington’s blazing star (CRPR 2B.2). This perennial herb occurs in sandy or rocky areas in desert scrub habitats, at elevations from 270 to 4,000 feet above mean sea level (amsl). It blooms from March through May.

Beaver Dam breadroot (CRPR 1B.2). This perennial herb occurs in sandy washes or roadcuts in desert scrub habitats, at elevations from 2,000 to 5,000 feet amsl. It blooms from April through May.

Parish's phacelia (CRPR 1B.1). This annual herb occurs in clay or alkaline soils in desert scrub habitats and playas, at elevations from 1,600 to 3,600 feet amsl. It blooms from April through May, as well as occasionally in June and July.

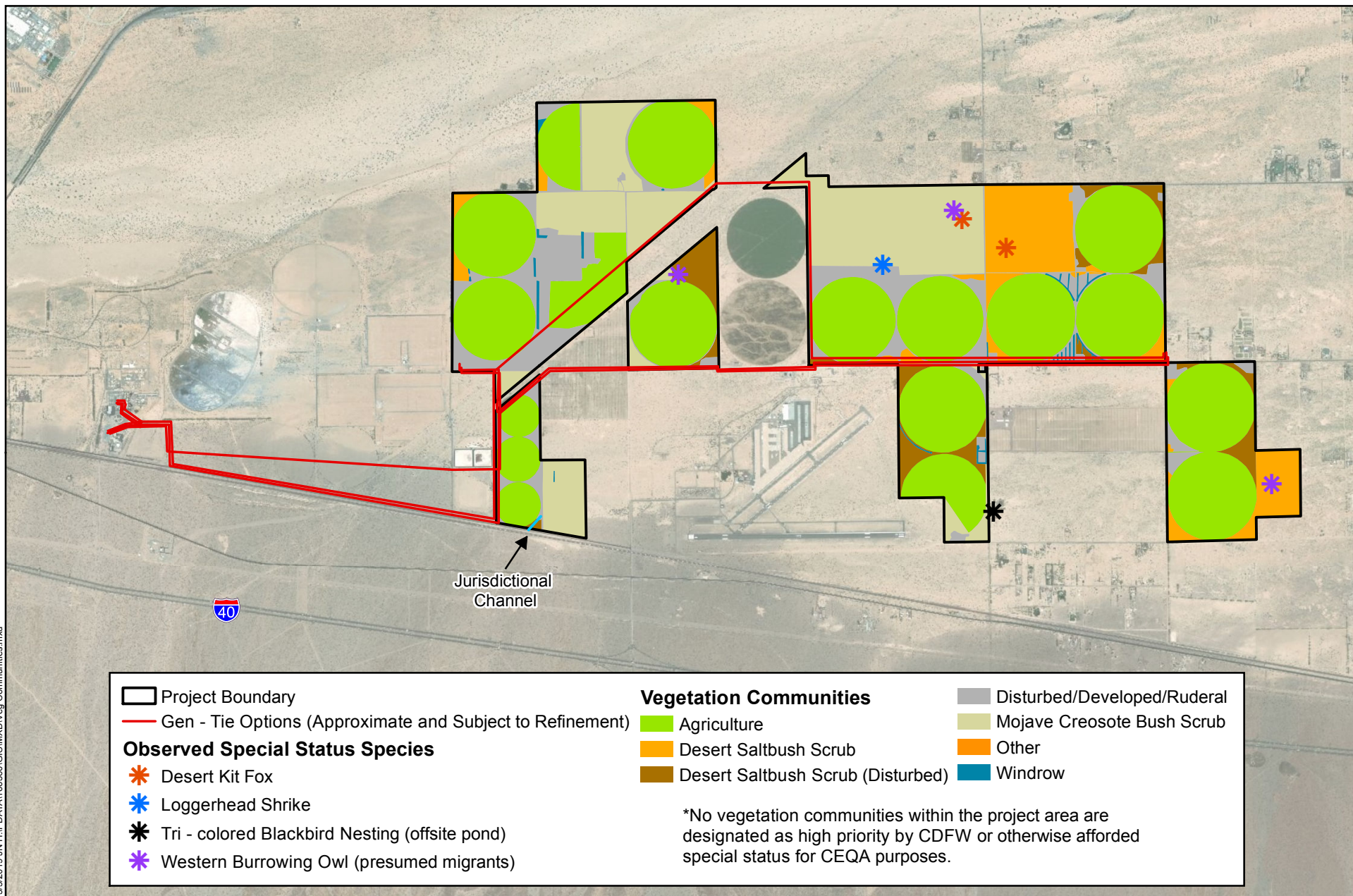
Wildlife

The following special-status wildlife species were observed on the project site: tricolored blackbird (*Agelaius tricolor*), golden eagle (*Aquila chrysaetos*), short-eared owl (*Asia flammeus*), burrowing owl, red-tailed hawk (*Buteo jamaicensis*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus hudsonius*), prairie falcon (*Falco mexicanus*), American kestrel (*Falco sparverius*), loggerhead shrike (*Lanius ludovicianus*), and desert kit fox (*Vulpes macrotis arsipus*). In addition, the following have a moderate to high potential to occur within the identified areas on-site (refer to **Appendix E-1**, Table 3): burrowing owl (all habitats), loggerhead shrike (all habitats), Le Conte's thrasher (*Toxostoma lecontei*) (all native desert scrubs), Townsend's big-eared bat (*Corynorhinus townsendii*) (abandoned buildings), and American badger (*Taxidea taxus*) (all habitats); refer to additional discussion below. Additionally, although desert tortoise and Mojave fringe-toed lizard were found to have a low potential to occur on-site, these species are discussed due to their significance in the surrounding area.

Tricolored blackbird (SSC). This species is primarily found in open areas, foraging in grassland and cropland habitats. It nests in large groups near fresh water, preferably in emergent wetland with tall, dense cattails (*Typha* spp.) or tules (*Schoenoplectus* spp.), but also in thickets of willow (*Salix* spp.), blackberry (*Rubus* spp.), wild rose (*Rosa californica*), or tall herbs, which provide cover for roosting. Tricolored blackbirds were incidentally observed during the above-mentioned Mojave fringe-toed lizard surveys in May 2018 foraging in the on-site agricultural fields near Minneola Road, south of Silver Valley Road, flying to and from an off-site artificial pond with cattails in the backyard of an adjacent residence on the east side of Minneola Road outside of the project boundary (see **Exhibit 3.4-1, Vegetation Communities and Observed Special Status Species within the Project Area**). It is likely that these birds nest in this pond due to their presence in large numbers during the nesting season.

Burrowing owl (SSC). This species is primarily found in open areas with short vegetation and bare ground in deserts, grasslands, and shrub-steppe environments. Breeding commonly occurs in native prairies, pastures, fallow fields, road and railway rights-of-way, canal embankments, and urban habitats. Burrowing owls are dependent on the presence of pre-existing mammal burrows that are used for nesting and roosting. The project site contains approximately 1,461 acres of suitable burrowing owl habitat, and the gen-tie alternative alignments also support approximately 166.2 acres of suitable habitat.

3/5/2019 JN H:\PDATA\166360\GIS\MXD\Veg Communities.mxd



This page is intentionally blank.

Burrowing owls, sign, and active/inactive burrows were observed on-site during focused protocol-level surveys conducted from March through June of 2018. Approximately 90 burrows or burrow complexes with a diameter of 3–4 inches or greater were mapped throughout suitable habitat. Of these, 27 burrows had potential burrowing owl sign (whitewash, pellets, or scat) or were actively used by owls. Six individual burrowing owls were observed during surveys conducted in March 2018 (see **Exhibit 3.4-1**) but not in subsequent surveys. In addition, a pair of burrowing owls was incidentally observed during a desert tortoise survey on April 18, 2018, but the pair was not observed in subsequent surveys. Because the owls observed in March and April were not found during May and June, when nesting occurs in the region, it is likely that the observed owls were wintering or migrating through the area.

Other special-status raptors. Although no nesting habitat was identified on the site for golden eagle (FP), two individuals were observed foraging over an on-site agricultural field being plowed (see **Exhibit 3.4-1**) in April and June 2018 during the focused raptor nest surveys. In addition, no golden eagle nests were observed in the gen-tie alternative alignments during the spring 2018 surveys. Two historic golden eagle nest locations (i.e., Occurrences #274 and #277), as documented by the CDFW's California Natural Diversity Database (CNDDB), were viewed with a scope (about 0.3–0.4 miles away) to determine if the nests were still active. Occurrence #274 is located near the town of Newberry Springs, about 5 miles southeast of the project site, and eagles have not been documented at this nesting location since 1979. At this location, several large whitewash deposits were observed, at least one potential nest appeared to be an active common raven (*Corvus corax*) nest, and none of the other nests appeared to be active. Golden eagles were not observed in the vicinity of Occurrence #274 during three visits to this area.

Occurrence #277 is located on Elephant Mountain, approximately 5 miles northwest of the site, and eagles have not been documented at this nesting location since 1978. At this location, a large whitewash deposit was observed, and this potential nest appeared to be an active common raven nest. Golden eagles were not observed in the vicinity of Occurrence #277 during three visits to this area.

Furthermore, all accessible lattice structures and other large transmission-line structures within 5 miles of the site were examined at least one time during the spring of 2018 for eagle nests. No golden eagle nests were documented during the spring 2018 surveys of accessible transmission towers within 5 miles of the project site.

Based on CNDDB records and a literature search, Swainson's hawks have been observed overwintering and migrating within and near the project area, but have not been recently recorded nesting there. The nearest recorded nest is in Apple Valley, about 25 miles south of the project site, and nesting was last observed there in 1932. The nearest recent nesting area is the Antelope Valley (approximately 60 miles to the west). Four individuals were observed in April

2018 foraging over an on-site agricultural field being plowed (see **Exhibit 3.4-1**). Swainson's hawks were not observed nesting on-site, and none were observed during subsequent surveys after April. Several other raptors, including the northern harrier, red-tailed hawk,³ ferruginous hawk, American kestrel, and prairie falcon, were also observed foraging on-site during the spring 2018 surveys, likely due to an abundance of exposed prey during the plowing activities.

Loggerhead shrike (SSC). This species occurs in open habitats (e.g., cropland, pastures, old orchards, cemeteries, golf courses), riparian areas, and open woodlands with scattered small trees, fences, utility lines, or other perches. It breeds mainly in shrublands or open woodlands. Suitable habitat occurs throughout the site, with nesting limited to less disturbed areas. Loggerhead shrikes were observed on multiple occasions on-site (see **Exhibit 3.4-1**) during focused surveys in the spring of 2018.

Le Conte's thrasher (SSC). This species inhabits sparsely vegetated desert flats, sand dunes, alluvial fans, washes, and gently rolling hills with a high proportion of saltbush or cholla for nesting. It is an uncommon and local resident in low desert scrub throughout most of the Mojave Desert. Its breeding range in California extends from these areas into the eastern Mojave, north into the Owens Valley, and south into the lower Colorado Desert and eastern Mojave. The native desert scrub communities on the project site provide suitable foraging and nesting habitat. This species was not detected on-site during focused surveys in the spring of 2018.

Special-status mammals. Townsend's big-eared bat (SSC) uses caves, mines, tunnels, bridges, buildings, rock crevices, and hollow trees for roosting. This species has been documented within 6 miles of the site. The abandoned houses and buildings on-site could support roosts. However, no bats were observed during the spring 2018 surveys.

Desert kit fox favors arid climates, such as desert scrub, chaparral, and grasslands at elevations of 1,300 to 6,200 feet amsl, and can be found in urban and agricultural areas.⁴ It is mostly nocturnal, hunting shortly after sunset for small animals such as kangaroo rats (*Dipodomys* spp.), meadow voles (*Microtus pennsylvanicus*), prairie dogs (*Cynomys* spp.), rabbits, insects, lizards, snakes, and ground-dwelling birds, but it sometimes ventures out of its den during the day. It will scavenge carrion, and while primarily carnivorous, if food is scarce, it has been known to eat cactus fruits.

³ Also observed nesting on the project site (see **Exhibit 3.4-1**).

⁴ Desert kit fox is not listed by the USFWS or CDFW under any special-status designation and was included in the special-status species list and surveys per the request of CDFW staff. It is considered a "fur-bearing mammal," protected from take under the California Fish and Game Commission's 2017–2018 Mammal Hunting Regulations (Subdivision 2, Chapter 5).

American badgers (SSC) prefer friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert; therefore, the project site supports suitable habitat for this species. All dens and other burrows found during the above-mentioned surveys for desert tortoises and burrowing owls were examined for sign of kit fox and badger, which was observed for both species at some locations, indicating they could be used by both species. Wildlife camera traps were set up on three occasions in May and June 2018 at some of the potential kit fox burrow complexes and badger burrows.

A kit fox was photographed at an on-site burrow complex southeast of the intersection of Valley Center Road and Minneola Road in June 2018, and another was incidentally observed at a burrow complex southwest of this intersection on June 27, 2018 (see **Exhibit 3.4-1**). No badgers were observed or photographed, although potential signs, including burrows, scat, and claw marks, were documented within the project area. It should be noted that these potential signs are not completely indicative of badgers being present on-site, as the burrows, scat, and claw marks could have been made by other wildlife.

Desert tortoise (FT, ST). Although this species was determined to have a low potential for occurrence, it is discussed here because marginally suitable habitat is present (936.1 acres), especially the less-disturbed Mojave Creosote Bush Scrub and Desert Saltbush Scrub in the eastern and southern portions of the site. The species' low potential for occurrence is due to the site's isolation from occupied habitat, including designated Critical Habitat units to the north and south, by highways, roadways, and railroad tracks, and due to ongoing disturbance that results in sparse herbaceous and shrub cover. In addition, no tortoises or definitive signs were detected during the protocol-level presence/absence surveys conducted in the spring of 2018. A potential burrow in the southeast corner of the project site was determined to likely be a partially collapsed mammal burrow.

The gen-tie alternative alignments also support a total of 144.8 acres of marginally suitable habitat. During the above-mentioned protocol-level presence/absence surveys, a potential burrow in the southernmost gen-tie alternative alignment near the Coolwater Generating Station was determined to likely be created by other wildlife and shaped by erosion.

Mojave fringe-toed lizard (SSC). This species is restricted to areas with fine, aeolian sand, including both large and small dunes, margins of dry lakebeds and washes, and isolated pockets against hillsides. These lizards require access to shaded sand to allow for predator evasion and thermoregulatory burrowing. They are typically active from March to September. Although this species was determined to have a low potential for occurrence, it is discussed here because the southeastern portions of the project site support a total of 80 acres of fine, sandy soils that could provide marginally suitable habitat (see **Exhibit 3.4-1**) and are adjacent to better quality habitat immediately off-site. Habitat within the project site is marginally suitable for this species and is

unlikely to be an important part of any dispersal corridor between areas with better quality habitat because (1) the sites do not have extensive or well-developed sand sheets (relative to areas farther east in the Mojave Valley), (2) are partially disturbed, and (3) are adjacent to cultivated fields. The sites surveyed are on the western edge of deeper and more extensive sandy soils and dunes that extend along the Mojave River and into the lower Mojave Valley (USDA 1937, 1986, 2017). Sand transport in this region generally is to the east along the Mojave River toward Soda Lake, Devil's Playground, and Kelso Dunes (Muhs et al. 2003).

The lizard's low potential for occurrence is due to the relatively small amount of suitable habitat on the project site. No Mojave fringe-toed lizards were detected during the presence/absence surveys conducted in April–June 2018 based on protocol for Coachella Valley fringe-toed lizard (*Uma inornata*), which occupies similar habitat and exhibits similar behavior as Mojave fringe-toed lizard.

Wildlife Corridors and Habitat Linkages

Wildlife corridors are landscape elements that provide for species movement and dispersal between two or more open spaces or large core habitat areas, allowing gene flow through diffusion of populations over a period of generations, as well as allowing “jump-dispersal” for some species between neighboring habitats. Habitat linkages are typically large open space areas (on a landscape scale) containing natural habitats that provide such connections. Linkages can form large tracts of natural open space and serve as “live-in” or “resident” habitats.

There are no wildlife corridors traversing the project site, as designated by the San Bernardino County General Plan, West Mojave Plan, or Desert Renewable Energy Conservation Plan (DRECP). The site is unlikely to be used as a local habitat linkage for desert tortoise between USFWS Critical Habitat for the tortoise in the Newberry Mountains Wilderness to the south and the Mojave River to the north because of I-40 running between the project and the Critical Habitat on the south and I-15 running between the project and the Critical Habitat to the north as well as the railroad. Similarly, the lack of desert tortoise observations, the presence of only marginally suitable habitat on the project site, and the large area of the site in active agricultural production further support the determination that the project site does not likely serve as a local habitat linkage.

REGULATORY FRAMEWORK

FEDERAL

Endangered Species Act

The federal Endangered Species Act (ESA) establishes the legal framework for the listing and protection of species (and their habitats) identified as being endangered, threatened with extinction, or candidates for both. Actions that jeopardize federally listed species and the habitats upon which they rely are considered a “take” under the ESA and are prohibited without a special permit. The ESA allows for take of a threatened or endangered species incidental to proposed actions pursuant to Incidental Take Permit (ITP) regulations. Section 7 of the ESA also allows for such takes when a federal permit is required (e.g., CWA Section 404 permit) after formal consultations have deemed that proposed disturbance activities will not jeopardize the continued existence of the species.

Clean Water Act

CWA Section 401 requires any applicant for a federal license or permit that is conducting any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification from the appropriate RWQCB that the discharge will comply with applicable effluent limitations and water quality standards. CWA Section 404 prohibits the discharge of dredged or fill material into waters of the United States without a permit from the US Army Corps of Engineers (USACE).

In addition to streams with a defined bed and bank, the definition of waters of the United States includes wetland areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 Code of Federal Regulations [CFR] 328.3 7b). The lateral extent of non-tidal waters is determined by delineating the OHWM (33 CFR Section 328.4[c][1]). For adjacent wetlands, the limits of jurisdiction extend beyond the OHWM to the outer edge of the wetlands. The presence and extent of jurisdictional wetlands are determined through the examination of vegetation, soils, and hydrology, and exhibit hydrophytic vegetation, wetland hydrology, and hydric soils.

Impacts to jurisdictional resources require either a nationwide permit or an individual permit, depending on extent. Mitigation of such impacts is required as a condition of the Section 404 permit and may include on-site and/or off-site preservation, creation, restoration, and/or enhancement. To achieve no net loss of wetlands, the characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 United States Code [USC] Section 703 et seq.) implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The State of California incorporates the protection of birds of prey in CFGC Sections 3800, 3513, and 3503.5. All raptors and their nests are protected from take or disturbance under the MBTA and CFGC Section 3503.5.

Bald and Golden Eagle Protection Act

In addition to MBTA protections, the golden eagle and bald eagle are afforded additional protection under this act, amended in 1973 (16 USC Section 668 et seq.).

Bureau of Land Management West Mojave Plan

The West Mojave Plan, a habitat conservation plan (HCP) and federal land use plan amendment for the California Desert Conservation Area Plan, is implemented on Bureau of Land Management (BLM) administered public lands. The plan outlines the special-status species in the counties that fall within the plan's purview, including San Bernardino County, establishes a framework for conservation of natural communities in which these species reside, and provides a streamlined program for complying with ESA/California Endangered Species Act (CESA) requirements. Although the project site is located within its boundaries, this plan is not applicable to projects on private lands.

Desert Renewable Energy Conservation Plan

In response to Executive Order S-14-08, which established a target of obtaining 33 percent of the state's electricity from renewable resources by 2020, the California Energy Commission (CEC), CDFW, BLM, and USFWS have developed the Desert Renewable Energy Conservation Plan. The plan area encompasses the Mojave and Colorado Desert regions in California, including all or a portion of the following counties: Kern, Los Angeles, San Bernardino, Inyo, Riverside, Imperial, and San Diego.

The DRECP is a joint state and federal natural communities conservation plan (NCCP) and part of one or more HCPs that is intended provide for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. The plan is anticipated to provide long-term endangered species permit assurances to renewable energy developers and provide a process for conservation funding to implement the DRECP. It would also serve as the basis for one or more habitat conservation plans under the ESA.

In 2016, the BLM issued a Record of Decision, approving a Land Use Plan Amendment that represents the conclusion of Phase I of the DRECP, which identifies priority areas for renewable energy development while setting aside millions of acres for conservation and outdoor recreation. The BLM plan complements the non-federal land component of the DRECP (Phase II), which is ongoing, led by the CEC.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) was established by the state legislature to inform both state and local governmental decision-makers and the public about significant environmental effects of proposed activities (including impacts on biological resources), to identify ways to avoid or reduce significant adverse effects on the environment, and to disclose the reasons why a project is approved if significant environmental impacts would result.

California Endangered Species Act

The CESA establishes the State's policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The act mandates that state agencies not approve projects which would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that affect both a federally and state-listed species, compliance with the federal ESA will satisfy the CESA if the California Department of Fish and Wildlife determines that the federal incidental take authorization is "consistent" with the CESA under CFGC Section 2080.1. For projects that result in take of a state-only listed species, the project proponent must apply for an ITP under CFGC Section 2081(b).

State Water Resources Control Board/Regional Water Quality Control Board

For waters of the State that are federally regulated under the CWA, the State Water Resources Control Board (SWRCB) (through its RWQCBs) must provide state water quality certification pursuant to CWA Section 401 for activities requiring a federal permit or license that may result in discharge of pollutants into waters of the United States. Where no federal jurisdiction exists over waters of the United States, the SWRCB (through its RWQCBs) retains regulatory authority to protect water quality through provisions of California's Porter-Cologne Water Quality Control Act via application for or waiver of waste discharge requirements.

California Fish and Game Code

Native Plant Protection Act

The Native Plant Protection Act (CFGF Sections 1900–1913) prohibits the take, possession, or sale in California of any plants with a state designation of rare, threatened, or endangered (as defined by the CDFW). Under specified circumstances, landowners can take listed plants, provided they first notify the CDFW and give the agency at least 10 days to retrieve the plants before they are impacted (CFGF Section 1913).

Birds of Prey

Under CFGF Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the CFGF or any regulation adopted pursuant thereto.

“Fully Protected” Species

California statutes also afford “fully protected” status to certain species that cannot be taken, even with an ITP. Relative to the species that could occur on the project site, CFGF Section 3505 makes it unlawful to take “any bird of prey, or any part of such birds”; CFGF Section 3511 protects from take the American peregrine falcon (*Falco peregrinus*), golden eagle, southern bald eagle (*Haliaeetus leucocephalus*), and white-tailed kite (*Elanus leucurus*); and CFGF Section 4700 protects from take the bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (*Ovis canadensis nelsoni*).

Species of Special Concern

Species of special concern are broadly defined as animals not listed under the CESA, but nonetheless of concern to the CDFW because they are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. This designation focuses research and management attention on these species to avert their need for listing by stimulating collection of additional information on the biology, distribution, and status of poorly known at-risk species and by identifying recovery efforts that might ultimately be required. Species of special concern are included in the Special Animals List tracked in the CNDDDB.

Porter-Cologne Water Quality Control Act

This act defines waters of the State as any surface water or groundwater, including saline waters, in California. The RWQCBs protect all waters in their regulatory scope but have special

responsibility for isolated wetlands and headwaters that have high resource value, are vulnerable to filling, and may not be regulated by other programs (e.g., CWA Section 404). In addition to the Porter-Cologne Water Quality Control Act, the RWQCBs regulate waters of the State under CWA Section 401 (i.e., the Water Quality Certification Program) in connection with a CWA Section 404 permit, as previously discussed. If a project does not require a federal license or permit but may result in a discharge of harmful substances to waters of the state, the applicable RWQCB has the option to regulate such activities under its state authority in the form of waste discharge requirements or certification of waste discharge requirements.

Lake and Streambed Alteration Program

CFGF Section 1602 requires a Lake or Streambed Alteration Agreement notification to the CDFW prior to initiating any activity that would (1) divert or obstruct the natural flow of or substantially change or remove material from the bed, channel, or bank of any river, stream, or lake; or (2) result in the disposal or deposition of debris, waste, or other material into any river, stream, or lake. The state definition of “lakes, rivers, and streams” includes those that flow at least periodically or permanently through a well-defined bed or channel (with banks) and support fish or other aquatic life, and watercourses with surface or subsurface flows that support or have supported riparian vegetation.

Natural Community Conservation Planning Act of 1991

The Natural Community Conservation Planning Act is aimed at conserving natural communities at the ecosystem scale for comprehensive regional protection of natural wildlife diversity and management of species, while allowing appropriate and compatible land development. The CDFW is primarily responsible for implementing this act.

California Desert Native Plants Act

Division 23 of the California Food and Agricultural Code protects California desert native plants from unlawful harvesting on both public and private lands, and it contains provisions to legally harvest native plants so as to ultimately transplant them with the greatest possible chance of survival. This act is applicable only in Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego counties.

CNPS Rare or Endangered Plant Species

Vascular plants listed as rare or endangered by the CNPS that are evaluated under CEQA are:

- List 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
- List 1B: Plants rare, threatened, or endangered in California and elsewhere

- List 2A: Plants presumed extirpated in California but common elsewhere
- List 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere

LOCAL

County of San Bernardino General Plan

The County's General Plan identifies the following relevant goals and policies for the Desert Planning Region, in which the project site is located, for the protection of biological resources.

Conservation Element

GOAL CO 2 The County will maintain and enhance biological diversity and healthy ecosystems throughout the County.

Policy CO 2.1 The County will coordinate with state and federal agencies and departments to ensure that their programs to preserve rare and endangered species and protect areas of special habitat value, as well as conserve populations and habitats of commonly occurring species, are reflected in reviews and approvals of development programs.

Policy CO 2.2 Provide a balanced approach to resource protection and recreational use of the natural environment.

Policy CO 2.3 In addition to conditions of approval that may be required for specific future development proposals, the County shall establish long-term comprehensive plans for the County's role in the protection of native species because preservation and conservation of biological resources are statewide, Regional, and local issues that directly affect development rights. The conditions of approval of any land use application approved with the Biotic Resources (BR) overlay district shall incorporate mitigation measures identified in the report required by Section 82.13.030 (Application Requirements), to protect and preserve the habitats of the identified plants and/or animals.

Policy CO 2.4 All discretionary approvals requiring mitigation measures for impacts to biological resources will include the condition that the mitigation measures be monitored and modified, if necessary, unless a finding is made that such monitoring is not feasible.

Renewable Energy and Conservation Element

GOAL RE 4 The County will establish a new era of sustainable energy production and consumption in the context of sound resource conservation and renewable energy development practices that reduce greenhouse gases and dependency on fossil fuels.

Policy RE 4.1 Apply standards to the design, siting, and operation of all renewable energy facilities that protect the environment, including sensitive biological resources, air quality, water supply and quality, cultural, archaeological, paleontological and scenic resources.

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

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

Policy RE 4.8 Encourage mitigation for Renewable Energy generation facility projects to locate habitat conservation offsets on public lands where suitable habitat is available.

- RE 4.8.1: Collaborate with appropriate state and federal agencies to facilitate mitigation/habitat conservation activities on public lands.

Policy RE 4.9 Encourage Renewable Energy facility developers to design projects in ways that provide sanctuary (i.e., a safe place to nest, breed and/or feed) for native bees, butterflies and birds where feasible and appropriate, according to expert recommendations.

Community Plans and Action Plans

The project site is not located in an area covered by a Community Plan adopted in support of the County's General Plan. However, the County is currently preparing action plans for review by the Board of Supervisors sometime in 2019 to address land use planning issues relative to the Daggett, Newberry Springs, and Yermo areas. The policy-guiding documents will be included in the County Policy Plan once adopted by the Board of Supervisors. After the adoption of the County Policy Plan, the Development Code will be updated to reflect the new policies.

No specific goals or policies for guiding future development are applicable to the project as Community Plans are still being reviewed for inclusion in the County Policy Plan.

San Bernardino County Development Code

Development Code Section 88.01.060 is a subset of the Plant Protection and Management Code, which focuses on the conservation of specified desert plant species and is therefore applicable to the project site since it is in the County's Desert Planning Region.

Division 2, Land Use Zoning Districts and Allowed Land Uses

Chapter 82.11, Biotic Resources (BR) Overlay, implements General Plan policies for the protection and conservation of beneficial unique, rare, threatened, or endangered plants and animal resources and their habitats in certain unincorporated areas identified by a federal, state, or county agency. For new developments or increased development of existing land uses by more than 25 percent, the land use application must include a biotic resources report evaluating all biotic resources on and adjacent to the site which could be impacted and identifying mitigation measures for significant impacts.

Division 8, Resource Management and Conservation

Chapter 88.01, Plant Protection and Management, includes regulations and guidelines for the management of biotic resources in unincorporated areas under private or public ownership, including conservation of native plant heritage; regulation of native plant and tree removal activities; protection and maintenance of local watersheds; preservation of habitats for rare, endangered, or threatened plants; and protection of wildlife with limited or specialized habitats. Chapter 88.01 also requires a permit prior to removal of regulated trees and plants.

IMPACT ANALYSIS AND MITIGATION MEASURES

An evaluation of the significance of potential impacts on biological resources must consider both direct effects to the resource and indirect effects in a local or regional context. Potentially significant impacts would generally result in the loss of a biological resource or conflict with local, state, or federal agency conservation plans, goals, policies, or regulations.

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

Based on CEQA Guidelines Appendix G, a significant impact on biological resources would occur if the proposed 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 CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by CWA Section 404 (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

PROJECT IMPACTS AND MITIGATION

SUBSTANTIAL EFFECT ON CANDIDATE, SENSITIVE, OR SPECIAL-STATUS SPECIES

Impact 3.4-1	The project could have a potentially adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Impacts would be less than significant with mitigation.
---------------------	---

SPECIAL-STATUS PLANT SPECIES

No special-status plant species were observed within the proposed development footprint on the project site. Therefore, no direct or indirect impacts are anticipated.

SPECIAL-STATUS WILDLIFE SPECIES

Direct Impacts

Desert Tortoise

Although the 2018 protocol surveys were negative and the potential for desert tortoise to be on the site is considered low, portions of the site provide marginally suitable habitat for the species. It is therefore assumed conservatively that tortoises could be present prior to construction and therefore that project disturbance activities (e.g., vegetation clearing, site grading, excavation earthwork) could significantly impact desert tortoises. This potential direct impact would be mitigated to less than significant with implementation of mitigation measure **BIO-1**. Mitigation measure **BIO-1** would reduce impacts to desert tortoise by requiring a preconstruction clearance survey to determine species presence, and ensuring that construction workers are properly trained to identify signs of the species and implement appropriate procedures to avoid potential impacts (i.e., alerting a biological monitor if desert tortoise is observed on-site, removing daily trash to detract desert tortoise predators from the project area, etc.).

Burrowing Owl

The project has the potential to impact burrowing owl individuals if they are present on the project site at the time of scheduled disturbance activities. This potential direct impact would be mitigated to less than significant with implementation of mitigation measure **BIO-2**. This mitigation measure would reduce direct impacts to burrowing owl by requiring a preconstruction clearance survey to determine species presence and identifying proper measures for avoidance of and/or species relocation, as needed. Mitigation measure **BIO-2** would further reduce

potential impacts by requiring provision of a buffer around occupied burrows via flagging or fencing to minimize potential disturbance and monitoring of construction activities, as specified.

Tricolored Blackbirds

As previously discussed, tricolored blackbirds were incidentally observed foraging in on-site agricultural fields near Minneola Road and flying to and from a possible off-site nesting area in an artificial pond with cattails located in the backyard of a residence on the east side of Minneola Road. The off-site pond would not be disturbed by the project, but some on-site foraging habitat (i.e., the agricultural field closest to the pond) would be converted to solar arrays. Nevertheless, the project would not result in direct impacts to tricolored blackbirds, nor cause individuals of this state-protected species to be killed or otherwise incidentally taken, because they are highly mobile and would leave any active construction sites as activities begin.

Raptors

Nesting Habitats. A nesting site was identified on the project site for red-tailed hawk. As previously discussed, no active golden eagle nests were documented during the spring 2018 surveys within 5 miles of the project site; therefore, the project would not result in a potential direct impact to any active golden eagle nests. With respect to Swainson's hawks, the CDFW (2010) has developed guidance for minimizing impacts from renewable energy projects located near nests. That guidance suggests that loss of foraging habitat located within 5 miles of a nest should be mitigated at a ratio of 2:1. However, this recommendation is not applicable to the project as Swainson's hawks do not nest in the Mojave Valley or elsewhere in that portion of central San Bernardino County. As previously discussed, based on CNDDDB records and a literature search, the nearest recorded nest is in Apple Valley about 25 miles south of the project site, and nesting was last observed there in 1932. The nearest recent Swainson's hawk nesting area is in the Antelope Valley, approximately 60 miles to the west. As such, project development is not expected to impact any Swainson's hawks nesting areas.

Foraging Habitats. Portions of the site were observed being used as foraging habitat by golden eagle, short-eared owl, burrowing owl, red-tailed hawk, ferruginous hawk, Swainson's hawk, northern harrier, prairie falcon, and American kestrel. In San Bernardino County, there are approximately 77,000 acres of agricultural land (as of 2012, per the USDA). The proposed project would convert about 1,740 acres of agricultural land, or about 2 percent of such lands. Further, some prey may inhabit the area around solar modules, especially as some vegetation re-establishes between the panels, in order to escape detection from raptors flying overhead (due to the cover that the solar modules would provide). Even after conversion of agricultural land to solar generation, raptors may still be able to hunt for rodents, small birds, and reptiles in solar

fields from perches such as the solar modules themselves or fencing and utility structures surrounding the facilities.

With respect to Swainson's hawks, this state-protected species is occasionally observed foraging throughout the region during spring and fall migration and possibly at other times during the summer. In particular, it forages in irrigated alfalfa fields and pastures, other active and fallow agricultural fields, and dry lands with a sufficient prey base (Dudek 2014; CDFW 2010). Given the small number of Swainson's hawks in the vicinity and the absence of known recent nests within 60 miles, the conversion of the agricultural fields to solar generation uses would not constitute a significant loss of foraging land. There would continue to be sufficient remaining nesting and foraging habitat in the vicinity to support viable raptor populations on a regional scale.

In general, although the project would result in the conversion of agricultural fields used for foraging by raptors, it would not cause individuals to be killed or otherwise significantly harmed because the birds are highly mobile, would naturally avoid the active construction site for nesting, and would be afforded adequate foraging habitat during project operation and after decommissioning. As such, the project would result in less than significant impacts.

Mammals

Mohave ground squirrels (*Xerospermophilus mohavensis*), which are classified as threatened by the State of California, do not occur in or near the project area (HDR 2018a; **Appendix E-1**). The nearest suitable habitat for this species is to the west and north of Barstow, which is over 10 miles away from the project site. Therefore, no direct or indirect impacts to Mohave ground squirrel are anticipated to occur.

Although potential signs were documented in the project area, the observed burrows, scat, and claw marks are not completely indicative of American badgers being present on-site and could have been made by other wildlife. Further, no badgers were observed or photographed in the project area during the 2018 surveys. Therefore, no direct or indirect impacts to American badger are anticipated to occur.

Desert kit fox was observed on-site. The project could directly impact suitable habitat for desert kit fox and has the potential to impact individual foxes if they are present on-site at the time of scheduled disturbance activities. This potential direct impact would be reduced to less than significant with implementation of mitigation measures **BIO-3** and **BIO-4**. These measures would reduce impacts because they require development of a Desert Kit Fox Management Plan that contains a worker education program designed to educate on-site employees on how to avoid the species, as well as other special-status species, so that individuals would not be adversely

impacted. Monitoring activities are also required to confirm the effectiveness of avoidance measures implemented.

Nesting Birds and Avian/Bat Collisions

Nesting Birds. Removal of on-site vegetation communities during project disturbance activities could result in direct impacts to avian nests protected by the MBTA and CFGC (e.g., nest abandonment or mortality of young), if nesting birds are present on the site at the time of construction. This potential direct impact would be reduced to less than significant with implementation of mitigation measure **BIO-5**. This measure would reduce impacts to nesting birds because the mitigation measure defines the roles of the qualified personnel on-site during preconstruction, construction, and decommissioning activities and outlines procedures to undertake if nesting bird(s) or active nests are observed in the project area.

Avian Collisions. It has been hypothesized that PV solar arrays could be an attractant to birds, which might detect an array of panels as water (i.e., the “lake effect hypothesis”), attempt to land there, and collide with or be trapped among panels or other infrastructure at PV solar facilities (Lovich and Ennen 2011; BLM and DOE 2012; Kagan et al. 2014). When oriented in a horizontal position, solar panels could mimic the “lake effect,” in which birds and their insect prey can mistake them for a water body, or “spot water ponds,” and then fly toward them, often resulting in death by colliding into the hard surfaces.

Walston et al. (2016) reviewed information on the lake effect hypothesis and synthesized available information on avian monitoring and mortality at utility-scale solar energy facilities in the United States. The study identified three concentrating solar power facilities for which there was sufficient information to calculate avian mortality. One of those facilities, the now closed California Solar One [CSO] facility, is adjacent to the proposed Daggett Solar Power Facility (McCrary et al. 1986). The other two facilities are also located in Southern California.

After adjusting to account for average searcher efficiency and average carcass persistence, Walston et al. (2016) estimated that annual rates of avian mortality attributed to these three solar facilities, combined, ranged from 0.5 (for CSO) to 10.24 birds per megawatt per year, but that total avian mortality at each of the sites was more consistent and averaged 9.9 birds per MW per year. For comparison, this rate of mortality, if calculated for all solar facilities in Southern California, is far lower than other common causes of avian mortality, such as collision with transmission lines, predation trauma, electrocution, and emaciation; the cause of death frequently could not be determined or was not reported. Avian collisions with solar panels are not considered significant on a population level.

Aside from the potential lake effect, and as with any other man-made structures (such as buildings, windows, and communications towers), avian species may directly collide with the project's PV modules. However, it should be noted that avian mortality resulting from collision with man-made structures is typically highest when projects are sited in areas of high bird use such as wetlands, riparian areas, migration corridors, and other avian habitat features (Lovich and Ennen 2011; Walston et al. 2016). Although the project site is along the Pacific Flyway, in general, it is distant from known major avian migratory routes or stopover locations in California, such as the Colorado River, Salton Sea, and Mono Lake. Additionally, while there are a number of ponds and other small open bodies of water in the Daggett/Barstow area, no waterfowl or other water birds were observed on-site during the 2018 surveys.

Impacts to avian species may occur during project construction, operation, and decommissioning, including collision risks associated with project transmission wires, telecommunications towers, fencing, array structures, and heavy equipment. Risk factors associated with such collisions include the size of facility, height of structures, and specific attributes of structures (guy wires and lighting/light attraction), as well as siting in high risk areas, frequency of inclement weather, type of development, and species or taxa at potential risk.

Risk factors that have been empirically demonstrated to result in elevated avian collision risks (e.g., tall buildings, communication towers, wind turbines, concentrating solar thermal heliostats) are not contemplated as part of the proposed project. While impacts to individual birds from collisions may be expected to occur over the life of the proposed project, the frequency and nature of collisions would not be expected to be significantly exacerbated due to the project, and no population-level impacts are anticipated. As such, project impacts associated with bird collisions are considered less than significant.

The applicant implements a company-wide wildlife incident reporting program (WIRP) that all on-site facility staff are required to follow. The WIRP includes training to staff for identifying and responding to encounters with sensitive biological resources. Downed state- and/or federally listed species, if found, will be reported to state and/or federal wildlife agencies in accordance with applicable law.

Bat Collisions. Post-development direct impacts to bats protected by the CFGC may also occur from collisions with the proposed PV solar panels. A laboratory study undertaken by Siemers and Grief (2010) in a flight room showed that bats attempted to drink from the panels and, if vertically aligned, occasionally collided with them when attempting to fly through them, with juvenile bats more prone to this behavior. This study concluded that bats have an innate ability to echolocate water, by recognizing the echo from smooth surfaces, and that bats may therefore perceive all smooth surfaces as water. However, the authors do not suggest that bats will be negatively affected by this mistake.

Another similar study by Russo et al. (2012) assessed the ability of bats to tell the difference between water and smooth surfaces in the wild. In this experiment, an existing water trough used by bats was covered with Perspex (commonly referred to as acrylic glass) and another left open. A third water trough was half covered in Perspex, with the other half left open. There was no difference in the number of bats visiting each trough. However, the authors found that having had a number of failed drinking attempts from the Perspex side of the trough, the bats would either return to drink from the water side of the trough or leave the site in search of water elsewhere. There was no mention of bats colliding with the Perspex. Based on available data, and for the reasons provided above, potential project impacts on bat species are considered less than significant.

Decommissioning of Facilities

Over time, vegetation may re-establish between the panels through succession, and wildlife may inhabit the project site. Potential direct impacts to such post-development wildlife habitats that may become established on-site could occur in the decommissioning phases, similar to impacts during the initial construction phase but in the future. Such potential direct impacts would be reduced to less than significant with implementation of mitigation measures **BIO-1** through **BIO-7**. The mitigation measures identified would reduce impacts through determination of species presence prior to construction; worker education; identification of proper procedures to follow if a species, or signs of the species, is observed within the project disturbance area; and implementation of other standard avoidance and and/or minimization measures.

All decommissioning activities would comply with federal, state, and local standards and all regulations that exist when the project is decommissioned, including the requirements of San Bernardino County Development Code Section 84.29.060.

Indirect Impacts

During project construction, indirect effects may include dust, which could disrupt plant vitality in the short term, or construction-related soil erosion and runoff. Long-term edge effects could include intrusions by humans and possible trampling of individual plants, invasion by exotic plant and wildlife species, exposure to urban pollutants (fertilizers, pesticides, herbicides, and other hazardous materials), soil erosion, litter, fire, and hydrologic changes (e.g., surface water and groundwater level and quality).

Mitigation measure **BIO-6** would provide for the implementation of best management practices (BMPs) and erosion control, revegetation of temporary impact areas, and avoidance of toxic substances that could affect plant life at the project site, and therefore would reduce indirect impacts to special-status plants to less than significant levels.

Decommissioning of Facilities

Potential indirect impacts could occur to wildlife or plant life during the decommissioning phase, similar to impacts during the initial construction phase but in the future. Implementation of mitigation measure **BIO-6** would reduce such potential impacts to less than significant by requiring implementation of BMPs and other measures (i.e., erosion control, avoidance of wildlife entrapment, use of nontoxic chemicals) to minimize indirect effects.

All decommissioning activities would comply with federal, state, and local standards and all regulations that exist when the project is decommissioned, including the requirements of San Bernardino County Development Code Section 84.29.060.

Mitigation Measures:

BIO-1 To avoid construction-level impacts to desert tortoise, not more than 45 days prior to ground-disturbing activities for the construction and/or decommissioning phase(s), qualified personnel shall perform a preconstruction clearance survey for desert tortoise. If the species is present on-site, individual(s) shall be allowed to leave the site on their own, and in consultation with California Department of Fish and Wildlife (CDFW), the applicant may be required to install exclusionary/perimeter fencing, with mesh attached to the fence fabric extending from approximately 12 inches below grade to approximately 24 inches above grade to ensure no tortoises re-enter the work limits. No person(s) shall be allowed to touch a tortoise without authorization from the US Fish and Wildlife Service (USFWS) and CDFW.

Disturbance activities shall be monitored, as follows:

- Environmental awareness training shall be provided for all construction personnel to educate them on desert tortoise, protective status, and avoidance measures to be implemented by all personnel, including looking under vehicles and equipment prior to moving. If tortoises are encountered, such vehicles shall not be moved until the tortoises have voluntarily moved away from them or a qualified biologist has moved the tortoises out of harm's way.
- If a tortoise is present, a biological monitor shall be present during all disturbance activities in the vicinity of exclusionary fencing (if required) and shall have the authority to stop work as needed to avoid direct impacts to tortoises. Periodic biological inspections and maintenance shall be conducted during the construction period to ensure the integrity of

exclusionary fencing (if required). Work may proceed within the excluded area when the biologist confirms all tortoises have left the excluded area.

- Should tortoises be found during construction activities, the biological monitor shall have the authority to stop work as needed to avoid direct impacts to tortoises, and further consultations with the USFWS and CDFW shall take place.
- Trash and food items shall be contained in closed containers and removed daily to reduce attractiveness to opportunistic predators of desert tortoise (e.g., ravens, coyotes, feral dogs).
- Employees shall not bring pets to the construction site, which may predate on tortoises.

BIO-2

To avoid construction-level impacts to burrowing owl, not more than 45 days prior to project disturbance activities, qualified personnel shall perform a preconstruction clearance survey for burrowing owl in accordance with CDFW guidelines. If the species is present on-site and/or within 500 feet of the site, the biologist shall prepare and submit a passive relocation plan to the CDFW for review/approval and shall implement the approved plan to allow commencement of disturbance activities on-site.

Fencing or flagging shall be installed at a 250-foot radius from occupied burrows to create a non-disturbance buffer area where no work activities may be conducted. Through consultation with the CDFW, the non-disturbance buffers/fence lines may be reduced to 160 feet if all project-related activities that might disturb burrowing owls would be conducted during the nonbreeding season (i.e., September 1 through January 31).

If avoidance of an occupied burrow is infeasible, the owls may be passively relocated by a qualified biologist during the non-breeding season, in accordance with the passive relocation plan. (Note: Occupied burrows may not be disturbed during the breeding season [February 1 to August 31].) At a minimum, the plan shall include the following performance standards:

- Excavation shall require hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow and monitored for at least 48

hours after installation. If burrows will not be directly impacted by the project, one-way doors shall be installed to prevent use and shall be removed after ground-disturbing activities have concluded in the area. Only burrows that will be directly impacted by the project shall be excavated and filled.

- Detailed methods and guidance for passive relocation of burrowing owls to off-site “replacement burrow site(s)” consisting of a minimum of two suitable, unoccupied burrows for every burrowing owl or pair to be passively relocated.
- Monitoring and management of the replacement burrow site(s) and a reporting plan. The objective shall be to manage the replacement burrow sites for the benefit of burrowing owls (e.g., minimizing weed cover), with the specific goals of maintaining the functionality of the burrows for a minimum of 2 years.

If preconstruction surveys indicate construction activities would occur within 500 feet of off-site occupied burrows during the breeding season (February 1 through August 31), qualified personnel shall monitor project disturbance activities and the off-site active burrows to ensure they are not being adversely affected. If so, the biologist in consultation with the CDFW shall implement additional measures to avoid such disturbances of active nesting efforts.

BIO-3 To avoid construction level impacts to desert kit fox, at least 45 days prior to project ground disturbance activities during the construction phase, a Desert Kit Fox Management Plan shall be prepared and submitted to the County and the CDFW that (1) incorporates pre-approval survey data of the desert kit fox population; (2) identifies preconstruction survey methods for kit foxes; (3) describes preconstruction and construction-phase biological monitoring and passive relocation methods, or outlines any identified CDFW permit and Memorandum of Understanding requirements for active relocation, if either are necessary; and (4) includes contingency measures if canine distemper is documented in any individuals on-site.

BIO-4 To avoid construction-level impacts to desert kit fox, not more than 45 days prior to project disturbance activities, qualified personnel shall perform a preconstruction clearance survey for desert kit fox in accordance with CDFW guidelines. Surveys shall also consider the potential presence of active dens within 100 feet of the boundaries of the on-site disturbance footprint, access roads, and

selected alignment for the gen-tie line. If dens are detected, each shall be classified as either inactive, potentially active, or definitely active, and the following actions taken:

- Inactive dens that would be directly impacted shall be excavated by hand and backfilled to prevent reuse by kit fox.
- Potentially and definitely active dens that would be directly impacted shall be monitored by a biologist for 3 consecutive nights using a tracking medium (e.g., diatomaceous earth, fire clay) and/or infrared camera stations at the den entrance.
- If no tracks are observed or no photos of the species are captured after 3 nights, the den shall be excavated and backfilled by hand.
- If tracks are observed, the den entrance shall be progressively blocked with natural materials (e.g., rocks, dirt, sticks, vegetation) for the next 3 to 5 nights to discourage the fox from continued use of the den. After verification that the den is unoccupied, it shall then be excavated and backfilled by hand to ensure no foxes are trapped in the den.
- If an active natal den (i.e., with pups) is detected on-site, per the procedures above, the CDFW shall be contacted within 24 hours to determine the appropriate course of action to minimize the potential for harm or mortality. The course of action shall depend on the age of the pups, on-site location of the den (e.g., central area, perimeter), status of the perimeter fence (completed or not), and pending construction activities proposed near the den. A 500-foot non-disturbance buffer shall be maintained around all active natal dens.

The following measures are required to reduce the likelihood of distemper transmission:

- No pets shall be allowed on-site prior to or during construction, with the possible exception of kit fox scat detection dogs during preconstruction surveys, and then only with prior CDFW approval.
- If the biological monitor deems it necessary to repel foxes attempting to enter the construction zones, animal repellents such as coyote urine shall be used only with prior CDFW approval.

- Any sick or diseased fox, or documented fox mortality, shall be reported to the CDFW within 24 hours of identification. If a dead fox is observed, it shall be protected from scavengers until the CDFW determines whether the collection of necropsy samples is justified.

BIO-5 To avoid construction-level impacts to nesting birds, no earlier than 3 days prior to commencement of scheduled ground disturbance during the nesting bird breeding season (February 1 through August 31), qualified personnel shall perform a nest survey within 500 feet of the disturbance footprint, as accessible. If active nests are found, project disturbance activities shall be postponed or halted within a non-disturbance buffer surrounding each active nest (to be established by the biologist) that is suitable to the particular bird species and nest location(s) until the nest(s) are vacated and juveniles have fledged, as determined by the biologist. Any such buffer(s) shall be clearly demarcated in the field with highly visible construction fencing or flagging, and construction personnel shall be instructed on the sensitivity of nest areas. A biologist shall monitor construction activities near all such buffer(s) to ensure no inadvertent impacts on active nest(s). If listed species are involved, the CDFW and/or USFWS shall be notified immediately for consultation on how to proceed.

BIO-6 The following best management practices shall be implemented during project grading and construction and decommissioning activities to address potential indirect impacts:

- The potential for wildlife entrapment shall be avoided as follows:
 - **Backfill trenches.** At the end of each workday, all potential wildlife pitfalls (e.g., trenches, bores, excavation pits) shall be backfilled, covered, or sloped to allow wildlife egress. Should wildlife become trapped, a qualified biologist shall be notified by construction personnel to remove and relocate the individual(s).
 - **Cover materials.** All open ends of pipes, culverts, or other hollow materials temporarily installed in open trenches or stored in staging/laydown areas shall be covered/capped at the end of each workday. Any such materials that have not been capped shall be inspected by construction personnel for wildlife before being moved, buried, or handled. Should wildlife become trapped, a qualified biologist shall be notified by construction personnel to remove and relocate the individual(s).

- Minimize construction impacts. The construction limits shall be flagged prior to ground-disturbing activities. All construction activities, including equipment staging and maintenance, shall be conducted within the flagged disturbance limits.
- Avoid toxic substances on road surfaces. Soil binding and weighting agents used on unpaved surfaces shall be nontoxic to wildlife and plants.
- Minimize spills of hazardous materials. All vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills shall be immediately cleaned up and the contaminated soil shall be properly handled or disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area.
- Worker guidelines. All trash and food-related waste shall be placed in self-closing containers and removed regularly from the site to prevent overflow. Workers shall not feed wildlife or bring pets to the project site.
- Best management practices/erosion/runoff. The project shall incorporate methods to control runoff, including a stormwater pollution prevention plan to meet National Pollutant Discharge Elimination System (NPDES) regulations. Implementation of stormwater regulations is expected to substantially control adverse edge effects (e.g., erosion, sedimentation, habitat conversion) during and following construction, both adjacent to and downstream from the project area. Typical construction best management practices specifically related to reducing impacts from dust, erosion, and runoff generated by construction activities shall be implemented. During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns, which will protect sensitive vegetation from being inundated with sediment-laden runoff. Dewatering shall be conducted in accordance with standard regulations of the Colorado River Regional Water Quality Control Board. An NPDES permit, issued by the RWQCB to discharge water from dewatering activities, shall be required prior to the start of dewatering. This permit will minimize erosion, siltation, and pollution in sensitive vegetation communities.

Level of Significance: Less than significant with mitigation.

SUBSTANTIAL ADVERSE EFFECT ON RIPARIAN HABITAT OR OTHER SPECIAL-STATUS HABITATS

Impact 3.4-2	The project could impact special-status riparian habitats or have a substantial adverse effect on sensitive or other special-status natural vegetation communities identified in local or regional plans, policies, or regulations or by the CDFW or USFWS. This impact would be less than significant with mitigation.
---------------------	--

SPECIAL-STATUS VEGETATION COMMUNITIES
Direct Impacts

Table 3.4-1 summarizes existing on-site (solar facility) and off-site (gen-tie line) vegetation communities. Due to proposed grading and construction requirements, it is anticipated that the project would directly impact all vegetation communities and land cover shown in **Table 3.4-1** (e.g., impact acreage would be equivalent to existing acreage). As previously described, the site contains one non-riparian drainage extending across the south-central edge (identified as “Feature B” in **Appendix E-4**) under RWQCB and CDFW jurisdiction. However, the project would avoid this on-site jurisdictional feature.

None of the vegetation communities in the project disturbance area are identified as sensitive or special-status natural vegetation communities in local or regional plans, policies, or regulations or by the CDFW or USFWS. The vegetation communities on the project site are prevalent in the region and do not represent designated critical habitat. Special-status animal species, such as burrowing owl and desert tortoise, may use some of the vegetation communities as habitat.

As described previously, implementation of mitigation measure **BIO-2** would reduce direct impacts to burrowing owl by requiring preconstruction determination of species presence, environmental awareness training for employees, and other measures such as buffering construction activities from occupied burrows or passive relocation of individuals during the non-breeding season. Since burrowing owls use a wide range of habitats, the loss of habitat from development of the site would not have a significant impact on individuals or the region’s burrowing owl population since they are mobile and can relocate to similar habitat within the surrounding area.

The site also supports marginally suitable desert tortoise habitat; however, desert tortoises were not identified during protocol surveys conducted for the project, and therefore, are not considered to be present on-site. However, the project applicant would implement mitigation measure **BIO-1** to reduce potential direct impacts to desert tortoise by requiring pre-construction surveys for the species, environmental awareness training, construction monitoring, and/or

implementation of proper measures to buffer construction activities from and/or minimize potential disturbance of the species if present.

For these reasons, project impacts to vegetation communities and other special-status habitats would be less than significant.

Decommissioning of Facilities

Although the project would not result in a significant impact to vegetation communities or other special-status habitats, the County would prepare and adopt a Decommissioning Plan that outlines habitat restoration actions to be implemented at the end of the project's life. Over time, vegetation communities may re-establish between the panels through succession. Potential direct impacts to such vegetation communities or habitat may occur during decommissioning, similar to impacts that may result during the initial construction phase. Implementation of mitigation measure **BIO-7** would reduce such potential impacts to less than significant. This mitigation would reduce potential habitat impacts associated with project decommissioning activities by requiring preparation and implementation of a revegetation plan (for incorporation in the Decommissioning Plan) that outlines procedures and performance standards to restore on-site vegetation communities at the end of the project's life.

Indirect Impacts

There are no off-site riparian areas or wetlands associated with the dry channel of the Mojave River floodplain near the project site. Therefore, the project would not result in significant riparian or wetland impacts (off-site) that could otherwise be related to indirect effects from dust, construction-related soil erosion and runoff, invasive plant species, and increased human presence during both the initial construction phase and the decommissioning phase.

Mitigation Measures:

BIO-7 Prior to commencement of the decommissioning phase, the project applicant shall prepare a revegetation plan as part of the Decommissioning Plan to identify performance standards necessary for revegetation of the site with native plants. The Decommissioning Plan shall specify success criteria, including, but not limited to, site preparation methods, installation specifications, maintenance requirements, and monitoring/report measures to ensure certain botanical thresholds are met such as adequate cover, density, and species richness. Standards of success shall include at least a 50 percent revegetation success rate compared to baseline conditions and shall include annual monitoring for 2 years. If 50 percent revegetation has not been achieved within 2 years due to lack of water or other environmental factors, the applicant shall work with the County to

identify and implement an alternate solution to achieve the identified success rate.

Level of Significance: Less than significant with mitigation.

SUBSTANTIAL ADVERSE EFFECT ON WETLANDS

Impact 3.4-3	The project would not have a substantial adverse effect on federally protected wetlands as defined by CWA Section 404 (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No impact would occur.
---------------------	--

As previously described, the project site contains one non-wetland drainage extending across the south-central edge (identified as “Feature B” in **Appendix E-4**) under RWQCB and CDFW jurisdiction. However, the project would avoid this on-site jurisdictional feature. Therefore, the project would not result in significant direct impacts to any on-site jurisdictional resources.

In addition, there are no off-site riparian areas or wetlands associated with the dry channel of the Mojave River floodplain near the site. Therefore, the project would not result in significant riparian or wetland impacts (off-site) that could otherwise be related to indirect effects from dust, construction-related soil erosion and runoff, invasive plant species, and increased human presence during both the initial construction phase and the decommissioning phase.

Mitigation Measures: None required.

Level of Significance: No impact.

MOVEMENT OF WILDLIFE SPECIES OR MIGRATORY WILDLIFE CORRIDORS

Impact 3.4-4	The project would not interfere with the movement of native resident wildlife species or wildlife corridors, and it would not impede the use of native wildlife nursery sites. No impact would occur.
---------------------	--

The project site does not likely serve as a local habitat linkage for desert tortoise between the Mojave River to the north and the USFWS Critical Habitat designated for the tortoise in the Newberry Mountains Wilderness to the south. The project site is sandwiched between I-15 and I-40; therefore, any such potential corridor that may be used by the desert tortoise across the site is already disrupted. Because of the intervening highways, roadways, and railroad, the active and historic cultivation of 54 percent of the project area, and the very small percentage of the site that qualifies as marginally suitable habitat, the project would not result in significant impacts related to the movements of native resident wildlife species, nor would it result in significant

impacts to potential regional or local migratory wildlife corridors/linkages, nor would it impede the use of native wildlife nursery sites.

Mitigation Measures: None required.

Level of Significance: No impact.

CONFLICT WITH ANY LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES

Impact 3.4-5	The project could conflict with local policies or ordinances protecting biological resources. Impacts would be less than significant with mitigation.
---------------------	--

The project site is within the planning area of several adopted local plans, including the West Mojave Plan (BLM 2006), the County General Plan (County of San Bernardino 2007), and the DRECP. However, the West Mojave Plan and the DRECP apply only to BLM-administered lands and therefore do not apply to the project. As such, the following analysis demonstrates project consistency with the following relevant County goals and policies relating to the protection of biological resources:

Conservation Element Goal CO 2 and Policies CO 2.1, CO 2.2, CO 2.3, and CO 2.4. With implementation of mitigation measures **BIO-1** through **BIO-7**, the project would be consistent with the stated intent of this element to maintain and enhance biological diversity because the project would not interfere with the County's programs to:

- Protect areas of special habitat value;
- Conserve populations and habitats of commonly occurring species;
- Provide a balanced approach to resource protection, preservation of rare and endangered species, and conservation of biological resources;
- Establish long-term comprehensive plans to protect native species;
- Establish conditions of approval for land use applications within the BR Overlay district for habitat protection and preservation of identified plants and/or animals specific to this district; and
- Adopt a Mitigation Monitoring and Reporting Program as a condition of approval for projects requiring mitigation measures for impacts to biological resources.

Renewable Energy and Conservation Element Goal RE 4 and Policies RE 4.1, RE 4.7, RE 4.8, RE 4.8.1, and RE 4.9. With implementation of mitigation measures **BIO-1** through **BIO-7**, the

proposed project would be consistent with the stated intent of this element to collaborate with appropriate federal and state agencies to facilitate mitigation/habitat conservation offsets on public lands where suitable habitat is available because the project would not interfere with the County's programs to:

- Balance sustainable energy production with sound resource conservation;
- Apply standards to the design, siting, and operation of renewable energy facilities that protect special-status biological resources; and
- Select and design renewable energy sites to conserve habitat; avoid impacts to special-status habitats and wildlife corridors; and provide sanctuary for native bees, butterflies, and birds, where feasible and appropriate.

Development Code Section 88.01.060. With implementation of mitigation measures **BIO-1** through **BIO-7**, the project would be consistent with the stated intent of this code section to conserve specified desert plant species because the project would not impact special-status plants.

Development Code Chapter 82.11. This EIR is consistent with the requirement of Development Code Chapter 82.11 for a biotic resources report evaluating significant project impacts to and mitigation measures for biotic resources on and adjacent to the site. In addition, the proposed project would not interfere with the County's programs to protect and conserve beneficial unique, rare, threatened, or endangered plants and animal resources and their habitats in unincorporated areas because the project would implement mitigation measures to reduce potential direct and indirect impacts to special-status habitats and wildlife species to less than significant levels.

Development Code Chapter 88.01. Because the project would implement mitigation measures to reduce potential direct and indirect impacts to special-status habitats and wildlife species to less than significant levels, the proposed project would be consistent with and would not interfere with the County's programs for the:

- Management of biotic resources in unincorporated areas under private or public ownership, including conservation of native plant heritage;
- Regulation of native plant and tree removal activities;
- Protection and maintenance of local watersheds;
- Preservation of habitats for rare, endangered, or threatened plants; and
- Protection of wildlife with limited or specialized habitats.

Mitigation Measures: Implement mitigation measures **BIO-1** through **BIO-7**.

Level of Significance: Less than significant with mitigation.

CONFLICT WITH AN ADOPTED CONSERVATION PLAN

Impact 3.4-6 **There are no adopted local, regional, or state HCPs or NCCPs with which the proposed project must comply. No impact would occur.**

As stated above, the project is in the planning area for the West Mojave Plan, which applies only to BLM-administered public lands. The proposed project would be located on private land and therefore is not subject to this plan. Additionally, the DRECP applies to the Mojave and Colorado deserts and will provide binding, long-term endangered species permit assurances and facilitate renewable energy project review and approval processes. Although the project site is identified as a Development Focus Area in the DRECP, the proposed project is not subject to the DRECP because the site is on private land. As such, the project would not be under the jurisdiction of an adopted HCP or NCCP. In addition, as evaluated above, the project would not result in the loss or adverse modification of Critical Habitat. The project would have no impact.

Mitigation Measures: None required.

Level of Significance: No impact.

CUMULATIVE IMPACTS

Impact 3.4-7 **The proposed project in conjunction with other related projects could result in cumulatively considerable impacts to biological resources in the region. Impacts would be less than significant with mitigation.**

The geographic scope for considering cumulative impacts on biological resources includes other related projects in the County's Desert Region. **Table 3.0-1, Cumulative Projects**, and **Exhibit 3.0-1, Cumulative Projects Map**, in Section 3.0 of this EIR identify the related projects considered for this cumulative impact analysis, which consist primarily of other renewable energy projects.

Development of cumulative projects could result in direct take to special-status plant and wildlife species; construction, operational, and decommissioning disturbances; and/or special-status habitat conversion. While most of the cumulative projects would convert undeveloped land into renewable energy facilities, over time, vegetation communities would re-establish between the panels, fencing, and utility structures, allowing wildlife (e.g., rodents, raptors, small birds, and reptiles) to continue inhabiting and foraging on the sites over the lifetime of the projects (approximately 30 years). Decommissioning plans, required for solar projects, also outline revegetation requirements for potential habitat growth. Therefore, while habitat would be

temporarily disturbed or removed during the construction and decommissioning phases, operation and post-operation of such renewable energy facilities would not result in substantial permanent impacts to special-status species and habitats, and the affected lands could return to existing conditions for the foreseeable future.

Further, as with the proposed project, these cumulative projects would also be required to avoid and/or mitigate impacts to special-status species and habitats in accordance with County, CDFW, and USFWS requirements. Therefore, the project's less than significant impacts with mitigation incorporated, in combination with other reasonably foreseeable development projects in the County's Desert Region, would not result in significant cumulative impacts to special-status species or habitats. Accordingly, the proposed project would not result in a considerable contribution to a significant cumulative impact.

Mitigation Measures: Implement mitigation measures **BIO-1** through **BIO-7**.

Level of Significance: Less than significant with mitigation.

Cultural, Tribal Cultural, and Paleontological Resources

This section addresses the proposed project's potential impacts in relation to cultural, historic, tribal cultural, and paleontological resources. Cultural resources include places, objects, and settlements that reflect group or individual religious, archaeological, architectural, or paleontological activities. Such resources provide information on scientific progress, environmental adaptations, group ideology, or other human advancements. By statute, the California Environmental Quality Act (CEQA) is primarily concerned with two classes of cultural resources: historical resources, which are defined in Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5, and unique archaeological resources, which are defined in Public Resources Code Section 21083.2. Tribal cultural resources are generally described as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and are further defined in Public Resources Code Section 21074(a)(1)(A)-(B).

The analysis in this section is primarily based on the *Class III Cultural Resource Inventory* prepared by HDR (2018; see **Appendix F-1**), the *Paleontological Resources Technical Memorandum* prepared by Tetra Tech (2018; see **Appendix F-2**), the *County of San Bernardino 2007 General Plan* and consultation with applicable agencies and Native American tribes. All technical reports referenced above were peer reviewed by Michael Baker International. Due to confidential information contained in the *Class III Cultural Resource Inventory*, the report is not available for public review.

ENVIRONMENTAL SETTING

CULTURAL RESOURCES INVENTORY RESULTS

The area of potential effect (APE) outlines the area that may cause impacts to cultural resources either directly or indirectly, should any be present, by the proposed project. The APE evaluated in the survey and in this report includes the area within which cultural resources could be affected by construction and operation of the proposed project (see **Appendix F-1, Figure 2-2 USGS Topographic Overview Map of the APE**). The South Central Coastal Information Center provided a records search of all archaeological and historical resources within 1 mile of the APE. The records search identified 191 previously recorded cultural resources in or within 1 mile of the APE.

A total of 82 built environment and archaeological cultural resources were identified and evaluated for inclusion in the California Register of Historical Resources (CRHR). Seventy-two of these resources were determined ineligible for listing in the CRHR due to a lack of significance and integrity. Additionally, none of these resources qualified as a unique archaeological resource.

Ten historical resources within the APE are either eligible for the National Register of Historic Places (NRHP) and the CRHR or recommended as potentially eligible for listing, as shown in **Table 3.5-1**.

**Table 3.5-1:
Eligibility of Historical Resources in the APE**

Primary Number	Trinomial/OHP Number	Description	Eligibility
P-36-001961	CA-SBR-1961	Prehistoric: Habitation site	Potentially eligible for the CRHR (n)
P-36-005067	CA-SBR-5067	Prehistoric: Habitation site with ash lenses and scattered lithics	Potentially eligible for the CRHR (n)
P-36-007694	CA-SBR-7694H	Historic: LADWP Boulder Transmission Lines 1, 2, 3	Eligible for the NRHP Listed in the CRHR (o)
P-36-007883 Coolwater HDR-45	CA-SBR-7883H	Historic: Daggett Ditch/Wind and Water Ditch Previously unrecorded segment	Eligible for the NRHP Listed in the CRHR (o) New segment recommended eligible for the CRHR (n)
P-36-010627 Coolwater HDR-55	CA-SBR-10627H	Historic District: Barstow-Daggett Airport Previously unrecorded component Coolwater HDR-55, remnants of fence line	Eligible for the NRHP (f) Coolwater HDR-55 recommended ineligible for the CRHR as non-contributing to district significance (n)
Coolwater HDR-23	N/A	Prehistoric: Possible habitation location with two loci containing lithics and hearth features	Potentially eligible for the CRHR (n)
Coolwater HDR-57	N/A	Prehistoric: A small concentration of chert tested cobbles and lithic debitage surrounded by a highly diffused scatter	Potentially eligible for the CRHR (n)
Coolwater HDR-58	N/A	Prehistoric: A large diffused scatter of chert cobbles, tested cobbles, lithic debitage, and lithic tools	Potentially eligible for the CRHR (n)
Coolwater HDR-61	N/A	Historic: A refuse deposit with domestic expendable items and personal items	Potentially eligible for the CRHR (n)
Coolwater ISO-56	N/A	Historic: LADWP survey marker: survey point no. L33W. R783. L.s. 328. P-36-007694 district component	Recommended eligible for the CRHR (n)

Eligibility: (o) = official determination; (f) = field recommendation from previous survey; (n) = new recommendation

On August 10, 2017, a request was submitted to the Native American Heritage Commission (NAHC) for a search of the Sacred Lands File. The NAHC responded on August 23, 2017, and indicated there are no known sacred lands or sites near the APE. On April 26, 2018, the California Historic Route 66 Association submitted a letter to the San Bernardino County Land Use Services Department expressing concern over the protection of critical historical resources outside of the APE. The letter specifically lists Alf's Blacksmith Shop (P-36-004138), the Stone Hotel (P-36-005525), and the Daggett Museum in the community of Daggett (P-36-026531), as well as the historic Route 66 pavement (P-36-002910), Barstow-Daggett Airport (P-36-010627), and viewsheds from Interstate 40 and Route 66 (P-36-002910).

Assembly Bill (AB) 52 established a formal consultation process for California tribes in the CEQA process. The bill specifies that any project which may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to "begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project." Section 21074 of AB 52 defines tribal cultural resources as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe, and is either listed on, or eligible for, the California Register of Historical Resources or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource.

PREHISTORIC AND HISTORIC SETTING

A detailed summary about the prehistoric and historic settings of the proposed project location can be found in Section 4 of the *Class III Cultural Resource Inventory* prepared by HDR (2018; see **Appendix F-1**).

REGULATORY FRAMEWORK

FEDERAL

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 regulates the protection of archaeological sites and resources that are on Native American lands or federal lands.

Section 106 of the National Historic Preservation Act of 1966

Federal regulations for cultural resources are governed primarily by Section 106 of the National Historic Preservation Act of 1966. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic

Preservation a reasonable opportunity to comment on such undertakings. The council's implementing regulations, Protection of Historic Properties, are found in 36 Code of Federal Regulations (CFR) Section 800. The goal of the Section 106 review process is to offer a measure of protection to sites that are determined eligible for listing on the National Register of Historic Places. The criteria for determining NRHP eligibility are found in 36 CFR 60. Amendments to the act (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provisions for Native American consultation and participation in the Section 106 review process. While federal agencies must follow federal regulations, most projects by private developers and landowners do not require this level of compliance. Federal regulations only come into play in the private sector if a project requires a federal permit or if it uses federal funding.

National Register of Historic Places

The National Register of Historic Places is "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." However, the federal regulations explicitly provide that a listing of private property on the NRHP "does not prohibit under federal law or regulation any actions which may otherwise be taken by the property owner with respect to the property."

Historic properties, as defined by the Advisory Council on Historic Preservation, include any "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior" (36 CFR Section 800.16[l]). Eligibility for inclusion in the NRHP is determined by applying the following criteria, developed by the National Park Service in accordance with the National Historic Preservation Act:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- 1. that are associated with events that have made a significant contribution to the broad patterns of our history; or*
- 2. that are associated with the lives of persons significant in our past; or*
- 3. that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*

4. *that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).*

STATE

State historic preservation regulations affecting the project include the statutes and guidelines contained in CEQA, Public Resources Code (PRC) Sections 20183.2 and 21084.1, and CEQA Guidelines Section 15064.5. CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. A historical resource includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript which is historically or archaeologically significant (PRC Section 5020.1). Section 15064.5 of the CEQA Guidelines specifies criteria for evaluating the significance or importance of cultural resources, including:

- The resource is associated with events that have made a contribution to the broad patterns of California history;
- The resource is associated with the lives of important persons from our past;
- The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important individual or possesses high artistic values; or
- The resource has yielded, or may be likely to yield, important information in prehistory or history.

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications, such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to museums, historical commissions, associations, and societies, be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains.

Assembly Bill 52

With the enactment of AB 52, CEQA recognizes tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation by identifying a category of resources called tribal cultural resources (TCRs). In order to qualify as a TCR, a resource must be listed, or determined eligible for listing, on the national, state, or local register of historic

resources; or be a resource that a lead agency chooses to treat as a tribal cultural resource based on the CRHR criteria and the cultural value of a resource to a California Native American tribe (PRC Section 21074). In order to identify TCRs, lead agencies are required to consult with local Native American tribes in a manner that is cognizant of all parties' cultural values and, where feasible, seek agreement on a proposed action. A project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment (PRC Section 21084.2).

California Register of Historical Resources

The California Register of Historical Resources is an authoritative guide in California used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The criteria for eligibility for the CRHR are based on National Register of Historic Places criteria. Certain resources are determined by the statute to be included on the CRHR, including California properties formally determined eligible for, or listed in, the NRHP, State Landmarks, and State Points of Interest.

The California Office of Historic Preservation (OHP) has broad authority under federal and state law for the implementation of historic preservation programs in California. The State Historic Preservation Officer makes determinations of eligibility for listing on the NRHP and the CRHR.

The appropriate standard for evaluating "substantial adverse effect" is defined in PRC Sections 5020.1(q) and 21084.1. Substantial adverse change means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired. Such impairment of significance would be an adverse impact on the environment.

Cultural resources consist of buildings, structures, objects, or archaeological sites. Each of these entities may have historic, architectural, archaeological, cultural, or scientific importance. Under the CEQA Guidelines, a significant impact would result if the significance of a cultural resource would be changed by project area activities. Activities that could potentially result in a significant impact include demolition, replacement, substantial alteration, and relocation of the resource. The significance of a resource is required to be determined prior to analysis of the level of significance of project activities. The steps required to be implemented to determine significance in order to comply with CEQA Guidelines are:

- Identify cultural resources.
- Evaluate the significance of the cultural resources based on established thresholds of significance.

- Evaluate the effects of a project on all cultural resources.
- Develop and implement measures to mitigate the effects of the project on significant cultural resources.

California Government Code Sections 6253, 6254, and 6254.10 authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (CPRA; Government Code [GC] Section 6250 et seq.) and California's open meeting laws (the Brown Act, GC Section 54950 et seq.) protect the confidentiality of Native American cultural place information. The CPRA (as amended, 2005) contains two exemptions that aid in the protection of records relating to Native American cultural places by permitting any state or local agency to deny a CPRA request and withhold from public disclosure:

- Records of Native American graves, cemeteries, and sacred places and records of Native American places, features, and objects described in Section 5097.9 and Section 5097.993 of the Public Resources Code maintained by, or in the possession of, the Native American Heritage Commission, another state agency, or a local agency (GC Section 6254[r]); and
- Records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency (GC Section 6254.10).

Likewise, the Information Centers of the California Historical Resources Information System (CHRIS) maintained by the OHP prohibit public dissemination of records and site location information. In compliance with these requirements and those of the Code of Ethics of the Society for California Archaeology and the Register of Professional Archaeologists, the locations of cultural resources are considered restricted information with highly restricted distribution and are not publicly accessible.

Any project site located on non-federal land in California is also required to comply with state laws pertaining to the inadvertent discovery of Native American human remains.

California Health and Safety Code Sections 7050.5, 7051, and 7054

California Health and Safety Code Sections 7050.5, 7051, and 7054 collectively address the illegality of interference with human burial remains as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction and establishes procedures to be implemented if Native American

skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

LOCAL

San Bernardino County General Plan

The General Plan Conservation Element includes concepts and guidelines to manage, preserve, and use cultural resources. The following goals, policies, and programs are applicable to the proposed project:

GOAL CO 3 The County will preserve and promote its historic and prehistoric cultural heritage.

Policy CO 3.1 Identify and protect important archaeological and historic cultural resources in areas of the County that have been determined to have known cultural resource sensitivity.

Programs

1. Require a cultural resources field survey and evaluation prepared by a qualified professional for projects located within the mapped Cultural Resource Overlay area.
2. Mitigation of impacts to important cultural resources will follow the standards established in Article 9 of the California Environmental Quality Act Guidelines, as amended to date.

Policy CO 3.2 Identify and protect important archaeological and historic cultural resources in all lands that involves disturbance of previously undisturbed ground.

Programs

1. Require the Archaeological Information Center at the San Bernardino County Museum to conduct a preliminary cultural resource review prior to the County's application acceptance for all land use applications in planning regions lacking Cultural Resource Overlays and in lands located outside of planning regions.
2. Should the County's preliminary review indicate the presence of known cultural resources or moderate to high sensitivity for the potential presence of cultural resources, a field survey and evaluation

prepared by a qualified professional will be required with project submittal. The format of the report and standards for evaluation will follow the “Guidelines for Cultural Resource Management Reports” on file with the San Bernardino County Land Use Services Department.

Policy CO 3.3 Establish programs to preserve the information and heritage value of cultural and historical resources.

Policy CO 3.4 The County will comply with Government Code Section 65352.2 (SB 18) by consulting with tribes as identified by the California Native American Heritage Commission on all General Plan and specific plan actions.

Programs

1. Site record forms and reports of surveys, test excavations, and data recovery programs will be filed with the Archaeological Information Center at the San Bernardino County Museum and will be reviewed and approved in consultation with that office.
 - a. Preliminary reports verifying that all necessary archaeological or historical fieldwork has been completed will be required prior to project grading and/or building permits.
 - b. Final reports will be submitted and approved prior to project occupancy permits.
2. Any artifacts collected or recovered as a result of cultural resource investigations will be catalogued pursuant to County Museum guidelines and adequately curated in an institution with appropriate staff and facilities for their scientific information potential to be preserved. This shall not preclude the local tribes from seeking the return of certain artifacts as agreed to in a consultation process with the developer/project archaeologist.
3. When avoidance or preservation of an archaeological site or historic structure is proposed as a form of mitigation, a program detailing how such long-term avoidance or preservation is assured will be developed and approved prior to conditional approval.
4. In areas of potential but unknown sensitivity, field surveys prior to grading will be required to establish the need for paleontologic monitoring.

5. Projects requiring grading plans that are located in areas of known fossil occurrences, or demonstrated in a field survey to have fossils present, will have all rough grading (cuts greater than 3 feet) monitored by trained paleontologic crews working under the direction of a qualified professional, so that fossils exposed during grading can be recovered and preserved. Fossils include large and small vertebrate fossils, the latter recovered by screen washing of bulk samples.
6. A report of findings with an itemized accession inventory will be prepared as evidence that monitoring has been successfully completed. A preliminary report will be submitted and approved prior to granting of building permits, and a final report will be submitted and approved prior to granting of occupancy permits. The adequacy of paleontologic reports will be determined in consultation with the Curator of Earth Science, San Bernardino County Museum.

Policy CO 3.5

Ensure that important cultural resources are avoided or minimized to protect Native American beliefs and traditions.

Programs

1. Consistent with SB 18, as well as possible mitigation measures identified through the CEQA process, the County will work and consult with local tribes to identify, protect and preserve “traditional cultural properties” (TCPs). TCPs include both manmade sites and resources as well as natural landscapes that contribute to the cultural significance of areas.
2. The County will protect confidential information concerning Native American cultural resources with internal procedures, pursuant to the requirements of SB 922, an addendum to SB 18. The purpose of SB 922 is to exempt cultural site information from public review as provided for in the Public Records Act. Information provided by tribes to the County shall be considered confidential or sacred.
3. The County will work in good faith with the local tribes, developers/applicants and other parties if the local affected tribes request the return of certain Native American artifacts from private development proposed projects. The developer is expected to act in good faith when considering the local tribe’s request for artifacts. Artifacts not desired by the local tribe will be placed in a qualified

repository as established by the California State Historical Resources Commission. If no facility is available, then all artifacts will be donated to the local tribe.

4. The County will work with the developer of any “gated community” to ensure that the Native Americans are allowed future access, under reasonable conditions, to view and/or visit known sites within the “gated community.” If a site is identified within a gated community proposed project, and preferably preserved as open space, the development will be conditioned by the County allow future access to Native Americans to view and/or visit that site.
5. Because contemporary Native Americans have expressed concern over the handling of the remains of their ancestors, particularly with respect to archaeological sites containing human burials or cremations, artifacts of ceremonial or spiritual significance, and rock art, the following actions will be taken when decisions are made regarding the disposition of archaeological sites that are the result of prehistoric or historic Native American cultural activity:
 - a. The Native American Heritage Commission and local reservation, museum, and other concerned Native American leaders will be notified in writing of any proposed evaluation or mitigation activities that involve excavation of Native American archaeological sites, and their comments and concerns solicited.
 - b. The concerns of the Native American community will be fully considered in the planning process.
 - c. If human remains are encountered during grading and other construction excavation, work in the immediate vicinity will cease and the County Coroner will be contacted pursuant to the state Health and Safety Code.
 - d. In the event that Native American cultural resources are discovered during project development and/or construction, all work in the immediate vicinity of the find will cease and, a qualified archaeologist meeting U.S. Secretary of Interior standards, will be hired to assess the find. Work on the overall project may continue during this assessment period.

- e. If Native American cultural resources are discovered, the County will contact the local tribe. If requested by the tribe, the County will, in good faith, consult on the discovery and its disposition with the tribe.

San Bernardino County Development Code

Development Code Chapter 82.12, Cultural Resources Preservation (CP) Overlay, includes regulations pertaining to the identification and preservation of important archaeological and historical resources. The chapter outlines application requirements for a project proposed within a CP Overlay, as well as development standards and an explanation of the need for a Native American monitor.

The Development Code states that the CP Overlay may be applied to areas where archaeological and historic sites that warrant preservation are known or are likely to be present. Specific identification of known cultural resources is indicated by listing in one or more of the following inventories: California Archaeological Inventory, California Historic Resources Inventory, California Historical Landmarks, California Points of Historic Interest, and/or National Register of Historic Places.

IMPACT ANALYSIS AND MITIGATION MEASURES

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

The following thresholds of significance are based on CEQA Guidelines Appendix G. For the purposes of this EIR, the project would be considered to have a significant impact on cultural resources if it would do any of the following:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.
- 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 size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- 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), or
- 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.

PROJECT IMPACTS AND MITIGATION

HISTORIC RESOURCES

Impact 3.4-1	The project could cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. Impacts would be less than significant with mitigation.
---------------------	---

POTENTIAL DIRECT IMPACTS

The Class III Cultural Resource Inventory (HDR 2018) consisted of a records search encompassing a 1-mile radius around the proposed project area at the South Central Coastal Information Center (SCCIC), at California State University, Fullerton; an intensive pedestrian survey of the entire APE; and an evaluation of cultural resources identified in the project APE. The SCCIC records search, performed in July 2017, also included a review of the site records, GIS data, survey reports, and online database – Nationwide Environmental Title Research, LLC site. US Geological Survey maps 1954 to present and aerial photographs 1952 to present were reviewed.

As shown previously in **Table 3.5-1**, 10 resources within the APE are either eligible for the NRHP or the CRHR or recommended potentially eligible for listing. Proposed project construction would take place within or near the site boundaries of two historical resources: LADWP transmission lines (P-36-007694) and Barstow-Daggett Airport Historic District (P-36-010627); however, no significant components of these resources will be destroyed or adversely altered. Project work within or near these resources would consist of minimal ground disturbance and the presence of project vehicles in already disturbed areas.

The remaining five prehistoric archaeological resources P-36-001961, P-36-005067, Coolwater HDR-23, Coolwater HDR-57, Coolwater HDR-58 and three historic-period archaeological resources Coolwater HDR-61, Coolwater HDR-45 (a new component of P-36-007883), and

Coolwater ISO-56 are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (Criterion A); embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a an important creative individual, or possess high artistic values (Criterion C); or have yielded, or may be likely to yield, information important in prehistory or history (Criterion D). Therefore, these sites are significant and eligible for listing in the CRHR. The historical resources present could potentially be impacted by the proposed project.

However, avoidance of historical resources is feasible. To protect these resources in place, mitigation measure **CUL-1** requires fencing the 50-foot buffer around the known boundaries of historical resources to protect them in place during construction and decommissioning. Therefore, any impacts would be less than significant with mitigation. No ground disturbing work would occur once the Project is fully constructed and in operations, and therefore no impacts to these resources are anticipated during project operation.

POTENTIAL INDIRECT IMPACTS

Based on scoping comments, a viewshed analysis was completed from seven cultural resources located both inside and outside the APE, to determine the potential for indirect impacts to LADWP transmission lines (P-36-007694), the Barstow-Daggett Airport Historic District (P-36-010627), the BNSF Railroad (P-36-006693), Route 66 (P-36-002910), the Daggett Ditch (P-36-007883) located outside the APE not that portion located inside the APE (Coolwater HDR-45), the Mojave Trail (P-36-004928), the Daggett historic district (P-36-026531) including all its components, and Calico Ghost Town (State Historical Landmark 782). These resources were selected based on their significance and concerns expressed in scoping comments regarding visual impacts.

In relation to the APE, all resources considered are either within the APE, within the foreground zone, or within the middleground zone except for the Calico Ghost Town which is in the background zone. The immediate foreground zone ranges from 0 to 300 feet from the APE boundary, the foreground zone ranges from 300 feet to 0.5 mile, and the middleground zone ranges from 0.5 mile to 4 miles. Any impacted visual resources are typically within these zones. The background zone is the visible area of a landscape which lies beyond the foreground and middleground zones from a distance of 4 miles to the horizon.

The APE, as viewed from multiple vantages, is already developed with agricultural, rural residential, and industrial uses. The current infrastructure includes but is not limited to the Coolwater Generating Station, Los Angeles Department Water and Power (LADWP) transmission lines, and the Sunray Solar Generating Station. For further analysis of the visual aesthetics of the area, refer to Section 3.1 of this EIR.

The LADWP transmission lines [P-36-007694], the Barstow-Daggett Airport Historic District [P-36-010627], the BNSF Railroad [P-36-006693] are the closest resources to the project site. The LADWP transmission lines border the existing Sunray Solar Facility, and additional solar panels in the area would not detract from their significance. Undeveloped airport property at a width ranging from 1,000 to 3,000 feet buffers significant components of the Barstow-Daggett Airport historic district, and many structures are surrounded by trees, which would obscure the view of low-profile solar panels.

No significant components of the district would be visually impacted to a degree that would detract from their historic integrity. The segment of the BNSF railroad nearest to the APE has already been assessed twice as not contributing to the significance of the resource due to a loss of substantial historic integrity and the proposed undertaking would not reduce the integrity any further. The presence of the railroad actually obscures the view of the APE from many viewpoints at lower elevations. The historic integrity of the LADWP transmission lines, the Barstow-Daggett Airport historic district, and the BNSF Railroad will not be altered by the proposed project and they will still possess enough historic integrity to convey their significance.

Route 66 [P-36-002910] is parallel to the southern border of the proposed project site at distances ranging from 950 to 2,100 feet and is separated from it by the BNSF railway berm. The project would be visible in the foreground and middleground from Route 66, beyond the railway (farther north). In the middleground, a combination of agricultural and rural residential uses and associated windrows are present. Ridgelines, including the Calico Mountains on the left and Alvord Mountain in the center, are visible in the background. Although it would be visible from Route 66, the proposed project would not adversely affect the integrity of setting or feeling and would not have any effect on location, design, materials, workmanship, or association.

With respect to setting and feeling, the area surrounding this portion of Route 66 is relatively void of urban development, with mainly open space, and agricultural and infrastructure facilities, including the airport, railroads, power transmission lines, and a solar facility. The addition of the project would be consistent with this pattern of development and not significantly alter the integrity of setting or feeling of Route 66.

The project will not indirectly impact the portion of the Daggett Ditch [P-36-007883] located outside the APE, the Mojave Trail [P-36-004928], the Daggett historic district [P-36-026531] including all its components, or Calico Ghost Town [State Historical Landmark 782]). Regarding Daggett Ditch, integrity of location, association, materials, design, and workmanship are still intact as the segment maintains its historic alignment and has not been altered since abandonment. Integrity of setting and feeling are mostly intact but have been reduced by the construction of more modern development. The portion of Daggett Ditch within the APE (Coolwater HDR-45) will be protected from project impacts with fencing. To the south and east

of the Daggett Ditch are the Coolwater Generating Station, several other industrial disturbances, and surrounding vegetation coverage which obscure any views between the resource and the APE. The recorded segment of the Mojave Trail was found to be recorded incorrectly and is not near the APE but several miles to the west/northwest near Daggett. Any views from the east end of the Daggett historic district and Mojave Trail towards the APE are completely blocked by topography and vegetation; therefore, the integrity of the district and Mojave Trail will not be affected.

The APE from Calico Ghost Town is completely obscured by the Calico Mountains, with the exception of the Calico Cemetery. However, the existing Sunray Solar Facility is not apparent from this location, indicating that the proposed project, which will have solar panels of similar dimensions and will be approximately the same distance from the Calico Cemetery as the Sunray facility, will not be apparent after the project's completion. Therefore, the proposed project would not significantly impact the historic integrity of Calico Ghost Town.

Implementation of mitigation measure **CUL-1** would reduce project impacts by requiring the installation of fencing in order to minimize potential disturbance to known historic resources during project construction and decommissioning. With implementation of mitigation measure **CUL-1**, the project is not anticipated to cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. Impacts would be less than significant with mitigation.

Mitigation Measures:

CUL-1 Fencing shall be installed and maintained along the 50-foot buffer around the known boundaries of historical resources (P-36-001961, P-36-005067, Coolwater HDR-23, Coolwater HDR-57, Coolwater HDR-58, Coolwater HDR-61, Coolwater HDR-45 [a component of P-36-07883], and Coolwater ISO-56) to protect them in place during construction and decommissioning.

Level of Significance: Less than significant with mitigation.

ARCHAEOLOGICAL RESOURCES

Impact 3.4-2 **The project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. Impacts would be less than significant with mitigation.**

Based on the requirements of mitigation measure **CUL-1**, known historical resources will be avoided and preserved in place during construction and decommissioning, and no impacts to known resources are expected during operations. Additionally, mitigation measure **CUL-2**

reduces impacts to currently unknown archaeological resources by requiring an archaeologist provide all construction workers with Worker Education Awareness Program that will discuss the potential for archaeological resources and what to do in the event of discovery. Lastly, in the event that unknown buried archaeological resources are unearthed during project construction, implementation of mitigation measure **CUL-3** would mitigate any impacts to archaeological resources to a less than significant level.

With implementation of mitigation measures **CUL-1**, **CUL-2** and **CUL-3** the proposed project is not anticipated to cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5. Impacts would be less than significant with mitigation.

Mitigation Measures:

CUL-2 The project proponent/operator shall conduct a Worker Education Awareness Program (WEAP) for relevant construction personnel working on the proposed project and conducting subsurface activities. Development of the WEAP shall include consultation with an archaeologist. The training shall include an overview of known historical resources and potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified archaeologist.

CUL-3 In the event that previously unknown historic era archaeological resources (sites, features, or artifacts) are exposed during grading and/or construction activities for the proposed project, all work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist can evaluate the significance of the find and determine whether or not additional study is warranted, in consultation with the County. Pursuant to CEQA Guidelines Section 15126.4(b)(3), proposed project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the County. Protocol for discovery and treatment of pre-contact resources is outlined in mitigation measure **CUL-8**.

Level of Significance: Less than significant with mitigation.

PALEONTOLOGICAL RESOURCE OR GEOLOGIC FEATURE

Impact 3.4-3 The project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Impacts would be less than significant with mitigation.

The proposed project site is mapped as younger alluvium, which has low sensitivity for paleontological resources. The records search performed by the Natural History Museum of Los Angeles County did not identify any vertebrate fossil find localities in the proposed project area. The nearest fossil locality occurring in alluvial deposits associated with the Mojave River is about 35–40 miles east-northeast. Intermediate age or older age alluvial fan deposits are located within about 1 mile to the south of the proposed project boundary. This location suggests these units could be found underlying the young Mojave River wash sediments mapped within the proposed project boundaries.

To mitigate any potential impacts to paleontological resources, implementation of mitigation measures **CUL-4** and **CUL-5** is required. The purpose of the mitigation measure is to educate construction personnel regarding subsurface evidence of “older” sediment or fossils that may potentially be encountered during excavation and standard protocol procedures. Therefore, the proposed project would not directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. Impacts would be less than significant with mitigation.

Mitigation Measures:

CUL-4 The project proponent/operator shall conduct a Worker Education Awareness Program (WEAP) for relevant construction personnel working on the proposed project on subsurface activities. Development of the WEAP shall include consultation with an archaeologist and an expert with expertise in paleontology. The training shall include an overview of potential significant paleontological resources that could be encountered during ground disturbing activities, including how to identify subsurface evidence of “older” sediment or fossils that may potentially be encountered during excavation, to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist. Prior to any ground-breaking activities, the San Bernardino County Land Use Services Department shall ensure that construction personnel partake in the WEAP.

CUL-5 In the event that paleontological resources are exposed during grading and/or construction activities for the proposed project, all work occurring within 100 feet of the find shall immediately stop until a qualified paleontologist can evaluate the significance of the find and determine whether or not additional study is

warranted, in consultation with the County. If it is demonstrated that resources cannot be avoided, the qualified paleontologist shall develop additional treatment measures in consultation with the County, which may include recovery or other appropriate measures. The qualified archaeologist shall prepare a report documenting the treatment of the resource. A copy of the report shall be provided to the County.

Level of Significance: Less than significant with mitigation.

HUMAN REMAINS

Impact 3.4-4	The project could disturb human remains, including those interred outdoors of formal cemeteries. Impacts would be less than significant with mitigation.
---------------------	---

The project site is not located on a known cemetery, and no human remains are anticipated to be disturbed during the construction phase. However, the County has complied with procedures for consulting with Native American tribes as outlined in AB 52 and the project would be compliant with the requirements for treatment of Native American human remains contained in California Health and Safety Code Sections 7050.5 and 7052 and Public Resources Code Section 5097. Mitigation measure **CUL-6** would ensure project conformance with standard procedures in the event that human remains are discovered during project construction and would reduce impacts to such resources to less than significant levels.

Mitigation Measures:

CUL-6	In accordance with California Health and Safety Code Section 7050.5, if human remains are found, the County Coroner shall be notified within 24 hours of the discovery. The project lead/foreman shall designate an Environmentally Sensitive Area (ESA) physical demarcation/barrier 100 feet around the resource and no further excavation or disturbance of the site shall occur while the County Coroner makes his/her assessment regarding the nature of the remains. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours. In accordance with Public Resources Code Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant (MLD) from the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative will then determine, in consultation with the property owner, the disposition of the human remains.
--------------	--

Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The MLD in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The applicant/developer/landowner should accommodate on-site reburial in a location mutually agreed upon by the Parties.

It is understood by all Parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r).

Level of Significance: Less than significant with mitigation.

TRIBAL CULTURAL RESOURCES

Impact 3.4-5

The project could 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 size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- **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), or**
- **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.**

Impacts would be less than significant with mitigation.

In compliance with AB 52, the County of San Bernardino distributed notification letters to applicable tribes that had previously requested to be notified of future projects proposed by the County, notifying each tribe of the opportunity to consult with the County regarding the proposed project, including the Morongo Band of Mission Indians, San Manuel Band of Mission Indians, Serrano Nation, Colorado River Indian Tribes and Soboba Band of Luiseno Indians. Responses were received from the Morongo Band of Mission Indians and the San Manuel Band of Mission Indians. As of the date of publication of the Draft EIR, consultation has occurred with both the San Manuel and Morongo Bands of Mission Indians and is ongoing.

As shown previously in **Table 3.5-1**, 10 resources within the APE are either eligible for the NRHP or the CRHR or recommended potentially eligible for listing. Of those, the five prehistoric archaeological resources are also considered to be tribal cultural resources by the San Manuel Band of Mission Indians. Of those five resources, the tribe has indicated that four would be adequately avoided through project design (as enforced by mitigation measures **CUL-1** and **CUL-2**), resulting in less than significant impacts.

The remaining tribal cultural resource (CA-SBR-1961) is also proposed to be avoided via the fencing and buffer requirements outlined in mitigation measure **CUL-1**. However, the tribe expressed concern that the resource may extend further than currently mapped and therefore desires subsurface testing to better define the boundaries, such that avoidance can be further ensured. Accordingly, mitigation measures **CUL-7** and **CUL-8** require preparation of a Testing Plan to allow for additional subsurface testing at the site of the resource and identify procedural requirements in the event that a discovery is made. Mitigation measures **CUL-7** and **CUL-8** would reduce potential impacts to this tribal cultural resource to a less than significant level.

Additionally, similar to archaeological and paleontological resources discussed previously in this section, there is also potential for inadvertent discoveries of tribal cultural resources on the project site. Mitigation measures **CUL-6** and **CUL-8** are thus also required to ensure proper disposition of inadvertent discoveries.

Mitigation Measures:

Implement mitigation measure **CUL-6**.

CUL-7 Due to the potential impact to a significant archaeological site (CA-SBR-1961), subsurface archaeological testing shall be conducted by at least one archaeologist, with at least 3 years of regional experience in archaeology, within the area of concern identified by the San Manuel Band of Mission Indians during consultation. Prior to any ground-disturbing activity, testing shall be conducted to confirm presence or absence of subsurface material and to delineate site boundaries.

Testing may employ a number of subsurface investigative methods, including shovel test probes, and/or deep testing via controlled units, augers or trenching.

The area of concern will be determined in the testing plan and shall be dug and dry-sifted through 1/8-inch mesh screens. A Testing Plan shall be created by the archaeologist and submitted to the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) and the Lead Agency for review at least 10 business days prior to implementation in order to provide time to review/modify the Plan, if needed. The Plan shall outline the protocol of presence/absence testing and contain a treatment protocol detailing that 1) no collection of artifacts or excavation of features shall occur during testing, and 2) all discovered resources shall be properly recorded and reburied *in situ* (see mitigation measure **CUL-8**).

The results of testing shall be presented to the applicant, Lead Agency, and SMBMI in the format of a report, which shall include details regarding testing methodology, soil assessment, and photographs. If the results of testing, as approved by SMBMI, are positive, then SMBMI and the Lead Agency shall, in good faith, consult concerning appropriate treatment of the resource(s), guidance for which is outlined in mitigation measure **CUL-8**. If the results of testing, as approved by SMBMI, are negative, then SMBMI will conclude consultation unless additional discoveries are made during project implementation in which consultation would resume. All discoveries made during project implementation shall be subject to the treatment protocol outlined within the Testing Plan, as well as the treatment guidelines within mitigation measures **CUL-6** and **CUL-8**.

CUL-8 If a pre-contact tribal cultural resource is discovered during archaeological presence/absence testing, the discovery shall be properly recorded and then reburied *in situ*. If a pre-contact tribal cultural resource is discovered during project implementation, ground disturbing activities shall be suspended 100 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed.

Representatives from the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI), a qualified archaeologist/applicant, and the Lead Agency shall confer regarding treatment of the discovered resource(s). As outlined in CEQA, the applicant shall make a good faith effort to redesign the project area in such a way that impacts to the identified resource(s) can be avoided/preserved in place. Should any resource(s) not be a candidate for avoidance/preservation in place, and therefore the removal of the resource(s) is necessary to mitigate impacts, a research design shall be developed in consultation with SMBMI.

The research design will include a plan to formally evaluate the resource(s) for significance under CEQA criteria, as well as to formally address the resource(s) place within the landscape identified as a Tribal Cultural Resource (TCR) by the San Manuel Band of Mission Indians. Additionally, the research design shall include a comprehensive discussion of sampling strategies, resource processing, analysis, and reporting protocols/obligations. Removal of any cultural resource(s) shall be conducted with the presence of a Tribal Monitor representing the Tribe, unless otherwise decided by SMBMI. All plans for analysis shall be reviewed and approved by the applicant, Lead Agency, and SMBMI prior to implementation, and all removed material shall be temporarily curated on-site.

It is the preference of SMBMI that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by SMBMI, the landowner, and the Lead Agency, and all finds shall be reburied within this location. Additionally, in the case of a single reburial area, reburial shall not occur until all ground-disturbing activities associated with the project have been completed, all cataloguing and basic recordation of cultural resources have been completed, and a final report has been approved by SMBMI and the Lead Agency. All reburials are subject to a reburial agreement that shall be developed between the landowner and SMBMI outlining the determined reburial process/location and shall include measures and provisions to protect the reburial area from any future impacts (i.e. project plans, conservation/preservation easements, etc.).

Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with SMBMI to identify an American Association of Museums (AAM)-accredited facility within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines. A curation agreement with an appropriate qualified repository shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the obligation of the project developer/applicant to pay for those fees.

All draft archaeological records/reports created throughout the life of the project shall be prepared by the archaeologist and submitted to the applicant, Lead

Agency, and SMBMI for their review and approval. After approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the Lead Agency, and SMBMI.

Level of Significance: Less than significant with mitigation.

CUMULATIVE IMPACTS

Impact 3.4-6	The project could result in cumulative impacts related to historical, archaeological, tribal cultural or paleontological resources. Impacts would be less than significant with mitigation.
---------------------	--

The geographic area of analysis for cultural resources includes the site, adjacent properties and the Mojave Valley. This geographic scope of analysis is appropriate because the archaeological, historical, tribal cultural, and paleontological resources within this area are expected to be similar to those that occur on the project site. Their proximity and similarity in environments, landforms, habitation patterns, and hydrology would result in similar land-use, and thus, site types. Similar geology within this vicinity would likely yield fossils of similar sensitivity and quantity.

In addition, the defined area of analysis is a large enough to encompass any effects of the project on cultural and paleontological resources that may combine with similar effects caused by other projects and provides a reasonable context wherein cumulative actions could affect cultural and paleontological resources. The project could cause impacts on cultural and paleontological resources during the grading and construction period or as a result of operation and maintenance, or closure and decommissioning activities.

Cumulative projects within the geographic scope of analysis are identified in **Table 3.0-1** in Section 3.0 of this EIR.

Ongoing development and growth in the broader project area may result in a cumulatively significant impact to cultural resources, tribal cultural resources, and paleontological resources due to the continuing disturbance of undeveloped areas, which could potentially contain significant, buried archaeological, paleontological, or tribal cultural resources. Because there is always a potential to encounter unrecorded archaeological, tribal cultural, and paleontological resources during construction activities, no matter the location or sensitivity of a particular site, mitigation measures **CUL-1** through **CUL-8** are required to protect, preserve, and maintain the integrity and significance of cultural, tribal cultural, and/or paleontological resources in the event of the unanticipated discovery of a significant resource.

As discussed above, the individual, project-level impacts were found to be less than significant with incorporation of mitigation measures, and the proposed project would be required by law

to comply with all applicable federal, state, and local requirements related to historical, archaeological, paleontological, and tribal cultural resources. Other related cumulative projects would similarly be required to comply with all such requirements and regulations, to be consistent with the provisions set forth by CEQA, and to implement all feasible mitigation measures should a significant project-related or cumulative impact be identified. With implementation of applicable regulatory requirements and mitigation measures **CUL-1** through **CUL-8** the proposed project would not have a cumulatively considerable contribution to impacts to archaeological and paleontological resources from decommissioning activities.

Mitigation Measures: Implement mitigation measures **CUL-1** through **CUL-8**.

Level of Significance: Less than significant with mitigation.

This page is intentionally blank.

Section 3.6

Geology and Soils

This section discusses the environmental setting, existing conditions, regulatory context, and potential impacts of the project in relation to geology and soils. The information and analysis in this section is based on the *Preliminary Geotechnical Engineering Report* prepared by Terracon Consultants, Inc. (2018; see **Appendix G**), which was peer reviewed by Michael Baker International.

ENVIRONMENTAL SETTING

GEOLOGIC SETTING

The project site is situated within the Mojave Desert Geomorphic Province in Southern California. Geologic structures in this province trend mostly northwest, in contrast to the prevailing east–west trend in the neighboring Transverse Ranges Geomorphic Province to the west. The Mojave Desert Province extends into lower California and is bounded by the Garlock fault to the north, the San Andreas fault to the west, and the Nevada and Arizona borders to the east. Surficial geologic units on the site consist mainly of alluvium deposits in the western portion of the site and dune sands of Recent Quaternary Age in the eastern portion.

FAULTS AND SEISMICITY

Active Faults

The US Geological Survey (2018) defines an active fault as a fault that has had surface displacement within Holocene times (about the last 11,000 years) and therefore is considered more likely to generate a future earthquake. The 1994 Alquist-Priolo Earthquake Fault Zoning Act requires the California State Geologist to establish regulatory zones (known as earthquake fault zones) around the surface traces of active faults that pose a risk of surface ground rupture. The act also requires that the State Geologist issue appropriate maps in order to mitigate the hazard of surface faulting to structures for human occupancy and to prevent the construction of buildings used for human occupancy on the surface trace of active faults (CGS 2018). The project site is not located within an Alquist-Priolo Earthquake Fault Zone (Terracon 2018).

Ground Shaking

Ground shaking is the earthquake effect that produces the vast majority of damage. Several factors control how ground motion interacts with structures, making the hazard of ground

shaking difficult to predict. Earthquakes, or earthquake-induced landslides, can cause damage near and far from fault lines. The potential damage to public and private buildings and infrastructure can threaten public safety and result in significant economic loss. Ground shaking is the most common effect of earthquakes that adversely affects people, animals, and constructed improvements. Seismic waves propagating through the earth's crust are responsible for the ground vibrations normally felt during an earthquake. Seismic waves can vibrate in any direction and at different frequencies, depending on the frequency content of the earthquake rupture mechanism and the path and material through which the waves are propagating. The earthquake rupture mechanism is the distance from the earthquake source, or epicenter, to an affected site.

Although no mapped active faults traverse the project site, there are several mapped, active faults in the proximity. The closest one is the Calico fault (part of the Calico Fault Zone), a right-lateral strike-slip fault, approximately 2 miles northeast of the project site.

Groundwater

Groundwater was not observed in any of the borings at the time of field exploration at the site. These observations represent groundwater conditions at the time of the field exploration and may not be indicative of other times or other locations. Groundwater conditions can change with varying seasonal and weather conditions, and other factors. Based on a monitoring well at Barstow-Daggett Airport, identified by the California Department of Water Resources, recent groundwater levels are approximately 143 to 150 feet below ground surface (bgs).

REGULATORY FRAMEWORK

STATE

The Alquist-Priolo Earthquake Fault Zoning Act of 1972

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act), regulates the development and construction of buildings intended for human occupancy to avoid hazards associated with surface fault rupture. In accordance with this law, the California Geological Survey maps active faults and designates Earthquake Fault Zones along mapped faults. This act groups faults into categories (i.e., active, potentially active, or inactive). Historic and Holocene faults are considered active, Late Quaternary and Quaternary faults are considered potentially active, and pre-Quaternary faults are considered inactive. These classifications are qualified by conditions. For example, a fault must be shown to be "sufficiently active" and "well defined" through detailed site-specific geologic explorations to determine whether building setbacks should be established. Any project that involves the construction of buildings or

structures for human occupancy, such as an operations and maintenance building, is subject to review under the Alquist-Priolo Earthquake Fault Zoning Act, and any structures for human occupancy must be located at least 50 feet from any active fault.

The Seismic Hazards Mapping Act of 1990

In accordance with the Public Resources Code Division 2, Chapter 7.8, the California Geological Survey is directed to delineate seismic hazard zones. The purpose of the act is to reduce the threat to public health and safety and minimize the loss of life and property by identifying and mitigating seismic hazards, such as those associated with strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Cities, counties, and state agencies are directed to use seismic hazard zone maps developed by the California Geological Survey in their land use planning and permitting processes. In accordance with the Seismic Hazards Mapping Act, site-specific geotechnical investigations must be performed prior to permitting most urban development projects within seismic hazard zones.

California Building Code

The State of California establishes minimum standards for building design and construction through the California Building Code (CBC) (California Code of Regulations, Title 24). The CBC is based on the Uniform Building Code, which is used widely throughout the United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for conditions in California. State regulations and engineering standards related to geology, soils, and seismic activity in the Uniform Building Code are reflected in the CBC requirements.

The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

LOCAL

San Bernardino County General Plan

The San Bernardino County 2007 General Plan includes policies and programs that are intended to address geology and soils and guide future development in a way that lessens impacts. For instance, the Safety Element addresses issues related to protecting the community from any unreasonable risks associated with seismically induced surface rupture, ground shaking, ground failure, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction, and other seismic hazards identified on seismic hazard maps; other known geologic hazards; flooding; and wildland and urban fires. Safety Element policies and goals that are relevant to geology and soils include:

GOAL S 1	The County will minimize the potential risks resulting from exposure of County residents to natural and man-made hazards in the following priority: loss of life or injury, damage to property, litigation, excessive maintenance and other social and economic costs.
<i>Policy S 1.1</i>	Inform and educate the public of the risks from natural and man-made hazards, methods available for hazard abatement, prevention, mitigation, avoidance, and procedures to follow during emergencies.
<i>Policy S 1.2</i>	Continuously integrate data on natural and man-made hazards into adopted land use and overlay maps, policies, and review procedures for land use proposals and enforcement of development standards.
<i>Policy S 1.3</i>	Support and expand emergency preparedness and disaster response programs and establish comprehensive procedures for post-disaster planning in affected areas.
GOAL S 7	The County will minimize exposure to hazards and structural damage from geologic and seismic conditions.
<i>Policy S 7.1</i>	Strive to mitigate the risks from geologic hazards through a combination of engineering, construction, land use, and development standards.
<i>Policy S 7.2</i>	Minimize the risk of potential seismic disaster in areas where inadequate structures exist.
<i>Policy S 7.3</i>	Coordinate with local, regional, state, federal, and other private agencies to provide adequate protection against seismic hazards to County residents.
<i>Policy S 7.4</i>	Designate areas identified by the Alquist-Priolo Earthquake Fault Zoning Act (Public Resource Code, Division 2, Chapter 7.5) on the Hazard Overlay Maps to protect occupants and structures from high level of risk caused by ground rupture during earthquake.
<i>Policy S 7.5</i>	Minimize damage cause by liquefaction, which can cause devastating structural damage and a high potential for saturation exists when the groundwater level is within the upper 50 feet of alluvial material.
<i>Policy S 7.6</i>	Protect life and property from risks resulting from landslide, especially in San Bernardino and San Gabriel Mountains that have high landslide potential.

San Bernardino County Emergency Operations Plan

The San Bernardino County Emergency Operations Plan (EOP) is a comprehensive, single source of guidance and procedures for the County to prepare for and respond to significant or catastrophic natural, environmental, or conflict-related risks that result in situations requiring coordinated response. The EOP further provides guidance regarding management concepts relating to the County's response to and abatement of various emergency situations, identifies organizational structures and relationships, and describes responsibilities and functions necessary to protect life and property.

The plan is consistent with the requirements of the Standardized Emergency Management System (SEMS) as defined in Government Code Section 8607(a) and the National Incident Management System (NIMS) as defined by presidential executive orders for managing response to multi-agency and multi-jurisdictional emergencies. As such, the plan is flexible enough to use in all emergencies and will facilitate response and short-term recovery activities. SEMS/NIMS incorporate the use of the Incident Command System (ICS), mutual aid, the operational area concept, and multi/interagency coordination.

San Bernardino County Hazard Mitigation Plan

The Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) is a "living document" that should be reviewed, monitored, and updated to reflect changing conditions and new information. As required, the MJHMP must be updated every 5 years to remain in compliance with regulations and federal mitigation grant conditions. The plan includes information regarding hazards being faced by the County, the San Bernardino County Fire Protection District, the San Bernardino County Flood Control District, and those board-governed special districts administered by the San Bernardino County Special Districts Department.

IMPACT ANALYSIS AND MITIGATION MEASURES**THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE**

A project would result in a significant impact if it would:

- Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42).

- Strong seismic ground shaking.
- Seismic-related ground failure, including liquefaction.
- Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

PROJECT IMPACTS AND MITIGATION

EXPOSURE TO EARTHQUAKE FAULTS

Impact 3.6-1a	The project would not expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42). Impacts would be less than significant.
----------------------	--

Southern California, including the project site, is subject to the effects of seismic activity because of the active faults that traverse the region. Active faults are defined as those that have experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone. The type and magnitude of seismic hazards affecting the site are dependent on the distance to causative faults and on the intensity and magnitude of the seismic event.

The geotechnical report documents that the site is not located within an Alquist-Priolo Earthquake Fault Zone or a fault zone identified by the County of San Bernardino. In addition, according to the California Department of Conservation, California Geologic Survey regulatory mapping, there are no faults or fault zones that transect the project site (CGS 1988a, 1988b,

1995a, 1995b). Accordingly, no significant impacts related to seismic ground rupture (and related effects) are anticipated from implementation of the proposed project. Therefore, impacts related to seismic ground rupture would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

EXPOSURE TO STRONG SEISMIC GROUND SHAKING

Impact 3.6-1b	The project could expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Impacts would be less than significant with mitigation.
----------------------	--

Seismic activity poses two types of potential hazards for people and structures, categorized as either primary or secondary hazards. Primary hazards include ground rupture, ground shaking, ground displacement, subsidence, and uplift from earth movement. Secondary hazards include ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (seiches), movement on nearby faults (sympathetic fault movement), dam failure, and fires. The project site is located in a seismically active area and could experience ground shaking associated with an earthquake along nearby faults. The site is susceptible to primary and secondary hazards related to seismic activity.

Although no mapped active faults traverse the project site, there are several mapped, active faults in the proximity. The closest one is the Calico fault (part of the Calico Fault Zone), a right-lateral strike-slip fault, approximately 2 miles northeast of the project site.

In order for structural engineers to employ proper design methods in seismically active locations, the International Building Code (IBC), ASCE 7-02, and ASCE 7-05 define six site classes, which are based on the upper 100 feet of soil and rock. Typically, buildings on soft or loose soils sustain substantially more damage than comparable buildings on stiff soil or rock. Soil deposits amplify the level of ground shaking relative to the level of shaking of bedrock.

The amount of ground-motion amplification depends on the wave-propagation characteristics of the soils, which can be estimated from the measurements of the shear-wave velocity. Soft soils with slower shear-wave velocities generally produce greater amplification than stiff soils with faster shear-wave velocities. Therefore, the site classes of the IBC, ASCE 7-02, and ASCE 7-05 are defined in terms of shear-wave velocity. The IBC, ASCE 7-02, and ASCE 7-05 define six site classes, Site Class A through Site Class F (Kelly 2006). Site Classes A and B are rock sites, while Site Classes

C through F are soil sites (**Table 3.6-1**). According to the geotechnical report, a seismic Site Class D is considered suitable for the project site.

**Table 3.6-1:
Site Class Definition**

Site Class	Site Profile Name
A	Hard rock
B	Rock
C	Very dense soil and soft rock
D	Stiff soil
E	Soft clay soil
F	Soil requires site response analysis

Source: Kelly 2006

All new development and redevelopment is required to comply with the CBC, which includes provisions for buildings to structurally survive an earthquake without collapsing. Additionally, the geotechnical study recommends that building structure and improvements be designed using Site Class D and includes seismic design parameters in accordance with the CBC. Implementation of mitigation measure **GEO-1** would reduce potential ground shaking impacts to a less than significant level because the project applicant would be required to demonstrate to County planning and engineering staff that the recommendations in the geotechnical report have been incorporated into project design and that the project complies with all applicable requirements of the CBC. Therefore, adherence to CBC requirements and the incorporation of recommendations outlined in the geotechnical report will reduce impacts to levels less than significant.

Mitigation Measures:

GEO-1

Prior to the issuance of grading permits, the project proponent/operator shall retain a California registered and licensed engineer to design the proposed project facilities to withstand probable seismically induced ground shaking at the project site. All grading and construction on site shall adhere to the specifications, procedures, and site conditions contained in the final design plans, which shall be fully compliant with the seismic recommendations of the California-registered and licensed professional engineer and consistent with the recommendations in the *Preliminary Geotechnical Engineering Report* prepared by Terracon Consultants, Inc. (2018).

Level of Significance: Less than significant with mitigation.

EXPOSURE TO SEISMIC-RELATED GROUND FAILURE

Impact 3.6-1c	The project would not expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Impacts would be less than significant with mitigation.
----------------------	---

Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Liquefaction is characterized by a loss of shear strength in the affected soil layers, thereby causing the soils to behave as a viscous liquid. Susceptibility to liquefaction is based on geologic data. River channels and floodplains are considered most susceptible to liquefaction, while alluvial fans have a lower susceptibility. Depth to groundwater is another important element in susceptibility. Groundwater shallower than 30 feet results in high to very high susceptibility to liquefaction, while deeper water results in lower susceptibility. According to the geotechnical report (**Appendix G**), groundwater levels are approximately 143 to 150 feet bgs (Terracon 2018). Therefore, the potential for liquefaction at the site is considered low.

Regardless, the project applicant will be required to demonstrate to County planning, engineering, and building staff that the recommendations in the geotechnical report have been incorporated into the project design as required by mitigation measure **GEO-1** and that the proposed project complies with all applicable requirements of the CBC. Therefore, adherence to CBC and local requirements and the incorporation of engineering design outlined in the geotechnical report will ensure that the project does not result in exposure of people or structures to potentially substantial adverse effects involving seismic-related ground failure, including liquefaction. Impacts would be less than significant.

Mitigation Measures: Implement mitigation measure **GEO-1**.

Level of Significance: Less than significant with mitigation.

EXPOSURE TO LANDSLIDES

Impact 3.6-1d	The project would not expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving landslides. Impacts would be less than significant.
----------------------	---

Non-seismically induced landslides can be caused by water from rainfall, septic systems, landscaping, or other origins that infiltrate slopes with unstable material. Boulder-strewn hillsides can pose a boulder-rolling hazard from blasting or a gradual loosening of their contact with the surface. Due to the relatively level terrain found at the project site, landslide hazards

are considered low (Terracon, 2018). Therefore, impacts associated with landslides are considered less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

SOIL EROSION OR LOSS OF TOPSOIL

Impact 3.6-2	The project would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant.
---------------------	---

Soil erosion may result during construction of the proposed project, as grading and construction can loosen surface soils and make soils susceptible to the effects of wind and water movement across the surface. However, all construction activities related to the proposed project would be subject to compliance with the CBC. Additionally, all development associated with the project would be subject to compliance with the requirements set forth in the National Pollutant Discharge Elimination System (NPDES) Storm Water General Construction Permit (Order No. 99-08-DWQ) for construction activities. Compliance with the CBC and the NPDES would minimize effects from erosion and ensure consistency with Lahonton Regional Water Quality Control Board requirements, which establish water quality standards for the groundwater and surface water of the region.

A stormwater pollution prevention plan (SWPPP) is required as part of the grading permit submittal package. The SWPPP will provide a schedule for the implementation and maintenance of erosion control measures, and a description of the erosion control measures, including appropriate design details, to be implemented during the construction phase. The SWPPP would consider the full range of erosion control best management practices (BMPs) with consideration for any additional site-specific and seasonal conditions, as appropriate.

Erosion control BMPs include but are not limited to the application of straw mulch, hydroseeding, the use of geotextiles, plastic covers, silt fences, and erosion control blankets, as well as construction site entrance/outlet tire washing. The State General Permit also requires that those implementing SWPPPs meet prerequisite qualifications that demonstrate the skills, knowledge, and experience necessary to implement those plans. NPDES requirements would substantially reduce the potential for erosion or topsoil loss to occur in association with new development. Water quality features intended to reduce construction-related erosion impacts will be clearly noted on the grading plans for implementation by the construction contractor.

The potential for erosion to occur during project construction would be minimized by limiting certain construction activities to dry weather, covering exposed excavated dirt during periods of

rain, and protecting excavated areas from flooding with temporary berms. As a result, the project would comply with required erosion and runoff control measures included as part of the approval of a grading plan. With conformance to applicable federal, state, and local regulations, and implementation of appropriate BMPs as required by same, the project would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

UNSTABLE GEOLOGIC CONDITIONS

Impact 3.6-3	The project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Impacts would be less than significant.
---------------------	---

Refer also to Impact 3.6-1, above. Subsidence refers to the sudden sinking or gradual downward settling and compaction of soil and other surface material with little or no horizontal motion. Subsidence may be caused by a variety of human and natural activities, including earthquakes. According to the geotechnical report, based on the depth of the groundwater and encountered subsurface conditions, the impact of subsidence is considered low.

Earth movement is estimated at 5,900,000 cubic yards of soil that would be redistributed throughout the project site. Proper placement and compaction of backfill and adherence to CBC guidelines would minimize the risk of unstable soil conditions at the project site. Compliance with the requirements of the CBC ensures a more rigorous seismic design and construction to provide an acceptable risk to the public and better seismic resistance, thereby reducing impacts associated with unstable soils. Therefore, in combination with the planned grading and landscaping to avoid soil erosion, as discussed above, implementation of these requirements would ensure that proposed structures are located on stable soils and geologic units and would not be susceptible to settlement or ground failure. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

EXPANSIVE SOILS

Impact 3.6-4	The project could be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property. Impacts would be less than significant with mitigation.
---------------------	--

Expansive soils contain significant amounts of clay particles that swell considerably when wetted and shrink when dried. Foundations constructed on these soils are subjected to uplifting forces caused by the swelling. Without proper measures taken, heaving and cracking of both building foundations and slabs-on-grade could occur. Based on the results of the on-site borings, subsurface conditions within the depth of exploration on the project site can be generalized as loose to very dense sand with variable amounts of gravel, silt, and clay.

Based on laboratory test results, the project site has soils that have medium plasticity and are expected to have low to medium expansive potential (Terracon 2018). The project would comply with the design standards found in CBC Chapter 18, Soils and Foundation, which includes requirements for development consistent with the conditions found on the project site. Additionally, the geotechnical report includes foundation design recommendations to ensure foundation designs match vertical load.

During the building permit application process, County staff will verify that the type of construction proposed is consistent with the actual soils present on the proposed project site and that the recommendations found in the geotechnical report have been incorporated into the site design as required by mitigation measure **GEO-1**. Based on on-site conditions and development requirements outlined in the CBC, as well as the recommendations in the geotechnical report, impacts associated with expansive soils are considered less than significant with mitigation.

Mitigation Measures: Implement mitigation measure **GEO-1**.

Level of Significance: Less than significant with mitigation.

SEPTIC TANKS

Impact 3.6-5	The project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. Impacts would be less than significant.
---------------------	--

Sanitary facilities for operations would be provided at the O&M building located on approximately 1.5 acres within the project footprint. The O&M facility would be equipped with a septic tank to adequately treat wastewater. Since subsurface soil treatment and disposal relies

upon gradual seepage of wastewater into the surrounding soils, these systems can only be considered where favorable soil characteristics and geology exist for treatment and subsequent disposal of the treated wastewater into the environment (EPA 1999). The project applicant is required to submit a percolation report and plot plans to the San Bernardino County Department of Environmental Health Services for review and approval and also obtain permits through San Bernardino County Building and Safety.

For effective wastewater treatment, perspective soils should be relatively permeable (EPA 1999). As shown in **Exhibit 3.2-1, Soils Map** (see Section 3.2, Agricultural Resources), onsite soils consist of those from the Cajon Series, Halloran Series, Kimberlina Loamy Fine Sand, and Nebona-Cuddeback Complex. As shown in **Table 3.6-2, Onsite Soils Types**, the Cajon and Nebona Series soils have rapid permeability and the Halloran series soils have moderately slow permeability. These soil types are appropriate and can accommodate septic systems because they are sandy loam and well-drained. Therefore, impacts would be less than significant.

**Table 3.6-2:
On-site Soils Types**

Series	Soil Type	Drainage and Permeability
Cajon	Cajon Sand	Somewhat excessively drained; negligible to low runoff; rapid permeability. Cajon soils with sandy loam surface textures have moderately rapid over rapid permeability.
	Cajon Gravelly Sand	
	Cajon Loamy Sand	
Halloran	Halloran Sandy Loam	Moderately well drained; slow runoff with some ponding during flooding after heavy rainstorms; moderately slow permeability.
	Halloran-Duneland Complex	
Nebona	Nebona-Cuddeback Complex	Well drained; medium to rapid runoff; moderately rapid permeability in the upper part but very slow in the duripan.

Source: US Department of Agriculture 2018

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 3.6-6 The project could result in cumulative impacts related to geology and soils. Impacts would be less than significant with mitigation.

As discussed above, like much of Southern California, the proposed project is in a seismically active area. All areas of San Bernardino County are considered seismically active, to a less or greater extent depending on their proximity to active regional faults. Impacts of the proposed project would be cumulatively considerable if the project, in combination with related projects,

would result in significant cumulative impacts. Other projects include solar projects and some residential, commercial, and industrial development. The majority of the cumulative projects are similar to the proposed project regarding construction and operational activities. Related projects would also be subject to similar seismic hazards since they are located in the project vicinity. However, the effects of these projects are not of a nature to cause cumulatively significant effects from geologic impacts, or on soils, because such impacts are site-specific and would only have the potential to combine with impacts of the proposed project if they occurred in the same location.

Additionally, on-site soils are located on fairly level slopes, which generally limits erosion potential because runoff across flat surfaces does not have a substantially high velocity. Although construction activities have the potential to result in erosion on the project site, adherence to the recommendations in the geotechnical report and other grading and building requirements will mitigate erosion impacts to less-than-significant levels. Other cumulative scenario projects would be required to adhere to similar requirements, thereby minimizing cumulative scenario erosion impacts. Specifically, all planned projects in the vicinity of the proposed project are subject to environmental review and would be required to conform to the County General Plan and Building Code. With implementation of mitigation measure **GEO-1** and other grading and building requirements, the proposed project would not contribute to cumulative impacts for geologic, seismic hazards or related events because the proposed project and other cumulative projects in the area would be required to demonstrate compliance with local, state, and federal building and safety standards prior to County issuance of grading and/or building permits. As a result, with implementation of mitigation, cumulative impacts related to geology and soils would be less than significant.

Mitigation Measures: Implement mitigation measure **GEO-1**.

Level of Significance: Less than significant.

Section 3.7

Greenhouse Gas Emissions

This section addresses potential impacts to global climate change resulting from greenhouse gas (GHG) emissions that may result from construction and/or operation of the proposed project. The following discussion addresses the existing conditions of the affected environment pertaining to GHG emissions, evaluates the proposed project's consistency with applicable goals and policies, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from implementation of the proposed project, as applicable.

The analysis in this section is based on the *Air Quality Technical Report* prepared by HDR and peer reviewed by Michael Baker International (2019; see **Appendix D-1**).

ENVIRONMENTAL SETTING

The project site is in the Mojave Desert Air Basin (MDAB), which comprises a 21,000 square-mile area encompassing the majority of San Bernardino County, the eastern portion of Kern County, the eastern portion of Riverside County, and the northeastern portion of Los Angeles County. The MDAB is composed of four California air districts: the Mojave Desert Air Quality Management District (MDAQMD), the Antelope Valley Air Quality Management District, the Eastern Kern Air Pollution Control District, and the eastern portion of the South Coast Air Quality Management District. The climate in the air basin is characterized by hot, dry summers, mild winters, infrequent rainfall, moderate- to high-wind episodes, and low humidity. The majority of the MDAB is relatively rural and sparsely populated.

CLIMATE CHANGE OVERVIEW

Climate change is a distinct change in average meteorological conditions with respect to temperature, precipitation, and storms. Climate change can result from both natural processes and human activities. Natural changes in the climate result from very small variations in the earth's orbit which change the amount of solar energy the planet receives. Human activities can affect the climate by emitting heat-absorbing gases into the atmosphere and by making changes to the planet's surface, such as deforestation and agriculture. The following impacts to California from climate change have been identified:

- Higher temperatures, particularly in the summer and in inland areas;
- More frequent and more severe extreme heat events;

- Reduced precipitation, and a greater proportion of precipitation falling as rain rather than snow;
- Increased frequency of drought conditions;
- Rising sea levels;
- Ocean water becoming more acidic, harming shellfish and other ocean species; and
- Changes in wind patterns.

These direct effects of climate change may in turn have a number of other impacts, including increases in the number and intensity of wildfires, coastal erosion, reduced water supplies, threats to agriculture, and the spread of insect-borne diseases.

Greenhouse Gas

GHGs are naturally present in the earth's atmosphere and play a critical role in maintaining the planet's temperature. The natural process through which heat is retained in the troposphere is called the greenhouse effect. The greenhouse effect traps heat in the troposphere through a threefold process as follows: shortwave radiation emitted by the sun is absorbed by the earth; the earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and re-emit it in all directions, with some radiation heading out into space and some heading back toward the earth. This "trapping" of the long-wave (thermal) radiation emitted back toward the earth is the underlying process of the greenhouse effect. Without the presence of GHGs, the earth's average temperature would be approximately zero degrees Fahrenheit.

Parts of the earth's atmosphere act as an insulating blanket, trapping sufficient solar energy to keep the global average temperature within a range suitable for human habitation. The blanket is a collection of atmospheric gases called greenhouse gases because they trap heat similar to the effect of glass walls in a greenhouse. These gases, mainly water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone, and chlorofluorocarbons (CFCs), all act as effective global insulators, reflecting infrared radiation back to the earth. Human activities, such as producing electricity and driving internal combustion vehicles, emit these gases into the atmosphere.

GHG are unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have much longer atmospheric lifetimes of one year to several thousand years that allow them to be dispersed around the globe. Although the exact

lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood by scientists who study atmospheric chemistry that more CO₂ is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration.

REGULATORY FRAMEWORK

FEDERAL

The Clean Air Act

On December 7, 2009, the U.S. EPA issued an endangerment finding that current and projected concentrations of the six GHGs in the atmosphere (CO₂, CH₄, N₂O, SF₆, HFCs, and PFCs) threaten the public health and welfare of current and future generations. This finding came in response to the Supreme Court ruling in *Massachusetts v. EPA*, which found that GHGs are pollutants under the Federal Clean Air Act. As a result, the U.S. EPA issued its GHG Tailoring Rule in 2010, which applies to facilities that have the potential to emit more than 100,000 MTCO₂e. In 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA* (No. 12-1146), finding that the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a permit pursuant to the “Clean Air Act’s Prevention of Significant Deterioration” or “Title V” operating permit programs. The U.S. EPA’s Greenhouse Gas Reporting Program requires facilities that emit 25,000 MTCO₂e or more of GHG to report their GHG emissions to the U.S. EPA to inform future policy decisionmakers.

The Current Administration

President Trump and the U.S. EPA have stated their intent to halt various federal regulatory activities to reduce GHG emissions. California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. The timing and consequences of these types of federal decisions and potential responses from California and other states are speculative at this time.

STATE

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

The California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32; California Health and Safety Code Division 25.5, Sections 38500 to 38599) establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on

statewide GHG emissions. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. In 2016, statewide GHG emissions fell below the levels recorded in 1990, four years ahead of schedule.

Executive Order S-1-07

Executive Order (EO) S-1-07 proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. The EO establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020. This order also directs the California Air Resources Board (CARB) to determine whether the Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

Executive Order S-3-05

Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary will also submit biannual reports to the governor and the California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts.

Executive Order S-14-08

Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (2009) directs CARB to adopt regulations requiring that 33 percent of electricity sold in the state come from renewable energy by 2020.

Executive Order B-30-15, Senate Bill 32, and Assembly Bill 197 (Statewide Interim GHG Targets)

California EO B-30-15 (April 29, 2015) set an "interim" statewide emission target to reduce greenhouse emissions to 40 percent below 1990 levels by 2030, and directed state agencies with

jurisdiction over greenhouse gas emissions to implement measures pursuant to statutory authority to achieve this 2030 target and the 2050 target of 80 percent below 1990 levels. Specifically, the Executive Order directed CARB to update the Scoping Plan to express this 2030 target in metric tons. Assembly Bill 197 (AB 197) (September 8, 2016) and Senate Bill 32 (SB 32) (September 8, 2016) codified into statute the GHG emissions reduction targets of at least 40 percent below 1990 levels by 2030 as detailed in EO B-30-15. AB 197 also requires additional GHG emissions reporting that is broken down to sub-county levels and requires CARB to consider the social costs of emissions impacting disadvantaged communities.

Senate Bill 350 (Clean Energy & Pollution Reduction Act)

SB 350 was signed into law in September 2015 and establishes tiered increases to the Renewable Portfolio Standard (RPS). The bill requires 40 percent of the state's energy supply come from renewable sources by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also established a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

LOCAL

San Bernardino County General Plan

The County's General Plan Conservation Element includes the following goals and policies related to reducing greenhouse gas emissions:

<i>Policy CO 4.5</i>	Reduce emissions through reduced energy consumption.
<i>Policy CO 4.12</i>	Provide incentives to promote siting or use of clean air technologies (e.g., fuel cell technologies, renewable energy sources, UV coatings, and hydrogen fuel).
<i>Policy CO 4.13</i>	Reduce Greenhouse Gas (GHG) emissions within the County boundaries.
GOAL CO 8	The County will minimize energy consumption and promote safe energy extraction, uses and systems to benefit local regional and global environmental goals.
<i>Policy CO 8.1</i>	Maximize the beneficial effects and minimize the adverse effects associated with the siting of major energy facilities. The County will site energy facilities equitably in order to minimize net energy use and consumption of natural resources and avoid inappropriately burdening certain communities. Energy planning should conserve energy and reduce

peak load demands, reduce natural resource consumption, minimize environmental impacts, and treat local communities fairly in providing energy efficiency programs and locating energy facilities.

Policy CO 8.2 Conserve energy and minimize peak load demands through the efficient production, distribution and use of energy.

San Bernardino County Greenhouse Gas Emissions Reduction Plan

The County's Greenhouse Gas Emissions Reduction Plan presents a comprehensive set of actions to reduce the county's internal and external GHG emissions to 15 percent below 2011 levels by 2020, consistent with the AB 32 Scoping Plan. The plan has a review standard of 3,000 metric tons (MT) of carbon dioxide equivalent (CO₂e) per year to identify projects that require screening tables or a project-specific technical analysis to quantify and mitigate GHG emissions. Projects that do not exceed the 3,000 MTCO₂e per year threshold are considered consistent with the reduction plan and to have a less than significant individual and cumulative impact for greenhouse gas emissions.

IMPACT ANALYSIS AND MITIGATION MEASURES

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

A project would result in a significant impact if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (or conflict with applicable greenhouse gas emissions thresholds) or otherwise conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

For the purposes of determining whether GHG emissions from affected projects are adverse, the Mojave Desert Air Quality Management District specifies that project emissions must include direct and indirect emissions during construction and operation. The construction and operational emissions were calculated using the models and emissions factors described in **Appendix D-1**. The MDAQMD has set the daily significance threshold for greenhouse gases at 548,000 pounds per day of CO₂e.

PROJECT IMPACTS AND MITIGATION

GENERATE SIGNIFICANT GHG EMISSIONS OR CONFLICT WITH A GHG PLAN, POLICY, OR REGULATION

Impact 3.7-1	The project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (or conflict with applicable greenhouse gas emissions thresholds) or otherwise conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Impacts would be less than significant.
---------------------	--

CONSTRUCTION IMPACTS

The proposed project is expected to be constructed in three phases, ranging in size from approximately 200 megawatts (MW) to 250 MW. Within each development phase, the construction activities are separated into three different stages: site clearing and preparation, solar panel installation, and electrification. The activities that will occur and the equipment that will be used during each stage are described in Tables A-1 through A-3 in of the *Air Quality Technical Report* in **Appendix D-1**. While there may be overlap during construction of two of the three phases (i.e., the restoration stage of one phase and the mobilization stage of the next), major construction is expected to occur separately. Project facilities such as the substations, gen-tie, and operations and maintenance (O&M) building would be shared among the individual Conditional Use Permits (CUPs) and phases. Final construction phasing would be determined during financing and prior to construction of that particular phase.

The construction emissions for each stage of the proposed project were calculated using the equipment list, the construction schedule contained in **Appendix D-1**, and U.S. EPA emission rates. The total exhaust emissions generated during each of the construction stages are listed in **Table 3.7-1** and detailed in **Appendix D-1**. Because the same equipment and staging would be used for each phase, the peak daily emissions listed in **Table 3.7-1** are applicable to each phase. Only the total duration of construction would vary: 27 months for Phases 1 and 2 constructed at one time, and 19 months for Phase 3. However, there could be overlap between the construction staging within one phase or the concurrent construction of Phases 1 and 2. The peak daily emissions shown in **Table 3.7-1** were calculated using the assumption that stages 1, 2, and 3 would occur simultaneously.

**Table 3.7-1:
Construction Emissions by Stage (Pounds per Day)**

Construction Stage	CO ₂ e
Stage 1	15,844
Stage 2	22,323
Stage 3	4,690
Peak Daily Emissions	42,857
MDAQMD Threshold	548,000
Exceeds Threshold?	No

Source: HDR 2019

As shown in the table, the peak daily construction emissions would not exceed the MDAQMD's threshold of 548,000 pounds per day for greenhouse gas emissions. The proposed project's short-term construction activities, therefore, would not generate greenhouse gas emissions, either directly or indirectly, that may have an adverse effect on the environment.

OPERATIONAL IMPACTS

Because the proposed project would have no major stationary emission sources, operation of the proposed solar farm would result in substantially lower emissions than project construction. The proposed facility does not burn fossil fuel to generate solar electricity and as a result does not produce a significant amount of emissions. **Table 3.7-2** lists the average daily operation emissions associated with the on-site maintenance equipment and employee commutes.

**Table 3.7-2:
Operational Emissions (Pounds per Day)**

Emissions Source	CO ₂ e
On-Road Sources	777.1
Off-Road Sources	88.3
Maintenance Equipment	1,698.0
Total	2,563.4
MDAQMD Threshold	548,000
Exceeds Threshold?	No

Source: HDR 2019

As shown in the table, the total operational emissions would be 2,563 pounds of CO₂e per day. Approximately 1,725 acres of cultivated fields and other lands currently used for agricultural production would be cleared of vegetation for development of the proposed project; the remainder of the project site is sparsely vegetated desert and developed or otherwise disturbed land.

Of the agricultural areas, most are currently planted with alfalfa, with a smaller amount of land planted with pistachio orchards. After accounting for farming activities, alfalfa crops reduce GHG emissions by 2.24 MT CO₂e per acre per year (American Farmland Trust 2015). Assuming that all of the cleared cropland would be alfalfa, the proposed project would reduce the sequestered carbon by 3,864 MT CO₂e per year or 23,338 pounds of CO₂e per day.

Therefore, the total daily GHG emissions of 25,901 (23,338 + 2,563) pounds per day would not exceed the MDAQMD's thresholds of 548,000 pounds per day. In addition, once operational, the proposed solar farm will offset GHG emissions generated by electricity produced through the burning of fossil fuels. The Coolwater gas plant was retired and this solar project can produce up to the same equivalent amount of electricity but produces no GHGs, so it is a better alternative to a potential repowering of that gas plant. Therefore, impacts would be less than significant.

Lastly, although project emissions are below applicable thresholds and therefore less than significant, the proposed project would also develop a new source of renewable energy that could replace conventional fossil fuel energy and potentially offset any GHG emissions from the proposed project.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 3.7-2	The project would not result in cumulative impacts related to greenhouse gases. Impacts would be less than significant.
---------------------	--

Climate change is an inherently cumulative category of impact. No one project will cause climate change; rather, it is the agglomeration of all global emissions that causes harm. To help address its contribution to the cumulative issue, the State of California has elected to reduce GHG emissions at the state level for activities under its control and has promulgated policy for local agencies to do the same.

Renewable energy production potentially offsets GHG emissions generated by fossil-fuel power plants. The proposed project's GHG emissions would fall below MDAQMD thresholds and would not prevent the state from achieving its GHG reduction goals. In addition, if the energy produced by the proposed project were used as a replacement for the energy produced at an existing fossil-fuel power plant, GHG emissions would decrease. Therefore, the proposed project's GHG emissions are not cumulatively considerable.

Mitigation Measures: None required.

Level of Significance: Less than significant.

This page is intentionally blank.

Section 3.8

Hazards and Hazardous Materials

This section describes the environmental and regulatory setting and the potential environmental impacts related to hazards and hazardous materials as they pertain to implementation of the proposed project. The section also describes existing conditions on the project site and regulations that relate to hazardous materials and fire hazards. Information in this section is based primarily on the site-specific *Phase I Environmental Site Assessment* prepared by Tetra Tech (2018a; see **Appendix H-1**), the *Technical Memorandum for the Phase I Environmental Site Assessment* prepared by Tetra Tech (2018b; see **Appendix H-2**), and the *Preliminary Geotechnical Engineering Report* prepared by Terracon Consultants, Inc. (2018; see **Appendix G**). Additionally, analysis of potential hazards relative to project compatibility with airport operations is based upon the *Barstow-Daggett Airport Safety and Compatibility Technical Memorandum* prepared by Tetra Tech (2019; see **Appendix H-3**). These reports were peer reviewed by Michael Baker International.

ENVIRONMENTAL SETTING

SCHOOLS

The nearest schools in the project vicinity are more than 5 miles from the project site and include the following:

- Alternative Education (grades K–12), 33525 Ponnay, Daggett
- Silver Valley High School (grades 9–12), 35484 Daggett-Yermo Road, Yermo
- Yermo School (grades TK–8), 38280 Gleason Street, Yermo
- Newberry Elementary School (grades TK–4), 33713 Newberry Road, Newberry Springs

AIRPORTS AND AIRSTRIPS

Barstow-Daggett Airport, a County-owned, public-use, general aviation airport, is directly south of the project site. The airport is classified in the National Plan of Integrated Airport Systems as a general aviation, general utility facility that accommodates virtually all general aviation aircraft with maximum gross takeoff weights of 12,500 pounds or less. The airport is situated on 1,087 acres in an unincorporated area of San Bernardino County 15 miles east of

Barstow. Aircraft usage has decreased over time from approximately 70 aircraft in 1992 to approximately 46.

The nearest heliport is the SCE Solar Heliport, approximately 2.7 miles east of the project site. The nearest military airport is the Twentynine Palms Strategic Expeditionary Landing Field, about 65 miles to the southeast.

WILDLAND FIRES

A wildfire or wildland fire is a fire in an area of combustible vegetation that generally occurs in the countryside or a rural area. Depending on the type of vegetation where it occurs, a wildfire can also be classified more specifically as a brush fire, bush fire, desert fire, forest fire, grass fire, hill fire, peat fire, or vegetation fire.

Wildfires present a significant potential for disaster in San Bernardino County, a region with relatively high temperatures, low humidity, and low precipitation during the summer, followed by a fall season that includes high velocity, very dry Santa Ana winds. Between 2005 and 2009, 23 wildfires burned over 168,000 acres in San Bernardino County (County of San Bernardino County).

According to the California Department of Forestry and Fire Protection (Cal Fire), a Fire Hazard Severity Zone (FHSZ) is a mapped area that designates zones (based on factors such as fuel, slope, and fire weather) with varying degrees of fire hazard (i.e., moderate, high, and very high). While the designation of an FHSZ does not predict when or where a wildfire will occur, FHSZs do identify areas where wildfire hazards could be more severe and therefore are of greater concern. FHSZ maps evaluate wildfire hazards, which are physical conditions that create a likelihood that an area will burn over a 30- to 50-year period. The maps do not take into account modifications such as fuel reduction efforts.

Although wildland fires represent a real threat to San Bernardino County, the County's Hazard Overlay mapping (sheet EI10B) shows that the project site is not located in a Fire Safety Overlay District. Similarly, as shown on the Cal Fire (2007) map of Fire Hazard Severity Zones in the northwestern part of the county, the project site is designated as a Local Responsibility Area (LRA), Moderate. The project area and its surroundings are categorized as having a moderate potential for wildland fires. No areas in the general vicinity are classified as having either LRA High or LRA Very High potential for wildland fires.

HAZARDOUS MATERIALS AND WASTE

Hazardous materials, as defined by California Health and Safety Code Section 25501(n) and (o), are substances with certain physical properties that could pose a substantial present or

future hazard to human health or the environment when improperly handled, disposed, or otherwise managed.

Hazardous materials are grouped into the following four categories, based on their properties:

- Toxic – causes human health effects
- Ignitable – has the ability to burn
- Corrosive – causes severe burns or damage to materials
- Reactive – causes explosions or generates toxic gases

A hazardous waste is any hazardous material that is discarded, abandoned, or slated to be recycled. When improperly handled, hazardous materials and hazardous waste can result in public health hazards if discharged into the environment through releases into soil or groundwater, or via airborne releases in the form of vapors, fumes, or dust. Contaminated soil and groundwater containing concentrations of hazardous constituents that exceed regulatory thresholds must be handled and disposed of as hazardous waste when excavated or pumped. The California Code of Regulations (CCR), Title 22, Section 66261.20 et seq. contains technical descriptions of toxic characteristics that could cause soil or groundwater to be classified as hazardous waste.

Public health is potentially at risk whenever hazardous materials are or will be used. It is necessary to differentiate between the hazard of these materials and the acceptability of the risk they pose to human health and the environment. A hazard is any situation that has the potential to cause damage to human health and the environment. The risk to health and public safety is determined by the probability of exposure and by the inherent toxicity of a material (DTSC 2018a).

Factors that can influence health effects when human beings are exposed to hazardous materials include the dose to which the person is exposed, the frequency of exposure, the duration of exposure, the exposure pathway (route by which a chemical enters a person's body), and the individual's unique biological susceptibility.

Additionally, hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been discarded, discharged, spilled, or contaminated or are being stored until they can be disposed of properly (CCR Title 22, Section 66261.10). Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific CCR Title 22 criteria. Various agencies maintain hazardous waste and substance lists in planning documents used by state and local agencies to comply with CEQA requirements

in providing information about the location of hazardous materials sites. While hazardous substances are regulated by multiple agencies, as described under the Regulatory Framework subsection below, cleanup requirements for hazardous wastes are determined on a case-by-case basis according to the agency with lead jurisdiction over a project.

PHASE I ENVIRONMENTAL ASSESSMENT RESULTS

A Phase I Environmental Site Assessment (ESA) is a report prepared for a project site that identifies existing and potential environmental contamination liabilities. The Phase I ESA is generally considered the first step in the process of environmental due diligence and does not include sampling of soil, air, groundwater, or building materials.

As part of the Phase I ESA Tetra Tech (2018a) conducted for the proposed project, a standard radius database search was conducted of 60 federal, state, local, and proprietary records. The project site was the center of the search, with a radius distance of 1 mile consistent with the ASTM E1527 13 standard, and inclusive of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

The objective of the Phase I ESA was to identify Recognized Environmental Conditions (RECs), Historical RECs (HRECs), and Controlled RECs (CRECs) that affect the project site. RECs are defined in ASTM International E1527 13 as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.” According to the ASTM Phase I ESA standard, the term “recognized environmental condition” is not intended to include de minimis conditions (minor things) that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government authorities.

Based on the Phase I ESA site reconnaissance performed on June 19, 2018, the EDR database review, historical aerial and topographic map review, landowner interviews and completed user questionnaires, review of the GeoTracker database, and review of other documents made available, two RECs were identified, as further described below.

The projects containing RECs that were identified during the completion of the Phase I ESA are the Sunray Solar Energy project and Barstow-Daggett Airport. The two facilities and associated RECs are identified in detail in **Table 3.8-1, Identified RECs Summary**.

**Table 3.8-1:
Identified RECs Summary**

REC	Description	Remediated, Yes or No? Remarks
<p>Sunray Solar Energy Project: The solar facility (formerly the Solar Energy Generating Station II), at 35100 Santa Fe Street in Daggett and located immediately adjacent to the project site, was listed on the Emergency Response Notification System (ERNS) database for two occurrences.</p>	<ul style="list-style-type: none"> • In 1994, 100 gallons of other oil (Caloria Heat Transfer Oil) were spilled and reached the water at the site. The listing did not specify whether the spill impacted surface water or groundwater. • In 2014, 900 gallons of heat transfer fluid were spilled due to a failed HCE tube at the weld. 	<p>Yes. The Sunray Solar Energy facility is located on a site where another solar facility (SEGS solar facility) was formerly located. The former SEGS facility is listed as an inactive facility that was a Large Quantity Generator (LQG) meaning that the site generated 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste. The site was also designated as an Emergency Planning and Community Right-to-Know (EPCRA) site which means the public was granted additional knowledge of the activities conducted at the site due to the public health risk posed by the storage and handling of toxic materials at the facility. This listing is indicative of historical regulatory status and is not considered a REC to the proposed Daggett Solar Power Facility Project site. Currently, the Sunray project is an active solar project because the site has been redeveloped after this record. No new occurrences have been reported at the redeveloped site.</p>
<p>Barstow-Daggett Airport: The airport is listed in the HIST Cal-Site database and is immediately adjacent to the south of the project site.</p>	<ul style="list-style-type: none"> • The airport includes five former underground storage tank (UST) sites that contain nine USTs. • Two waste disposal sites (Waste Disposal Sites A and B) are also located at the airport. Contaminants of concern have been previously identified from past soil sampling conducted for UST sites. See the Phase I ESA in Appendix H-1 for a detailed discussion of the contaminants found at Waste Disposal Sites A and B. • Metal-impacted soils associated with the waste disposal sites represent a material threat to the project site due to wind-transport mechanisms. • The releases associated with the UST sites appeared to have impacted groundwater with gasoline. 	<p>No. Based on the information available, the soil and/or groundwater impacts at this property associated with the leaking USTs and waste disposal activities are considered a REC because contamination from these areas of the airport represents a material threat based on proximity to the project site, the history of contamination, groundwater flow direction toward the east/southeast, and lack of closure documentation. See mitigation measure HM-1 for mitigation addressing sampling and analysis to further define soil conditions and avoidance measures, if required.</p>

Source: Tetra Tech 2018a

TRANSPORTATION OF HAZARDOUS MATERIALS

Hazardous materials transported through San Bernardino County are predominantly carried by truck on the interstate highway system. Registered hazardous waste haulers may use all roadways in the county to transport hazardous materials. To date, regulators have not placed restrictions on roadways available for the transportation of hazardous waste to and from the project site (FMCSA 2018).

AIRPORT OPERATIONS HAZARDS

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoffs and landings. Other airport operation hazards include incompatible land uses, structures of a certain height when located too close to the runways and operations areas, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the FAA established imaginary surfaces surrounding an airport.

Barstow-Daggett Airport is contiguous and adjacent to the project site parcels on the north, east, and west boundaries. The airport has been operational in close proximity with the following features:

- 626 MW Coolwater Generating Station, originally built in the 1950s as a coal-fired power plant and later converted to a natural gas-fired power plant, and now retired
- The 44-MW operating photovoltaic Sunray Solar Project
- The Los Angeles Department of Water and Power (LADWP) high-voltage transmission corridor of approximately 1,000 feet in width
- Several high-voltage substations and transmission lines owned by SCE
- Major highway and railroad infrastructure

The project area is in proximity to existing high voltage electrical infrastructure, existing energy generation facilities, and other industrial uses. Therefore, structural elements similar to those proposed with the project are present in the surrounding setting and in proximity to ongoing operations at Barstow-Daggett Airport.

The project area is located within the boundaries of the Airport Comprehensive Land Use Plan (ACLUP) for Barstow-Daggett Airport (County of San Bernardino 1992 and 2012). The airport operates as a County-owned, public use, general aviation airport and is located directly to the south of the project site, just north of I-40. An evaluation of the compatibility of the proposed

project with the policies identified in the ACLUP is included as Attachment 1 of **Appendix H-3** of this EIR.

The closest military airport is the Twentynine Palms Strategic Expeditionary Landing Field, about 65 miles to the southeast. All of the airports in the project vicinity have an adopted Airport Land Use Compatibility Plan.

REGULATORY FRAMEWORK

FEDERAL

Emergency Planning Community Right-to-Know Act

The Emergency Planning Community Right-to-Know Act (EPCRA) requires infrastructure at the state or local level to plan for emergencies resulting from potential release of chemical materials. Any documented information pertaining to a specific release at a site is required to be made publicly available so that interested parties may become informed about potentially dangerous chemicals released in the community. Sections 301 through 312 of the EPCRA are administered by the US Environmental Protection Agency's (EPA) Office of Emergency Management.

Hazardous Materials Transportation Act

Under Title 49 of the Code of Federal Regulations, the US Department of Transportation is responsible for regulating the transport of hazardous materials. The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) are primarily responsible for enforcing federal and state regulations pertaining to such activities and for responding to any related emergencies. These agencies are also responsible for necessary permitting for the transport of hazardous materials.

Toxic Substances Control Act

The Toxic Substances Control Act phased out the use of asbestos and asbestos-containing materials in new building materials. The act identifies requirements for the use, handling, and disposal of asbestos-containing materials. Additionally, Section 402(a)(1) of the act establishes disposal standards for lead-based paint.

Resource Conservation and Recovery Act (as Amended by the Hazardous and Solid Waste Amendments of 1984)

The Resource Conservation and Recovery Act (RCRA) generally communicates federal laws pertaining to hazardous waste management and provides a “cradle-to-grave” approach to the regulation of hazardous wastes. The RCRA requires any entity generating hazardous waste to identify and track such substances from generation to recycling, reuse, or disposal. The California Department of Toxic Substances Control implements the RCRA program in combination with other state hazardous waste laws, collectively known as the Hazardous Waste Control Law.

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as “Superfund,” was enacted by Congress on December 11, 1980. This law (42 United States Code 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP (Title 40, Code of Federal Regulations [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List.

Occupational Safety and Health Administration

The mission of the Occupational Safety and Health Administration (OSHA) is to ensure the safety and health of American workers by setting and enforcing standards; providing training, outreach, and education; and encouraging continual improvement in workplace safety and health. OSHA establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in 29 CFR 1910, which include preparation of Health and Safety Plans (HASPs). HASPs identify potential hazards associated with a proposed land use and may provide appropriate mitigation measures as required.

29 CFR Section 1910.120(e) requires all employees working on site exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management

responsible for the site to receive training before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards.

STATE

California Environmental Quality Act

CEQA (California Public Resources Code, Section 21000 et seq.) was established by the state legislature to inform both state and local governmental decision-makers and the public about significant environmental effects of proposed activities (including impacts on biological resources) to identify ways to avoid or reduce significant adverse effects on the environment and to disclose the reasons why a project is approved if significant environmental impacts would result.

California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA) was created in 1991 by Governor's Executive Order. The six boards, departments, and office were placed under the CalEPA "umbrella" to create a cabinet-level voice for the protection of human health and the environment and to ensure the coordinated deployment of state resources. The mission of CalEPA is to restore, protect, and enhance the environment to ensure public health, environmental quality, and economic vitality (CalEPA 2017). CalEPA and the State Water Resources Control Board establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Also, as required by Government Code Section 65962.5, CalEPA develops an annual update to the Hazardous Waste and Substances Sites (Cortese) List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous materials release information for the list.

California Fire Code

The California Fire Code, which is updated every 3 years, is included in California Code of Regulations Title 24, Chapter 9 and was created by the California Building Standards Commission. Based on the International Fire Code, the California Fire Code serves as the primary means for authorizing and enforcing procedures and methods to ensure the safe handling and storage of hazardous substances that pose potential public health and safety hazards. The code regulates the use, handling, and storage requirements for hazardous materials at certain facilities. The California Fire Code and the California Building Code apply a classification system in identifying appropriate protective measures relative to fire protection and public safety. Such measures may include identification and use of proper construction standards, setbacks from property lines, and/or installation of specialized equipment.

State Fire Regulations

Fire regulations for California are established in Section 13000 et seq. of the California Health and Safety Code, which includes regulations for structural standards (similar to those identified in the California Building Code), fire protection and public notification systems, fire protection devices such as extinguishers and smoke alarms, standards for high-rise structures and childcare facilities, and fire suppression training. The State Fire Marshal is responsible for enforcement of these established regulations and building standards for all state-owned buildings, state-occupied buildings, and state institutions in California.

Strategic Fire Plan for California

The 2010 Strategic Fire Plan was prepared by the California Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection (Cal Fire) for the purpose of statewide fire protection. The plan is aimed at improving the availability and application of data on fire hazards and risk assessment; land use planning relative to fire prevention and safety; facilitating cooperation and planning between communities and the multiple fire protection jurisdictions, including county- and community-based wildfire protection plans; establishing fire resistance in assets at risk; shared visioning among multiple fire protection jurisdictions and agencies; assessment of levels of fire suppression and related services; and appropriate recovery efforts following the event of a fire.

California Occupational Safety and Health Administration

California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is

required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings, and health and safety plans (8 CCR 5192).

LOCAL

San Bernardino County Fire Department

The San Bernardino County Fire Department, Hazardous Materials Division, is the Certified Unified Program Agency (CUPA) for San Bernardino County. It issues permits to and conducts inspections of businesses that use, store, or handle substantial quantities of hazardous materials and/or waste. The CUPA is charged with the responsibility of conducting compliance inspections for over 7,000 regulated facilities in the county. These facilities handle hazardous materials, generate or treat hazardous waste, and/or operate an underground storage tank. The CUPA employs a comprehensive environmental management approach to resolve environmental issues and uses education and enforcement procedures to minimize the potential risk to human health and the environment while promoting fair business practices. As a CUPA, the San Bernardino County Fire Department manages six hazardous material and hazardous waste programs. The CUPA program is designed to consolidate, coordinate, and uniformly and consistently administer permits, inspection activities, and enforcement activities throughout the county.

County of San Bernardino General Plan

The County's General Plan includes policies and programs that are intended to address hazards to the public and environment and guide future development in a way that lessens impacts. For instance, the General Plan requires the application of program review and permitting procedures for proposed land uses potentially introducing hazardous substances, as well as the inspection of hazardous material handlers and hazardous waste generators. Policies and goals that are relevant to hazards and hazardous materials are listed below.

Renewable Energy and Conservation Element

<i>Policy RE 4.6</i>	Require all recyclable electronic and/or toxic materials to be recycled in accordance with the requirements of the Basel Convention or comparable standard.
----------------------	---

Safety Element**GOAL S2**

The County will minimize the generation of hazardous waste in the County and reduce the risk posed by storage, handling, transportation, and disposal of hazardous wastes.

Policy S 2.1

Because reducing the amount of waste generated in this County is an effective mechanism for reducing the potential impact of these wastes on the public health and safety and the environment, and because legislation encourages the reduction, to the extent feasible, of hazardous waste, this jurisdiction will encourage and promote practices that will, in order of priority: (1) reduce the use of hazardous materials and the generation of hazardous wastes at their source; (2) recycle the remaining hazardous wastes for reuse; and (3) treat those wastes that cannot be reduced at the source or recycled. Only residuals from waste recycling and treatment will be land disposed.

Policy S 2.2

Include extensive public participation in the County's application review process for siting hazardous waste facilities and coordinate among agencies and County departments to expedite the process. Apply a uniform set of criteria to the siting of these facilities for the protection of public health and safety and the environment.

Policy S 2.3

Ensure that environmental review is conducted for projects proposed on sites that have been identified as contaminated.

Policy S 2.5

Minimize the risk of exposure to hazardous substances by residential and other sensitive receptors through the application of program review and permitting procedures.

GOAL S3

The County will protect its residents and visitors from injury and loss of life and protect property from fires.

Policy S 3.2

The County will endeavor to prevent wildfires and continue to provide public safety from wildfire hazards.

San Bernardino County Code of Ordinances**Title 2, Division 3, Fire Protection and Explosives and Hazardous Materials**

Chapter 6, Permits, Inspections and Hearing Procedures for Hazardous Materials, prohibits any person or business subject to the requirements of the CUPA Permit Program Elements

from generating, producing, storing, treating, or other handling of hazardous materials or hazardous waste without getting the proper operation permitting and paying the appropriate fees.

Chapter 7, CUPA Permit Elements for Hazardous Materials, defines the types of facilities, activities, and operations that are subject to these fees and permit requirements.

Title 8, Division 2, Land Use Zoning Districts and Allowed Land Uses

Development Code Chapter 82.13, Fire Safety (FS) Overlay, was created to provide greater public safety in areas prone to wildland brush fires by establishing additional development standards for these areas.

Chapter 82.16, Hazardous Waste (HW) Overlay, ensures that hazardous waste facilities are sited in areas that protect public health, safety, welfare, and the environment by buffering hazardous waste facilities so that incompatible uses are not permitted to be developed in the vicinity.

Title 8, Division 4, Standards for Specific Land Uses and Activities

Development Code Chapter 84.11, Hazardous Waste Facilities, includes provisions that apply to hazardous waste facilities where allowed in compliance with Chapter 82.16 described above. The chapter states that an approved Special Use Permit is required for the establishment of a hazardous waste facility. The permit's purpose is to evaluate the operation and monitoring plan of the facility; ensure the facility has adequate measures for monitoring ongoing impacts to air quality, groundwater, and environmentally sensitive resources; evaluate the types and quantities of wastes that will be treated or disposed of at the facility; and require periodic inspections of the facility to ensure conditions of approval are implemented and monitored.

Barstow-Daggett Airport Land Use Plan

The Airport Comprehensive Land Use Plan for Barstow-Daggett Airport was prepared to comply with state planning law and is the primary land use document for the airport (County of San Bernardino 1992 and FAA 2012). Its purpose is fourfold:

- To promote the development of compatible land uses in the area influenced by airport operations.
- To safeguard the general welfare of the inhabitants within the vicinity of the airport by minimizing exposure to excessive noise levels.

- To safeguard the general welfare of the inhabitants within the vicinity of the airport by minimizing exposure to crash hazards associated with aircraft operations.
- To safeguard the general welfare of aviation activities within the vicinity of the airport by imposing appropriate height restrictions for the protection of aircraft operations.

The plan establishes land uses for the area in the vicinity of the airport. The plan area is divided into three safety review areas, each of which reflects a particular level and type of hazard or risk within its borders. It has been determined that Safety Review Area 1 has the highest exposure to aircraft operations and therefore the highest potential to be impacted by aviation-related hazards. Conversely, Safety Review Area 3 has the lowest exposure to aircraft operations and consequently the lowest potential to be impacted by aviation-related hazards.

The principal land use planning goals for an airport comprehensive land use plan are to minimize potential harm to people and property, to protect aircraft operations, and to provide for the viability of the airport. These objectives are generally accomplished by limiting land use densities and restricting land use activity in the areas with the highest potential to be affected by aircraft operations or aircraft accidents. The safety areas for Daggett-Barstow Airport are described below.

- Safety Area 1, or the Runway Protection Zone (RPZ), is designed to protect people and property on the ground and to protect airborne aircraft. The area is centered on the extended runway centerline, beginning at the primary surface and extending outward horizontally 1,000 feet. This area is designated as both a runway object-free area (OFA) and a runway protection zone (RPZ). The purpose of the OFA is to identify and preserve areas on or near airports for reasons of ground or flight safety. The intention of the RPZ is to identify and preserve an area off each runway end that has significant potential for aircraft crashes during takeoffs and landings. The RPZ or Safety Review Area 1 is located at the end of the runway zones and is to remain clear of objects or to be restricted to certain objects to ensure safety during aircraft takeoff and landing. In the RPZ, development and associated design features that might create glare, produce misleading lights, or lead to the construction of residences, fuel handling and storage facilities, smoke generating activities, and places of public assembly are prohibited in the RPZ.
- Safety Area 2 also furnishes protection to both people on the ground and to aircraft operations. The area is centered over the runway, extending outward to the 65 CNEL noise contour. In addition to the 65 CNEL noise contour, a single object free area, the runway obstacle free zone (OFZ), lies mostly within the safety review area. The OFZ is

a 400-foot-wide three-dimensional volume of airspace centered above the runway, extending 200 feet beyond each end.

- Safety Area 3 is coterminous with the horizontal surface and provides protection to both people on the ground and to aircraft operations. The area is centered over the airport, extending outward in all directions from the primary surfaces. The land use districts in this area are low-density single-family residential and agriculture. In general, all the land use districts in Safety Review Area 3, excluding those beneath the outer segment of the approach surface and those beneath the transitional surfaces, are compatible with the airport's activities.

A portion of the project site located just north of the airport is partially designated within Safety Area 1. Development of the project in these areas will be in accordance with guidance for Safety Review Areas, and in consultation with the FAA and ALUC.

Emergency Response Plan

The intent of hazard mitigation is to reduce and/or eliminate loss of life and property. Hazard mitigation is defined by the Federal Emergency Management Agency (FEMA) as “any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards.” FEMA defines a hazard as “any event or condition with the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, environmental damage, business interruption, or other loss.”

The purpose of the County of San Bernardino's (2011) Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) is to demonstrate the mechanisms for reducing and/or eliminating risk in the unincorporated area of the county and its five special districts. The MJHMP process encourages communities to develop goals and projects that will reduce risk and build a more disaster-resilient community by analyzing potential hazards.

IMPACT ANALYSIS AND MITIGATION MEASURES

METHODOLOGY

An evaluation of the significance of potential impacts relevant to hazards and hazardous materials must consider both direct effects to the resource and indirect effects in a local or regional context. Potentially significant impacts would generally result in the loss or degradation of public health and safety or conflict with local, state, or federal agency conservation plans, goals, policies, or regulations.

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

A project would result in a significant impact related to hazards or hazardous materials if it would do any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.
- For a project in the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
- Impairs implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

PROJECT IMPACTS AND MITIGATION

HAZARDS RELATED TO THE TRANSPORT, USE, OR DISPOSAL OR RELEASE OF HAZARDOUS MATERIALS

Impact 3.8-1	The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Impacts would be less than significant.
---------------------	---

Due to the limited quantities of hazardous materials required for use in the construction, operation, and decommissioning of the proposed project, the project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The quantities and concentrations of hazardous substances are not expected to reach regulated levels.

SHORT-TERM CONSTRUCTION

Project construction activities would involve the use and transportation of hazardous materials such as fuels, asphalt, lubricants, toxic solvents, pesticides, and herbicides. Common nonhazardous wastes anticipated to be used could include common household trash, cardboard, copper wire, scrap metal, paper, glass, plastic from packing material, waste lumber, insulation, concrete, empty nonhazardous containers, and vegetation waste. Recycling will occur with as much of the generated waste as feasible. Construction equipment generally contains limited amounts of hazardous materials such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products.

The use, storage, and disposal of hazardous materials and wastes associated with project construction could result in potential adverse health and environmental impacts if these materials were to be used, stored, or disposed of improperly, causing accidents and spills. Incidents of this nature could release hazardous substances into the environment and would cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated.

Project construction activities would occur in accordance with all applicable local standards set forth by the County of San Bernardino, as well as state and federal health and safety requirements that are intended to minimize hazardous materials risk to the public, such as California Division of Occupational Safety and Health (Cal/OSHA) requirements, the Hazardous Waste Control Act, the California Accidental Release Protection Program, and the California Health and Safety Code. The construction contractor would be required to implement such regulations relative to the transport, handling, and disposal of any hazardous materials, including the use of standard construction controls and safety procedures that

would avoid or minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local and state laws. The project is required to prepare a Storm Water Pollution Prevention Plan that includes best management practices designed to prevent chemicals used onsite from coming into contact with any stormwater, thereby preventing chemical transport offsite and into receiving water bodies (refer to Chapter 3.9, Hydrology and Water Quality).

LONG-TERM OPERATIONS

A permanent on-site operation and maintenance (O&M) facility would be required to support the project. It is anticipated that maintenance requirements would be minimal. Small amounts of water would be required for panel washing activities and general maintenance. The need for panel washing would be infrequent (e.g., months to years between washings) and determined based on operating considerations, including actual soiling of the PV panels and any expected benefit from cleaning. Should cleaning be necessary, water would be sprayed on the PV panels to remove dust. An estimated 25 acre-feet per year of water would be necessary for panel washing (for all phases of the project or full 650-MW buildout). This water would be obtained from on-site wells.

Sanitary facilities would be available in the O&M building during project operations. Waste would be properly treated via an on-site septic tank. Other waste from equipment replacement or other work would be removed from the site at the end of the day.

Operations and maintenance vehicles would include light-duty trucks (e.g., pickup, flatbed) and other light equipment for maintenance and module washing. Heavy equipment would not be used during normal operations. Large or heavy equipment may be brought to the facility infrequently for equipment repair or replacement or for vegetation control.

Once the project is operational, hazardous materials associated with the maintenance of the project site and associated landscape would be limited to the use of commercially available cleaning products, landscaping chemicals and fertilizers, and various other commercially available substances. The project would consist of operational solar modules, transformers and battery storage; however, modules made with cadmium telluride and crystalline silicon and batteries do not result in emissions during their normal operations and accidental breakage is unlikely. In addition, all mineral oil filled transformers would be equipped with spill containment areas and battery storage would be in accordance with OSHA requirements such as inclusion of ventilation, acid resistant materials, and spill response supplies. All hazardous materials would be disposed of in accordance with RCRA and State Hazardous Waste Management Program requirements. Although the project would introduce a

renewable energy use, batteries, and substations to the site, resulting in an increased use of commercially available potentially hazardous materials, the use of these substances is subject to all applicable federal, state, and local health and safety laws and regulations that are intended to minimize health risk to the public associated with hazardous materials. These regulations establish a comprehensive regulatory system for handling, using, and transporting hazardous materials in a manner that protects human health and the environment. As such, both accidental and reasonably foreseeable hazardous materials releases would be expected to occur infrequently and result in minimal hazard to the public or to the environment.

Developments of this type do not require the routine transport, use, or disposal of hazardous materials in significant quantities. Generally, the exposure of persons to hazardous materials could occur through improper handling or use of hazardous materials or hazardous wastes during construction or operation, particularly by untrained personnel, or an accident during transport, environmentally unsound disposal methods, or fire, explosion, or other emergencies.

The project site is in proximity to Interstate 40, along which hazardous materials may be transported. The federal Hazardous Materials Regulations address hazardous materials transportation via classification, packaging, hazard communication, emergency response information, and training requirements. The regulations' emergency response requirements include initial emergency actions regarding evacuation isolation of the affected area, firefighting, leaking containers, spill containment, and first aid. These requirements would also reduce the number of persons exposed to any hazardous materials incidents. Furthermore, hazardous materials spills on state highways are the responsibility of Caltrans and the CHP. These agencies provide on-scene management of the spill site and coordinate with the California Department of Public Health, Center for Environmental Health; the California Office of Emergency Services; and applicable local agencies.

DECOMMISSIONING

If operations at the project site were terminated permanently, the facility would be decommissioned. Most parts of the proposed system are recyclable or can be resold for scrap value. Panels typically consist of silicon, glass, and an aluminum frame. Tracking systems (not counting the motors and control systems) typically consist of aluminum, steel, and concrete. All these materials can be recycled.

Fuel, hydraulic fluids, and oils would be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks/vessels would be rinsed and transferred to trucks per standard best management practices. Other items that are not feasible to remove at the

point of generation, such as smaller containers of lubricants, paints, thinners, solvents, cleaners, batteries, and sealants, would be kept in a locked utility building with integral secondary containment that meets CUPA and RCRA requirements for hazardous waste storage until their removal for proper disposal and recycling. It is anticipated that all oils and batteries would be recycled at an appropriate facility. Site personnel involved in handling these materials would be trained with proper handling techniques.

Containers used to store hazardous materials would be inspected regularly for any signs of failure or leakage. Transportation of the removed hazardous materials would comply with regulations for transporting hazardous materials, including those set by the US Department of Transportation, EPA, DTSC, CHP, and California State Fire Marshal.

Numerous recyclers for the various materials to be used on the project site operate in San Bernardino and Riverside Counties. Metal, scrap equipment, and parts that do not have free-flowing oil can be sent for salvage. Equipment containing any free-flowing oil from equipment would be managed as used oil, which is a hazardous waste in California. Decommissioning would comply with federal, state, and local standards and all regulations that exist when the project is decommissioned. Upon removal of the proposed project components, the site would be returned to conditions generally consistent with the existing (pre-development) conditions, subject to a closure plan in accordance with San Bernardino Development Code Section 84.29.060.

Mitigation Measures: None required.

Level of Significance: Less than significant.

HAZARDS RELATED TO THE UPSET OR RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT

Impact 3.8-2	The project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Impacts would be less than significant with mitigation.
---------------------	---

Based on records review the Sunray Solar Energy project and Barstow-Daggett Airport were identified as containing RECs. Please refer to **Table 3.8-1** for a summary of the RECs identified or see **Appendix H-1** of this EIR for a detailed report of the occurrences at these two sites.

Records indicate that the site where the Sunray Solar Energy is currently located, is listed in some data bases as an inactive facility that contained RECs. The site was designated a Large Quantity Generator (LQG) meaning that the site generated 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

The site was also designated as an Emergency Planning and Community Right-to-Know (EPCRA) site which means the public was granted additional knowledge of the activities conducted at the site due to the public health risk posed by the storage and handling of toxic materials at the facility. This listing, however, is indicative of historical regulatory status of the adjacent property and is not considered a REC for the project site. The Sunray Solar Energy facility is now an active solar project as the site was redeveloped after County review and permitting was completed in 2015. No new occurrences have been reported at the redeveloped site.

The Barstow-Daggett Airport RECs are immediately adjacent to, and south of the project site and include nine USTs; soil contamination from the USTs is likely to exist. Additionally, two waste disposal sites are on the airport property. Based on the RECs identified adjacent to the project site, there is a potential for impacted soils and groundwater to be present at the project site. Mitigation measure **HM-1** outlines additional research and a soil sampling effort to further identify whether any contamination reached the Daggett Solar Facility site and if so avoidance and minimization measures will be implemented.

Project construction for each project phase is expected to consist of two major stages. The first stage would include site preparation, grading (“smoothing” of the site because the project site is relatively flat and no major grading will occur), and preparation of staging areas and on-site access routes. The second stage would involve installation of solar arrays and constructing electrical components, including an aboveground and/or underground gen-tie line and substations. On-site roads would be constructed with a scarified and compacted subgrade. Dust palliative, including water, may be applied to roads to limit dust.

The installation of solar arrays would require driving piles approximately 6 to 10 feet into the ground to support the racking system. Considering the depth to groundwater in the vicinity of the project site, which ranges from 100 to 200 feet below ground surface, and the 6- to 10-foot depths necessary for piles, the proposed project is not expected to encounter groundwater during construction.

Project development has the potential to release hazardous materials associated with the above described RECs into the environment. Therefore, mitigation measure **HM-1** is required to reduce potential impacts associated with potentially hazardous site conditions because mitigation measure **HM-1** requires additional environmental documentation review and on-site soil samplings of the RECs to verify pollution contamination levels prior to issuance of grading permits.

Mitigation Measures:

HM-1 The following actions shall be taken to address the potential RECs associated with the project site.

- Perform a review of relevant environmental documents of the properties associated with the RECs (Barstow-Daggett Airport) to validate the REC conclusion and further evaluate potential contaminants and areas of concern in order to inform locations where shallow soil sampling may be required and any soil disposal requirements prior to issuance of the grading permit for Phase 2.
- Perform shallow soil sampling along the project site boundaries that are immediately adjacent to the Barstow-Daggett Airport in locations determined by the review required above and where grading is planned to screen the soils for elevated contaminant prior to issuance of the grading permit for Phase 2.
- Prior to issuance of a grading permit, prepare a Soil Management Plan to provide background information regarding the project site, highlight areas of concern that the grading contractor should be aware of during grading activities, and define the procedures for addressing suspected contaminated materials or subsurface anomalies that may be encountered during grading activities.

Level of Significance: Less than significant with mitigation.

EMIT HAZARDOUS EMISSIONS NEAR AN EXISTING OR PROPOSED SCHOOL

Impact 3.8-3 **The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No impact would occur.**

As previously indicated, the nearest schools in the area are located more than 5 miles from the project site. Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No impacts would result from the proposed project.

Mitigation Measures: None required.

Level of Significance: No impact.

BE LOCATED ON A HAZARDOUS MATERIALS SITE

Impact 3.8-4	The project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, it would not create significant hazard to the public or the environment. Impacts would be less than significant.
---------------------	--

One of the objectives from the Phase I ESA was to determine if one or more hazardous materials occur on the project site; refer to the discussion titled Areas of Known Hazardous Contamination – Cortese List, above. These assessments are included as **Appendix H-1** of this EIR. A search of the EnviroStor database did not identify any hazardous material sites on the project site (DTSC 2018b). Similarly, the Phase I ESA determined that the project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Tetra Tech 2018a). A review of the CA HIST CORTESE list, as provided by EDR and dated April 1, 2001, determined that there is one CA HIST CORTESE site within 0.5 miles of the project site and identified as the Coolwater Generating Station at 37072 Santa Fe Road.

Although RECs have been identified as occurring near the project site and mitigation measure **HM-1** is required to mitigate impacts associated with those nearby RECs, no RECs were detected on the project site that would warrant a recommendation of subsequent testing or remediation, and no further action is recommended. Therefore, the proposed project would not create a significant hazard to the public or the environment. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

SAFETY HAZARD RELATED TO A PUBLIC AIRPORT OR PRIVATE AIRSTRIPE

Impact 3.8-5	The project is located within an airport land use plan and within 2 miles of a public airport or public use airport. The project could result in a safety hazard for people residing or working in the project area, or result in a safety hazard for people residing or working in the vicinity of a private airstrip. Impacts would be less than significant with mitigation.
---------------------	--

GLINT AND GLARE

Due to the nature of the project and the anticipated minimal grading and operation activities necessary, project construction, operations, and decommissioning are not anticipated to create safety hazards for people residing or working near the project site. Additionally, unlike solar thermal facilities, which rely on large fields of mirrors to reflect light, the potential reflection from solar PV modules used on a tracker mounting system is inherently low due to the materials of its construction and its mode of operation. PV cells are designed to capture (rather than reflect) sunlight. However, with Barstow-Daggett Airport located in such proximity, a glare study was conducted to analyze the potential for impacts.

A glint and glare analysis to identify whether the project significantly impacts Airport operations was performed and is included in **Appendix H-3**. Specifically, this analysis considered the impact on aircraft approaching land on Runways 08/26 and 04/22. The study was conducted in accordance with the FAA interim policy for Solar Energy System projects on Federally Obligated Airports.

The results of the study show that there is a “low potential for after image” associated with glare emanating from Array 6 only. This glare may be seen by aircraft making approaches to Runway 22. This level of glare is deemed acceptable by FAA standards per the interim policy for Solar Energy System projects on Federally Obligated Airports. No glare was identified that would have an effect on Runway 08/26 from any of the arrays. Therefore, there would be a less than significant impact on airport operations as a result of glint and glare from the project.

PUBLIC AND PRIVATE AIRPORTS

Barstow-Daggett Airport, a County-owned, public-use, general aviation airport, is directly south of the project site. The project site is not within 2 miles of a private airstrip. The nearest heliport is the SCE Solar Heliport approximately 2.7 miles east of the site. The nearest military airport is the Twentynine Palms Strategic Expeditionary Landing Field, about 65 miles to the southeast.

The Airport Comprehensive Land Use Plan (ACLUP) for Barstow-Daggett Airport was prepared to comply with state planning law and is the primary land use document for the airport (County of San Bernardino 1992 and FAA 2012). The project is being designed in conformance with ACLUP policies and with input received from Airport and Fort Irwin Training Center staff. Additionally, an Obstruction Evaluation and Airspace Analysis was prepared by Capital Airspace Group for the project to identify aviation safety data necessary to be incorporated into the final project design (Tetra Tech 2018b; see Attachment 3 of **Appendix H-3**).

The ACLUP establishes land uses for the area in the vicinity of the airport. The plan area is divided into three Safety Areas, each of which reflects a particular level and type of hazard or risk within its borders. Portions of the project site is located within Safety Area 1 and Safety Area 3, although Safety Area 1 represents a relatively small portion of the overall project site. In general, land uses in Safety Review Area 3 are typically compatible with the airport's activities, while development in Safety Area 1 is more restrictive and prohibitive.

Safety Area 1 is designated as both a runway object-free area (OFA) and a runway protection zone (RPZ). The project portion within Safety Area 1 is located within the RPZ, while no project features are located in the OFA. The intention of the RPZ is to identify and preserve an area off each runway end that has significant potential for aircraft crashes during takeoffs and landings. Therefore, development in the RPZ is either prohibited or restricted based on FAA requirements.

Development, and associated design features, that might create glare, produce misleading lights, or lead to the construction of residences, fuel handling and storage facilities, smoke generating activities, and places of public assembly are prohibited in the RPZ. Furthermore, according to current FAA guidance, solar panels are prohibited within runway protection zones (RPZs). Therefore, impacts are potentially significant.

The applicant will be required to obtain a Determination of No Hazard from the Federal Aviation Administration (FAA) prior to issuance of building and grading permits from the County. Development of the project in the RPZ would be in accordance with guidance for Safety Review Areas, and in consultation with the FAA and Airport Land Use Commission (ALUC). FAA review and issuance of a Determination of No Hazard will require the project applicant would incorporate final design modifications and safety features (e.g., maximum height, clearance requirements) in accordance with the Obstruction Evaluation (Tetra Tech 2018b; see Attachment 3 of **Appendix H-3**). In addition, project facilities including solar panels, fences and transmission line poles within the RPZ or Safety Area 1 would be reviewed by the FAA for compatibility with airport operations. If the FAA finds that development within the Safety Areas does not pose a hazard to airport activities based on height, glare, proximity to runways, and other air navigation safety factors, the FAA may issue a Determination of No Hazard, which gives the applicant approval to proceed with the project as designed. If the FAA finds that the structures within the RPZ do not comply with FAA requirements, the FAA may require project alterations, such as removing solar panels from the RPZ or undergrounding utilities, before a Determination of No Hazard is granted to the applicant. Potential impacts to airport operations and public safety would be minimized to a less than significant level with implementation of mitigation measure **HM-2** by requiring the applicant

to provide the County with a Determination of No Hazard from the FAA prior to issuance of building or grading permits.

Mitigation Measures:

HM-2 Prior to issuance of building and grading permits, the Applicant shall provide to the County a Determination of No Hazard issued by the Federal Aviation Administration (FAA).

Level of Significance: Less than significant with mitigation.

INTERFERE WITH AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN

Impact 3.8-6 The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

Project access would include a 26-foot-wide entrance. All interior access roads would be a minimum of 20 feet in width. All roads within the site would consist of compacted native soil according to San Bernardino County Fire Department requirements. Roads would be stabilized with a soil stabilization material, if necessary. Activities associated with the project would not impede the free movement of emergency response vehicles. Construction vehicles would access the project site from I-40 and I-15. During construction, materials would be placed within the project boundaries adjacent to the current phase of construction in order to avoid any access conflicts in case of emergency evacuations.

The County's Multi-Jurisdictional Hazard Mitigation Plan includes measures to reduce future hazards and better respond during emergency evacuations. The plan states that improvements in Daggett and at Barstow-Daggett Airport are anticipated and the project would not interfere with the County's ability to complete the anticipated improvements in the project vicinity, which are as follows:

- The County is in the process of locally funding construction of a new road, Daggett Road, at Daggett Ditch Bridge.
- The Capital Improvement Program includes funding for the construction of a new fire station for the Ludlow/Amboy area and—pending FAA approval—for airfield improvements and the Taxiway B extension at Barstow-Daggett Airport, which features significant military activity and supports the Fort Irwin National Training Center (County of San Bernardino 2011).

In addition, the County's Emergency Operations Plan (EOP) identifies the County Sheriff's Department (including transit agencies and Animal Control) as the main personnel supporting the safe evacuation of persons, domestic animals, and livestock from hazardous areas in case of emergencies (County of San Bernardino 2013). The project would not interfere with the Sheriff's ability to safely evacuate the area in the event of an emergency.

The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

WILDLAND FIRES

Impact 3.8-7	The project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Impacts would be less than significant.
---------------------	---

Any new development in previously undeveloped areas generally increases the potential for occurrence of wildfires. The proposed project would introduce battery storage and other facilities that have the potential to increase fire hazards, as detailed below.

BATTERY STORAGE

The project is anticipated to include up to 450 MW of battery storage to be constructed in three phases corresponding to the phased construction of the solar arrays. The battery storage system is expected to be located either adjacent to each of the substations or distributed throughout the solar array at the inverter equipment pads or tracker rows. Up to 16 acres of battery storage would be located throughout the project site.

If batteries were located adjacent to the substations, they would be contained either within steel enclosures similar to a shipping container or in a freestanding building. If distributed throughout the solar array, the battery system would likely be contained within metal housings and electrically connected to the inverters at each of the equipment pads. However, the locations may be changed to optimize overall facility design. The battery storage system would likely use one of several available lithium ion technologies, though alternatives may be considered (such as flow batteries) given continuing rapid technological change in the battery industry.

The proposed battery storage system would be designed, constructed, operated, and maintained in accordance with applicable industry best practices and regulatory requirements, including fire safety standards. Current best practices for fire safety, as of the preparation of this EIR, use chemical agent suppressant-based systems 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 similar, from pressurized storage cylinders. However, final fire safety design would follow applicable standards and would be specific to the battery technology chosen.

The major components of the battery system include the inverter, cells, modules, enclosure, and safety system. The inverter converts the direct current (DC) electricity produced by the solar system into alternating current (AC) electricity that can safely be transferred into the electrical grid. The inverter contains no liquids or chemicals. The battery cell and modules for the proposed project would utilize lithium ion technology which would be housed in an enclosure that contains integrated fire suppression and controls.

The configuration of the safety system would be determined based on site-specific environmental factors and associated fire response strategy. The safety system would include a fire detection and suppression control system that would be triggered automatically when the system senses imminent fire danger. A fire suppression control system would be provided within each on-site battery enclosure. Components of the system would include a fire panel, aspirating hazard detection system, smoke/heat detectors, strobes/sirens, and suppression tanks. The safety system would operate in three phases: Pre-alarm, Stage 1, and Stage 2. If the safety system detects a potential issue, the Pre-alarm phase would be initiated and would shut down the heating, ventilation and air conditioning (HVAC) units and fans to help contain the potential fire. The control system would then wait approximately 5 minutes to determine if the initiation of Stage 1, which would shut down the HVAC and fans indefinitely, is warranted. If reached, Stage 2 would then result in the fire panel discharging the suppression agent onto the fire. The safety system would either use a waterless evaporating fluid, sustainable clean agent (not a hydrofluorocarbon clean agent), or an alternative suppression agent, such as an inert gas.

OTHER INFRASTRUCTURE

An O&M building would be constructed on approximately 1.5 acres within the project footprint during the first phase of the project. The O&M building would serve to store spare parts and vehicles and to accommodate full- and part-time staff associated with the project. Telecommunications equipment, such as fiber-optic line, a SCADA (supervisory control and

data acquisition) system, and auxiliary power, would be installed throughout the project site at each inverter equipment pad, substation, and security system. Fire protection would also be included according to applicable requirements.

COUNTY HAZARD OVERLAY MAP

While the project would be designed in such a way as to minimize impacts to potential habitat and associated vegetation, large portions of the project site have been previously disturbed with agricultural uses and the project will comply with Fire Department vegetation clearance requirements. Project vehicles will travel on roads that have been cleared of vegetation. As such, vegetation-related fires would be unlikely to occur on the site.

Additionally, according to the County's Hazard Overlay mapping (sheet EI10B), the project site is not in a Fire Safety Overlay District. In addition, the project design would be required to conform to conditions established by the County Fire Department to ensure potential hazards relative to exposure of people or structures to significant risk of loss, injury, or death involving wildland fires would be reduced to the extent feasible.

Comprehensive safety measures that comply with federal, state, and local worker safety and fire protection codes and regulations would be implemented for the proposed project and would minimize the occurrences of fire due to project activities during construction and for the life of the project. Coupled with the implementation of fire suppression technology and adherence with applicable industry best practices and regulatory fire standards, impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 3.8-8	The project would not result in cumulative impacts related to hazards and hazardous materials. Impacts would be less than significant.
---------------------	---

Similar to other potential impacts, such as those related to geology and soils, risks related to hazards and hazardous materials are typically localized in nature because they tend to be related to on-site existing hazardous conditions and/or hazards caused by the project's construction or operation. The geographic scope when considering cumulative impacts from hazards and hazardous materials includes renewable energy and other projects in the County's Desert Region Planning Area and specific projects are listed in **Table 3.0-1, Cumulative Projects**, in Section 3.0 of this EIR lists the projects considered for this cumulative

impact analysis. Out of the nineteen projects considered, fifteen of which are solar projects, there are three projects located within ten miles of the proposed project: Minneola Solar, Silver Valley, and Ned Araujo.

As with the proposed project, these cumulative projects would also be required to avoid and/or mitigate impacts due to hazards and hazardous materials. The proposed project and other solar projects involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction, operation, and decommission activities. Impacts from these activities are anticipated to be less than significant, because similar solar projects would also comply with federal, state, and local regulations and policies. Compliance with these regulation and policies would involve measures such as secondary containment of hazardous waste and proper disposal to minimize spills and leaks. Additionally, these projects will implement safety measures and precautions necessary to minimize any potential disturbance of hazardous materials and prevent the creation of additional hazards that cannot be mitigated or contained properly. Implementation of mitigation measure **HM-1**, or a similar project specific mitigation measure, prior to project construction would minimize the potential for soil contamination from the accidental release of hazardous materials. Lastly, other solar project's storage facilities would also be equipped with secondary containment and fire suppressant technology to lessen the impacts of potential battery fires.

Therefore, in combination with other reasonably foreseeable development projects in the County's desert region, the proposed project would not result in a considerable contribution to a significant cumulative impact.

Mitigation Measures: None required.

Level of Significance: Less than significant.

Section 3.9

Hydrology and Water Quality

This section discusses the environmental setting, existing conditions, regulatory context, and potential impacts of the project in relation to hydrology and water quality. Information in this section is based primarily on the site-specific *Preliminary Hydrology Study & Flood Analysis* (2018a; see **Appendix I-1**) and the *Addendum to Preliminary Hydrology Study & Hydraulics Report* (2018b; see **Appendix I-2**) prepared by Joseph E. Bonadiman & Associates. Specific information regarding groundwater resources was obtained from the *Water Supply Assessment* prepared by Tetra Tech (2018; see **Appendix I-3**). All reports referenced above were peer reviewed by Michael Baker International.

Additionally, available public resources were reviewed to obtain site-specific hydrology and water quality regulatory information, including the *Water Quality Control Plan for the Lahontan Region* (Lahontan RWQCB 2016), the *County of San Bernardino General Plan* (2007a), and the *County of San Bernardino General Plan EIR* (2007b).

ENVIRONMENTAL SETTING

EXISTING HYDROLOGY AND DRAINAGE CONDITIONS

Regional Hydrology and Drainage

The Lahontan Region covers approximately 25 million acres (39,000 square miles) in the east to southeastern portion of California. It includes Modoc (East), Lassen (East side and Eagle Lake), Sierra, Nevada, Placer, El Dorado, Alpine, Mono, Inyo, Kern (East), San Bernardino, Los Angeles (N/E corner) counties. The Lahontan Region includes the highest (Mount Whitney) and lowest (Death Valley) points in the contiguous United States. The Region extends from the Sierra Nevada Mountains to the northern slopes of the San Bernardino and San Gabriel Mountains.

For planning and reporting purposes, the region has been historically divided into North and South Basins. The Region is split near the boundary of Mono Lake in Mono County. The project site is located in the South Basin planning area.

Surface Water Hydrology

Precipitation occurs mostly as rainfall, with some snowfall in the San Bernardino Mountains. Rainfall is sporadic and amounts vary widely with location. Mean annual precipitation ranges from 16 inches in the San Bernardino Mountains to less than 3 inches in the Bristol Lake (dry)

area. The average annual rainfall over the entire planning area is 5 inches. Little of the rainwater percolates into the groundwater table, and most is lost by evaporation and evapotranspiration.

Groundwater Hydrology

Groundwater is stored principally in unconsolidated alluvium. With exception of areas near some of the dry lakes, groundwater is generally unconfined. The project site lies within the Baja Subarea of the Mojave Basin; refer to **Exhibit 3.9-1, Baja Subarea**. Within the basin, the Mojave River is the largest stream, formed by the confluence of two smaller streams, West Fork Mojave River and Deep Creek, which originate in the San Bernardino Mountains. The Mojave River Groundwater Basin Area is essentially a closed basin; limited groundwater enters or exits the basin. However, within the basin, groundwater movement occurs between the different subareas, as well as groundwater-surface water and groundwater-atmosphere interchanges.

Groundwater is recharged into the basin predominantly through the infiltration of water from the Mojave River, which accounts for approximately 80 percent of the total basin natural recharge. Other sources of recharge include infiltration of storm runoff from the mountains, desert washes and recharge from human activities such as irrigation return flows, wastewater discharge, and enhanced recharge with imported water. Over 90 percent of the basin groundwater recharge originates in the San Gabriel and San Bernardino mountains. Groundwater is discharged from the basin primarily by well pumping, evaporation through soil, transpiration by plants, seepage into dry lakes where accumulated water evaporates, and seepage into the Mojave River.

Existing Site Drainage

Typically, on-site drainage on the project site is conveyed as natural overland flow along very gradual slopes and relatively unconcentrated, shallow channelization, with exception of drainage improvements associated with the existing railroad spur (located off-site), Coolwater Generating Station, decommissioned/removed solar facilities, and Barstow-Daggett Airport. Existing on-site paved and dirt roads do not have any associated storm drain facilities. See **Exhibit 3.9-2, Proposed Drainage Plan**, for the proposed drainage improvements; refer also to **Appendix I-2** for additional information.

WATER QUALITY

Surface Water Quality

Section 303(d) of the federal Clean Water Act requires states to identify the waters of the state that do not meet the designated beneficial uses and to develop total maximum daily loads (TMDLs) for such waters, with oversight by the US Environmental Protection Agency (EPA). These

waters are commonly referred to as impaired. A TMDL is a quantifiable assessment of potential water quality issues, contributing sources, and load reductions or control actions needed to restore or protect bodies of water. According to the State Water Resources Control Board (SWRCB) (2017), a portion of the Mojave River is impaired; this portion is located downstream approximately 34 miles to the southwest near Victorville.

Groundwater Quality

The project site lies within the boundaries of the Mojave Water Agency (MWA). Numerous groundwater quality issues affect the MWA service area. Key groundwater constituents of concern include arsenic, nitrates, iron, manganese, hexavalent chromium, fluoride, and total dissolved solids. Some of these constituents are naturally occurring in desert environments, while others are associated with human activities. Measurements exceeding drinking water standards have been found for some of these constituents within the Mojave River Groundwater Basin. Groundwater in these areas may have to be treated prior to consumption.

REGULATORY FRAMEWORK

FEDERAL

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) oversees floodplains and administers the National Flood Insurance Program (NFIP) adopted under the National Flood Insurance Act of 1968. The program makes federally subsidized flood insurance available to property owners in communities that participate in the program. Areas of special flood hazard (those subject to inundation by a 100-year flood) are identified by FEMA through regulatory flood maps called Flood Insurance Rate Maps. The NFIP mandates that development cannot occur within the regulatory floodplain (typically the 100-year floodplain) if that development results in an increase of more than 1-foot elevation. In addition, development is not allowed in delineated floodways within the regulatory floodplain.

Clean Water Act

The Clean Water Act gives states the primary responsibility for protecting and restoring water quality. In California, the State Water Resources Control Board and the nine Regional Water Quality Control Boards are the agencies with the primary responsibility for implementing federal CWA requirements, including developing and implementing programs to achieve water quality standards. Water quality standards include designated beneficial uses of water bodies, criteria or objectives (numeric or narrative) which are protective of those beneficial uses, and policies to

limit the degradation of water bodies. The project site is located in an area of the state regulated by the Lahontan Regional Water Quality Control Board (RWQCB). Water quality standards for water bodies in the region are primarily contained in the Water Quality Control Plan, Lahontan - Region 6 (Lahontan RWQCB 2016).

Sections 401 and 404 of the Clean Water Act

Sections 401 and 404 of the CWA are administered through the regulatory program of the US Army Corps of Engineers (USACE) and regulate the water quality of all discharges of fill or dredged material into waters of the United States, including wetlands and intermittent stream channels. Section 401 sets forth water quality certification requirements for any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities that may result in any discharge into the navigable waters.

Section 404, in part, authorizes the USACE to:

- Set requirements and standards pertaining to such discharges: subparagraph (e);
- Issue permits “for the discharge of dredged or fill material into the navigable waters at specified disposal sites:” subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if “the discharge of such materials into such area would have an unacceptable, adverse effect on municipal water supplies and fishery areas:” subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual state or interstate compact administration of general permit programs: subparagraphs (g), (h) and (j);
- Withdraw approval of such state or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain federal or state projects from regulation under this section: subparagraph (r); and
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).

National Pollutant Discharge Elimination System

As authorized by CWA Section 402(p), the National Pollutant Discharge Elimination System Permit (NPDES) program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The State Water Resources Control Board issues NPDES permits to cities and counties through the Regional Water Quality Control Boards. It is the responsibility of the RWQCBs to preserve and enhance the quality of the state's waters through the development of water quality control plans and the issuance of waste discharge requirements. Waste discharge requirements for discharges to surface waters also serve as NPDES permits.

Clean Water Act Section 401 - Water Quality Certification

In addition to the issuance of NPDES permits or waste discharge requirements, the Lahontan RWQCB acts to protect the quality of surface waters through water quality certification as specified in Clean Water Act Section 401 (33 USC 466 et seq.). Section 401 requires that any person applying for a federal permit or license which may result in a discharge of pollutants into waters of the United States obtain a state water quality certification that the activity complies with all applicable water quality standards, limitations, and restrictions. Subject to certain limitations, no license or permit may be issued by a federal agency until the certification required by Section 401 has been granted. Further, no license or permit may be issued if certification has been denied. CWA Section 404 permits and authorizations are subject to Section 401 certification by the Regional Water Quality Control Boards.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, in cooperation with the CWA, established the State Water Resources Control Board. The SWRCB and the nine RWQCBs are responsible for protecting California's surface water and groundwater supplies. The act establishes Water Quality Control Plans (Basin Plan) that designate the beneficial uses of California's rivers and groundwater basins for each of the nine regions overseen by the Regional Water Quality Control Boards.

The Water Quality Control Plan for the Lahontan Region gives direction on the beneficial uses of state waters in Region 6, describes the water quality that must be maintained to support such uses, and includes programs, projects, and other actions necessary to achieve the standards established in the Basin Plan. The Lahontan RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste

discharges may affect water quality. These requirements are state Waste Discharge Requirements for discharge to land or federally delegated NPDES permits for discharges to surface water. Responsibility for implementing CWA Sections 401-402 and Section 303(d) is also outlined in the Porter-Cologne Water Quality Control Act.

State Regional Water Quality Control Board, Stormwater General Construction Permit

The five-member SWRCB allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine Regional Water Quality Control Boards in the major watersheds of the state. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters (SWRCB 2017).

In 1999, the State adopted the NPDES General Permit for Storm Water Discharges Associated with Construction Activities (Construction Activities General Permit) (SWRCB Order No. 2012-0006-DWQ, NPDES No. CAS000002). The General Construction Permit (CGP) requires that construction sites with 1 acre or greater of soil disturbance, or less than 1 acre but part of a greater common plan of development, apply for coverage for discharges under the General Construction Permit by submitting a Notice of Intent for coverage, developing a stormwater pollution prevention plan (SWPPP), and implementing best management practices (BMPs) to address construction site pollutants.

The SWPPP should contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list the best management practices the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. Enrollment under the CGP is through the Stormwater Multiple Application and Report Tracking System (SMARTS).

Additionally, the SWRCB is responsible for implementing the Clean Water Act and issues NPDES permits to cities and counties through the individual Regional Water Quality Control Boards.

California Water Code 10912

Section 10912 of the Water Code requires a city or county, for a project as defined relevant to the California Environmental Quality Act (CEQA), to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified

water supply assessment. The proposed project is subject to CEQA and may be considered a project requiring preparation of a water supply assessment because it is a proposed industrial facility occupying more than 40 acres of land.

Porter-Cologne Water Quality Control Act

Section 13000 of the Porter-Cologne Water Quality Control Act directs each RWQCB to develop a Basin Plan for all areas in its region. The Basin Plan is the basis for each RWQCB's regulatory program. The project must comply with applicable Lahontan RWQCB Basin Plan elements, as well as with the Porter-Cologne Water Quality Control Act and the federal Clean Water Act.

REGIONAL

Water Quality Control Plans

Each of the nine RWQCBs adopts a Water Quality Control Plan, or Basin Plan, which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region's groundwater and surface waters, and local water quality conditions and problems. Water quality problems in the regions are listed in the Basin Plans, along with the causes, where they are known. Each RWQCB is to set water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of nuisance, with the understanding that water quality can be changed somewhat without unreasonably affecting beneficial uses. The project site is in the Southern Mojave Watershed and is covered under the Water Quality Control Plan for the Lahontan Region.

Urban Water Management Plans

Public water systems are required by the California Water Code to prepare Urban Water Management Plans (UWMP) to carry out "long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water" (Water Code Section 10610.2). UWMPs are prepared using input from multiple water systems operating in a region and include assessment of the reliability of water supply over a 20-year period and account for known and projected water demands during that time, including during normal, single-dry, and multiple-dry water years.

An UWMP for 2015 has been created by the MWA and covers the entire MWA service area (Tetra Tech 2018). The project site lies within an adjudicated water basin, and therefore, groundwater within the basin is actively managed to achieve sustainability. As part of the UWMP, an analysis was performed to determine if MWA has adequate water supplies to meet demands during average, single-dry and multiple-dry years over the next 25 years. The report concluded that

there would be adequate water supplies for such conditions over the time period considered (Tetra Tech 2018).

Stipulated Judgment (City of Barstow et al, v. City of Adelanto et al, Riverside County Superior Court Case No. 208568)

The Mojave Basin is an adjudicated basin. Pumping of groundwater from the basin is governed by a 1996 Stipulated Judgment issued by the Riverside County Superior Court. For purposes of defining and implementing a physical solution, the Mojave Basin Area consists of five distinct but hydrologically interrelated "Subareas." Each Subarea was found to be in overdraft to some extent due to the use of water by all of the producers in that Subarea. In addition, some Subareas were found to historically have received at least a part of their natural water supply as water flowing to them from upstream Subareas either on the surface or as subsurface flow. To maintain that historical relationship, the average annual obligation of any Subarea to another is set equal to the estimated average annual natural flow (excluding storm flow) between the Subareas over the 60-year period 1930-31 through 1989-90. If the Subarea obligation is not met, producers of water in the upstream Subarea must provide makeup water to the downstream Subarea.

To maintain proper water balances within each Subarea, the Judgment establishes a decreasing Free Production Allowance (FPA) in each Subarea during the first five years and provides for the Court to review and adjust, as appropriate, the FPA for each Subarea annually thereafter. The FPA is allocated among the Producers in the Subarea based on each Producer's percentage share of the FPA. All water produced in excess of any Producer's share of the FPA must be replaced by the Producer, either by payment to the Watermaster of funds sufficient to purchase replacement water, or by transfer of unused FPA from another Producer.

Each Producer's percentage share of FPA in a Subarea was determined by first verifying the maximum annual water production (termed Base Annual Production or "BAP") for each Producer during the five-year (1986-90) Base Period and then calculating each Producer's percentage share of the total of all such BAP in the Subarea. All such percentage allocations are of equal priority.

Producers within each Subarea are allowed to produce as much water as they need annually to meet their requirements, subject to compliance with the Physical Solution set forth in the Judgment. An underlying assumption of the Judgment is that sufficient water will be made available to meet the needs of the Basin in the future from a combination of natural supply, imported water, water conservation, water reuse and transfers of FPA among Producers.

LOCAL

San Bernardino County General Plan

Relevant goals and policies of the County's General Plan are identified below. The General Plan identifies three diverse planning regions in the county (Valley, Mountain, and Desert), which offer varied terrain and natural features, as well as in the specific issues of concern and in the development opportunities that they offer. The project site is in the Desert Planning Region, which is the largest of the three planning regions. This region includes a significant portion of the Mojave Desert and contains approximately 93 percent (18,735 square miles) of all land in San Bernardino County. This region is defined as including all of the unincorporated area of the county lying north and east of the Mountain Planning Region.

The following goals, policies and programs from the General Plan are applicable to the proposed project:

Conservation Element

GOAL CO 5 The County will protect and preserve water resources for the maintenance, enhancement, and restoration of environmental resources.

Policy CO 5.4 Drainage courses will be kept in their natural condition to the greatest extent feasible to retain habitat, allow some recharge of groundwater basins and resultant savings. The feasibility of retaining features of existing drainage courses will be determined by evaluating the engineering feasibility and overall costs of the improvements to the drainage courses balanced with the extent of the retention of existing habitat and recharge potential.

Programs

1. Seek to retain all-natural drainage courses in accordance with the Flood Control Design Policies and Standards where health and safety is not jeopardized.
2. Prohibit the conversion of natural watercourses to culverts, storm drains, or other underground structures except where required to protect public health and safety.
3. Encourage the use of natural drainage courses as natural boundaries between neighborhoods.

4. Allow no development, which would alter the alignment, direction, or course of any blue-line stream, in designated flood plains.
5. When development occurs, maintain the capacity of the existing natural drainage channels where feasible, and flood-proof structures to allow 100-year storm flows to be conveyed through the development without damage to structures.
6. Consistent with the County's efforts to protect the public from flood hazards, encourage the use of open space and drainage easements, as well as clustering of new development, as stream preservation tools.
7. Where technically feasible as part of its efforts to protect residents from flood hazards, require naturalistic drainage improvement where modifications to the natural drainage course are necessary. As an example, channel linings that will allow the re-establishment of vegetation within the channel may be considered over impervious linings (such as concrete). Where revegetation is anticipated, this must be addressed in the channel's hydraulic analysis and the design of downstream culverts.
8. Establish an economically viable flood control system by utilizing channel designs including combinations of earthen landscaped swales, rock rip-rap-lined channels, or rock-lined concrete channels. Where adjacent to development, said drainage will be covered by an adequate County drainage easement with appropriate building setbacks established therefrom.
9. Do not place streams in underground structures where technically feasible, except to serve another public purpose and where burial of the stream is clearly the only means available to safeguard public health and safety.

Renewable Energy and Conservation Element

The County adopted a Renewable Energy and Conservation Element (RECE) for inclusion in the San Bernardino County General Plan in August 2017. The element includes land use guidance regarding new renewable energy projects within the County. Relevant goals and policies of the RECE for this section are identified below.

RE Policy 4.2

Ensure that renewable energy facilities do not disrupt, degrade or alter the local hydrology or hydrogeology.

San Bernardino County Code

The goal of Title 3, Division 5, Monitoring, Control and Elimination of Pollutants into the Storm Drainage System, is to protect the health and safety of, and promote the welfare of, the inhabitants of the county by controlling non-stormwater discharges to the stormwater conveyance system and by reducing pollutants in stormwater discharges, including those pollutants taken up by stormwater as it flows over urban areas, to the maximum extent practicable, in order to achieve applicable receiving water quality objectives. Another goal of Title 3, Division 5 is to protect and enhance the quality of receiving waters in a manner pursuant to and consistent with applicable federal, state, and local laws, regulations, and permits.

IMPACT ANALYSIS AND MITIGATION MEASURES**METHODOLOGY**

An assessment of hydrology and water quality impacts was prepared by evaluating the existing hydrology and water quality settings and comparing them to hydrology and water quality conditions that would occur with implementation of the proposed project. An evaluation of the significance of potential impacts on hydrology and water quality must consider both direct effects to the resource and indirect effects in a local or regional context. When considering the significance of an individual impact, the EIR considers the existing federal, state, and local regulations, laws, and policies in effect, including applicable San Bernardino County General Plan policies. In addition, the impact analysis considers the project design features that have been incorporated into the project to avoid, reduce or offset potential impacts.

The requirements and recommendations found in the San Bernardino County Hydrology Manual (August 1986) provided by the San Bernardino County Department of Public Works was used as the basis for the methodology and calculations found in the Addendum to the Preliminary Hydrology Study & Hydraulics Report (Joseph E. Bonadiman & Associates 2018b).

THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are based, in part, on CEQA Guidelines Appendix G. For the purposes of this EIR, a significant adverse impact on hydrology and water quality would occur if the project would:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a new deficit in aquifer volume or a lowering of the

local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- 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.
- Result in inundation by seiche, tsunami, or mudflow.

PROJECT IMPACTS AND MITIGATION

VIOLATION OF WATER QUALITY STANDARDS

Impact 3.9-1	The project would not violate any water quality standards or waste discharge requirements. Impacts would be less than significant.
---------------------	---

Generally, stormwater runoff (both dry and wet weather) discharges into storm drains and/or flows directly to creeks, rivers, lakes, and the ocean. The project site is approximately 2,000 feet from Mojave River bed. Polluted runoff can have harmful effects on drinking water, recreational water, and wildlife. Stormwater characteristics depend on site conditions (e.g., land use, impervious cover, pollution prevention, type and number of best management practices), rain events (duration, amount of rainfall, intensity, and time between events), soil type and particle sizes, multiple chemical conditions, the amount of vehicular traffic, and atmospheric deposition. Major pollutants typically found in runoff include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogens, and bacteria. The majority of

stormwater discharges are considered nonpoint sources and are regulated by a NPDES Municipal General Permit or Construction General Permit.

A net effect of development can be to increase pollutant export over naturally occurring conditions to adjacent streams and on downstream receiving waters. However, an important consideration in evaluating stormwater quality from a site is to assess whether it impairs the beneficial use of the receiving waters. Receiving waters can assimilate a limited quantity of various constituent elements, but there are thresholds beyond which the measured amount becomes a pollutant and results in an undesirable impact.

Consistent with regional and local requirements, project-specific studies were prepared for the Daggett Solar Power Facility (Joseph E. Bonadiman & Associates 2018a, 2018b; see **Appendices I-1** and **I-2**).

SHORT-TERM CONSTRUCTION

Site disturbance and/or grading would be, for the most part, more appropriately referred to as light grading/smoothing of the site. Construction grading, excavation, and other construction activities associated with the proposed project are anticipated to have a negligible impact on water quality or wastewater. Site preparation would consist mostly of clearing, grubbing, scarifying, recompact, and grading to level the site and remove any mounds or holes that remain from the previous land use. Though grading is expected to occur throughout the site, the site's cut and fill would balance, and no importing or exporting of materials would be necessary. Impacts to water quality due to sheet erosion resulting from exposed soils and the subsequent deposition of particles and pollutants in drainage areas are not anticipated.

It is anticipated that construction will occur over a 27-month period for Phases 1 and 2 (together a 400 megawatt [MW] facility) and a 19-month period for Phase 3 (250 MW facility). An average of 300 workers would be on-site during each phase of construction, depending on the activities. The peak number of workers on the project site at any one time is anticipated to be 600. The workforce would consist of laborers, craftspeople, supervisory personnel, and support personnel. Additionally, portable toilet facilities would be installed for use by construction workers. Waste disposal would occur in a permitted off-site facility. Domestic water for use by employees would be provided by the construction contractor through deliveries to the site or from on-site wells. A conservative estimate for project water use is that approximately 1,800 acre-feet (AF) of water would be needed for all phases of construction.

Construction controls to minimize water quality impacts are not necessarily the same measures used for long-term water quality management, as construction-related water quality control measures are temporary in nature and specific to the type of construction. Development would

be subject to compliance with NPDES permit requirements and with County Code Title 3, Division 5, Chapter 1, Pollutant Discharge Elimination System Regulations. The purpose of this chapter is to effectively control non-stormwater discharges to the stormwater conveyance system and to reduce pollutants in stormwater discharges, including those pollutants taken up by stormwater as it flows over urban areas, to the maximum extent practicable to achieve applicable receiving water quality objectives.

In compliance with the San Bernardino County Stormwater Program Technical Guidance Document, the project applicant is required to prepare and implement a Water Quality Management Plans (WQMP) that would manage stormwater runoff during construction activities. The WQMP includes site design and source control best management practices (BMPs) to help ensure stormwater runoff and impervious areas are minimized and natural areas are conserved. Applicant proposed source control BMPs include but are not limited to: covering and containing hazardous materials so that they are not in contact with precipitation or runoff; identifying the worst case and most likely spill scenarios; and providing spill response equipment adequate to respond to these scenarios.

With implementation of an approved WQMP, compliance with the NPDES, implementation of County required Low Impact Development (LID) preventive measures, and compliance with permit(s) from the Regional Water Quality Control Board (if required), short-term construction activities would not violate any water quality standards or waste discharge requirements including discharges into the Mojave River. Therefore, a less than significant impact to water quality would occur from the proposed project.

LONG-TERM OPERATIONS

The project would generate electric power from the solar photovoltaic (PV) system during daylight hours and may discharge power from batteries at various times. The site would include an operations and maintenance (O&M) building and would be staffed with full- and part-time employees such as a plant manager, maintenance manager, solar technicians, and environmental specialists. In addition, the operations would be monitored remotely via the supervisory control and data acquisition (SCADA) system.

Operations and maintenance vehicles would include light-duty trucks (e.g., pickup, flatbed) and other light equipment for maintenance and solar PV module washing. Heavy equipment would not be used during normal operation. Large or heavy equipment may be brought to the facility infrequently for equipment repair or replacement or for vegetation control.

Sanitary facilities for operations would be provided at the O&M building located on approximately 1.5 acres within the project footprint. The O&M facility would be equipped with a

septic tank to adequately treat wastewater. Other waste from equipment replacement or other work would be removed from the site as necessary. Thus, long-term operation activities are not anticipated to violate any water quality standards or waste discharge requirements. A less than significant impact would occur.

Mitigation Measures: None required.

Level of Significance: Less than significant.

GROUNDWATER SUPPLIES

Impact 3.9-2	The project could substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a new deficit in aquifer volume or a lowering of the local groundwater table level. Impacts would be significant and unavoidable.
---------------------	---

The project site lies within the Baja Subarea of the Mojave Basin, within the boundary of the Mojave Water Agency Service Area. The project site is not connected to a public water system and there are no public water systems that can serve the project site. Rather, the site lies within an adjudicated water basin and the groundwater is actively managed to achieve sustainability. Existing groundwater wells are present on the project site. The wells are operational and available to serve future on-site land uses.

A Stipulated Judgment was issued by the Superior Court in January of 1996 (Superior Court, Judgment after Trial for City of Barstow, et al vs. City of Adelanto, et al Case No. 208568, January 10, 1996) to address water supply shortages in the Mojave Basin Area where the proposed project is located. The adjudication of the Mojave Basin Area was the legal process that allocated the right to produce water from the natural water supply. As mandated in the Judgment, the MWA was appointed as the Basin Watermaster and tasked with the responsibility of sustainably managing water supplies in the basin.

The Judgment determines water rights for each major producer [defined as a person or entity using 10 or more acre-feet per year (AFY)] based on their historical production. These rights are referred to as Base Annual Production (BAP). Specifically, BAP rights were assigned per court Judgment to each major producer; refer to Attachment A of **Appendix I-3**. The BAP represents the highest possible production for a given producer. The sum of the total BAP for all current project site landowners is 27,054 AFY (Tetra Tech 2018). The MWA, as the court-appointed Watermaster, establishes Free Production Allowances (FPA) annually to maintain proper water balances. The FPA is a percentage of the BAP and the Watermaster recommended the FPA for the Baja Subarea be set at 35 percent of the BAP (7,682 AF for the landowners of the project site) for 2018-2019 (Tetra Tech 2018).

The adjudication provides for a number of goals including: 1) to protect and allocate the rights of water producers; and 2) to protect the water supply and ensure its sustainability and availability in the future. It accomplishes these goals by first assigning rights to the producers and then by controlling the amount of water that can be produced by those rights to ultimately bring groundwater levels into balance (i.e., the inflow to the basin matches the outflow) and then maintain that balance. The adjudication considers changes to the needs of production and allows for flexibility to accommodate those changes. The adjudication created an ongoing process where reports are provided to the court on a regular basis to ensure long-term protection of basin water supplies.

Once a subarea has reached a balance between the water sources adding to the groundwater and the water extractions, that area has reached the Production Safe Yield (PSY). Areas that have not reached PSY are generally subject to ongoing reductions of FPA in the long-term. The FPA of the Baja Subarea is nearing the estimated PSY, which when accomplished would put the Baja Subarea in balance; refer to **Appendix I-3** for additional discussion.

All water for the proposed project would be sourced from on-site wells. Seven landowners have water allocations of up to 8,802 AF of water for 2017-2018. The project applicant has entered into agreements with the landowners to acquire the properties along with the acquisition of adequate water supply to meet construction and operational needs from the existing seven on-site wells.

The project would eliminate approximately 1,600 acres of on-site agricultural use which required water production of approximately 8,338 AF in 2017 (Tetra Tech 2018). The project is estimated to require approximately 450 AFY for approximately 3.5 years for a total of 1,800 acres (during construction) and would reduce water use to 25 AFY (during project operation). This would result in a reduction of need for production at the project site of more than 164,000 AF over 20 years. However, the remaining rights to the production would still exist and, assuming those rights are exercised, there would be little or no net reduction in production. Therefore, the project would not increase, nor likely decrease, the amount of pumping from the subbasin. The maximum amount of pumping is capped and controlled under the Stipulated Judgment and the amount of water to be used by the project is within the existing allocation and cannot, by law, exceed it without replacement.

Although the subbasin is not yet considered to be balanced, and FPA is expected to decline in the future, there would be sufficient water available for the project because it would use only a fraction of the water made available due to the elimination of agriculture. The large subbasin capacity as compared to the projected water budget deficit allows for the subbasin to provide sufficient water supply to the project, while the Watermaster would continue to manage the basin to bring it into balance.

Further, the rules created by the adjudication concerning transfers of water rights would not allow a net increase of outflow of the subbasin due to a transfer or change in purpose of use (agriculture to solar PV facility). If the water rights were transferred outside of the subarea or for a different use, the rights would be adjusted so that the consumptive use is not increased.

Additionally, based on the findings of the WSA prepared for the project, a sufficient water supply would be available for the project during normal, single-dry and multiple-dry water years during a 20-year projection (Tetra Tech 2018). There is a sufficient water supply to meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses. The project would replace a more water-intensive land use with a less water-intensive land use. While the WSA prepared for the project conservatively assumed that the reduction in water usage at the project site due to the conversion of agricultural land uses to a solar facility may be transferred to other areas within the subarea, resulting in decreased local water usage, the project would require a minimal amount of water as compared to the size of the subbasin (Tetra Tech 2018).

Furthermore, due to the nature of the solar PV facility, much of the ground surface would remain undeveloped, allowing precipitation falling during rain events to run off of the solar PV panels and infiltrate the underlying soil. Although the project would add some impervious surfaces on-site (i.e., foundations, O&M building, etc.), the majority of the site would remain pervious. As such, the project is not anticipated to substantially interfere with groundwater recharge.

Adequate water supplies for construction, operation, and decommissioning activities have been secured through agreements with landowners who currently have on-site water allocations.

During the EIR scoping period, the County received comments requesting analysis of what would happen if the current landowners shift or transfer their production rights to a different part of the Baja Subarea, specifically, on the east side of the Calico-Newberry Fault. The concern raised is that such a shift could accelerate the localized dropping of water levels east of the Calico-Newberry Fault and that this could cause adverse environmental impacts to riparian vegetation in the Cady Camp Wildlife Area which is owned and managed by the California Department of Fish and Wildlife (CDFW) and could also adversely impact domestic wells of rural homeowners in the Newberry Springs area by increasing ground to water depths.

Within the Baja Subarea, the Lower Mojave River Valley Subbasin is divided into west and east sides by the Calico-Newberry fault. The project site is located on the west side. The Calico-Newberry fault impedes flow between the west side and east side of the subbasin although the details of this impedance are not well understood. However, water levels on the west side are generally higher than levels on the east side and the difference between the water levels has increased over time.

The parties to the Stipulated Judgment currently have the right to produce water up to their FPA anywhere within the Subarea under the Stipulated Judgment, with or without the project. It is therefore arguable whether a shift in the location of water production is a reasonably foreseeable consequence of the project. Landowners could make this shift or transfer their rights under current conditions. Further, based on communications with the current landowners, it appears unlikely that such a shift would occur for a variety of economic and practical reasons, whether or not a project is approved. If such a shift were to occur, it is not possible to know when, where or how much water would be pumped.

CEQA does not require analysis of future scenarios that are speculative; that could occur with or without the project; and/or are unlikely. However, this EIR provides an analysis of environmental impacts resulting from potential water pumping scenarios. In some of the scenarios considered, additional groundwater depletion would occur in a basin that is already in overdraft. While the Riverside Superior Court (Court)-appointed Watermaster has tools to address ongoing overdraft conditions in the Baja Subarea, the County lacks the authority to ensure that these measures would be implemented.

Several potential scenarios for future use of the existing production exist, all of which require some degree of forecasting and speculation. Selection of the following four scenarios for evaluation was based upon communications with the current owners of those rights, the rules for transferring water rights under the Stipulated Judgment, the economics of farming in the area, perceptions of future water availability, existing infrastructure, existing patterns of land ownership and other considerations.

- **Scenario 1:** Retirement of the rights by the current owners of those rights;
- **Scenario 2:** Exercise or transfer of existing production rights outside of the Baja Subarea;
- **Scenario 3:** Exercise of existing production rights to the eastern Lower Mojave River Valley Subbasin within the Baja Subarea (i.e. east of the Calico-Newberry Fault); and
- **Scenario 4:** Continuation of existing production of water from the western Lower Mojave River Valley Subbasin to irrigate agricultural land located on the west side of Calico-Newberry Fault.

WATER PRODUCTION RIGHTS UNDER THE STIPULATED JUDGMENT

The Mojave Basin is considered to consist of five distinct but hydrologically interrelated “Subareas.” Under the Stipulated Judgment, each Subarea was found to be in overdraft to some extent due to the use of water by all of the producers in that Subarea. To maintain proper water balances within each Subarea, the Stipulated Judgment establishes an FPA in each Subarea and

provides for the Court to review and adjust, as appropriate, the FPA for each Subarea annually. The FPA is allocated among the producers in the Subarea based on each producer's percentage share of the FPA. All water produced in excess of any producer's share of the FPA must be replaced by the producer, typically via payment to the Watermaster of funds sufficient to purchase replacement water. According to the most recent Annual Report of the Watermaster (May 1, 2018), an underlying assumption of the Stipulated Judgment is that sufficient water will be made available to meet the needs of the Basin in the future from a combination of natural supply, imported water, water conservation, water reuse and transfers of FPA among parties.

Each year, the Watermaster analyzes conditions in each Subarea and recommends to the Court any increase or further reduction in FPA. The Stipulated Judgment specifies factors that must be taken into consideration by the Watermaster in the development of an FPA adjustment recommendation. Water levels within each of the five Subareas are reviewed as part of the Watermaster's investigation into Subarea conditions and recommendations on FPA. Water levels are measured by the Mojave Water Agency and are also reported to the California Statewide Groundwater Elevation Monitoring Program.

According to the most recent Annual Report (May 1, 2018) Baja Subarea water levels continue to decline due to overpumping and limited recharge opportunities. Conditions in Baja have yet to stabilize since 1996. As such, optimal operating parameters have not been established. In the most recent annual report pursuant to the Stipulated Judgment, the Watermaster indicates that an additional FPA rampdown of 5 percent in the Baja Subarea is warranted. This analysis assumes that the Watermaster's recommended additional 5 percent rampdown has or will be approved by the Court.

TRANSFER OF WATER PRODUCTION RIGHTS UNDER THE STIPULATED JUDGMENT

The adjudication rules set forth in the Stipulated Judgment address the transfer of the water production rights. The rights are generally transferable but include a number of restrictions. The Watermaster manages and administers the water rights and their transfer. The Watermaster must be notified of any intended transfer of water rights.

The rules are designed to assure that the total consumptive use within a Subarea does not increase as a result of any transfer. The transfer provision of the Stipulated Judgment also allows producers who chose to not pump to sell FPA to those parties who over-pump. This provision allows parties who stipulated to the Stipulated Judgment the option of compensation in lieu of pumping. The transfer market is a means of equitably allocating the limited supply within a Subarea.

Specifically, the Stipulated Judgment recognizes that water use is comprised of two parts: consumptive use and return flow. Consumptive use is that portion that is consumed and used. For agriculture, this is the water used by a crop or that is evaporated. The return flow is water that ends up back in the subbasin. For agriculture, this is the water that percolates beyond the crop roots and flows to the subbasin.

Generally, the rules are set up to prevent a transfer of rights from increasing consumptive use. This is accomplished by making an adjustment to the water rights transfer if a transfer of those rights would have otherwise resulted in an increase in consumptive use. No adjustment to the water rights transfer is made if the transfer causes the same or a decreased consumptive use.

Inter-subarea transfers are allowed but require the authorization from the Watermaster for the transfer. The transfer of rights from one subarea to another could be allowed when it is helpful to the aquifer levels. For example, if an aquifer is experiencing a decline in water level, it may be beneficial to transfer rights to another subarea with an aquifer that is not experiencing declines.

Intra-subarea transfers do not require Watermaster approval after notice has been given of the transfer. Therefore, it would be possible to transfer to different subbasins (within the same subarea) and impact the subbasins. The Watermaster would still enforce the consumptive use rule that does not allow an increase in consumptive use, but the Watermaster would not be able to block a transfer even if the impact would be detrimental for one of the subbasins. However, if water levels decline as a result of the transfer, the Watermaster could recommend and the Court could approve a further reduction in FPA to address that impact.

The Watermaster's management of the water supply considers both the entire area as a whole, and each of the subareas as separate entities. Some of the subareas have become balanced since the Stipulated Judgment, meaning that over a long period of time, the outflows of the supply match the inflows. The project site is located in the Baja Subarea and this area has not yet been balanced. The Baja Subarea was extremely out of balance at the time of the Stipulated Judgment and significant progress has been made. However, water levels within the Baja Subarea have continued to decline and it is uncertain when those declines will cease, but the Stipulated Judgment contains mechanisms to eventually bring the subarea into balance.

RIPARIAN VEGETATION TRENDS

As water levels have declined in the Lower Mojave River Subbasin, and in particular the easterly portion of that subbasin, east of the Calico-Newberry Fault, the riparian vegetation has been impacted in this eastern area. The reduced availability of water increases the mortality rate of plants and increases the stress on some of the plants. Areas with increased mortality rates can

experience an increase in the amount of sand that can be more easily blown by the wind and develop into sand dunes.

The Camp Cady Wildlife Area, in the easterly portion of the Lower Mojave River Subbasin, includes riparian vegetation comprised largely of willow and cottonwood trees. This riparian vegetation is supported by the Lower Mojave River and high groundwater levels. Although there is not a strong correlation between the riparian vegetation area and the water levels on a short-term basis (e.g. one to 3 or 4 years), there is good long-term correlation (over 10 years).

In 1969, the estimated water level was at elevation 1,767 feet and in 2018 it is estimated to be 1,697 feet for a drop of 70 feet, as shown in **Exhibit 3.9-3, Historic Water Levels**. In 1969, the riparian area was estimated to be 1,210 acres and in 2018 it is estimated to be 370 acres for a reduction of 840 acres. The historical average is approximately 12 acres of riparian habitat is lost for every 1 foot in aquifer water level drop. In addition to the water levels, other factors may contribute to the riparian vegetation, such as the amount of rainfall, and management practices. Projects are currently underway to set up irrigation in the Camp Cady Wildlife Area to replant the native vegetation and help to stop the increase in sand dunes and sand storms.

IMPACTS ON GROUNDWATER AND RIPARIAN VEGETATION

The following discussion presents analysis of potential impacts on localized groundwater levels and riparian vegetation east of the Calico Fault for four possible scenarios for retirement, use, and/or transfer of the unused water rights at the project site if the project is approved.

Scenario 1: Retirement of Rights

Comments on the EIR Notice of Preparation suggested that the landowners should be required to retire their water rights if the project is approved. If the landowners were to retire their water rights after project acquisition of their land, then the westerly portion of the Lower Mojave River Subbasin would experience a reduction in pumped water from approximately 23,691 AFY to approximately 16,479 AFY during construction and an even greater reduction during operations and no shift of such production to the east would occur because the rights would be retired. This short-term and long-term reduction would be expected to help stabilize the groundwater levels in the westerly Lower Mojave River Subbasin. The easterly Lower Mojave River Subbasin would remain unaffected (assuming there is a hydrologic barrier between the subbasins), and therefore, the riparian habitat in the Camp Cady Wildlife Area would be expected to remain unaffected. Well pumping on the east side would also remain unaffected.

However, this scenario is unlikely to occur. Production rights are governed by the Stipulated Judgment under the continuing jurisdiction of the Court. The County lacks authority to require a party to the Stipulated Judgment to retire its judicially allocated water production rights. Even if

the County had such authority under the Stipulated Judgment or otherwise, there would be an inadequate nexus between the impacts of the project (which has very little impact on groundwater use) and a requirement that the landowners retire their existing rights to pump groundwater under the Stipulated Judgment. The overdraft condition of the Baja Subarea is not caused by the development of solar energy projects and would not be exacerbated by project construction or operation except perhaps as an indirect impact as discussed under Scenario 3. This indirect connection between the project and the potential for the landowners to exercise their pumping rights east of the Fault is insufficiently certain or direct to warrant a mitigation measure or condition of approval requiring that the landowners retire their water rights or that the project applicant be required to purchase such rights and retire them.

Scenario 2: Exercise or Transfer of Production Rights Outside of the Baja Subarea

The transfer of rights from the project site outside of the Baja Subarea requires authorization from the Watermaster. Landowner relocation or transfer of their production rights from the project site to areas outside of the Baja Subarea would be allowed when it is helpful to the aquifer levels, and the rights would be adjusted so that the consumptive use is not increased.

A transfer outside of the Baja Subarea would not provide the same return flow that would have been provided if the landowners within the project site had retained their rights and continued operating similarly to their past use. Therefore, the Watermaster would make an adjustment (reduction) to the rights that could be transferred to account for the fact that there would not be a return flow. The Stipulated Judgment sets the consumptive use to return flow ratio to 50/50, meaning that outside-Basin transfers would be reduced by 50 percent. Adjustments to rights based on change in purpose of use (such as from agricultural to industrial) would also be made on a case by case basis depending on the change in consumptive use between the new use and the old use.

Because of the consumptive use adjustment, transfers outside of the Baja Subarea would not affect the Baja Subarea. Specifically, they would not affect the Lower Mojave River Subbasin, and therefore, would not affect the riparian vegetation at the Camp Cady Wildlife Area in the eastern Lower Mojave River Valley Subbasin. Transfers of production rights could have long-term adverse environmental consequences to areas outside of the Baja Subarea. However, there is no way to determine where such inter-subarea transfers might occur.

Scenario 3: Exercise or Transfer of Production Rights within the Baja Subarea East of the Calico-Newberry Fault

Under the Stipulated Judgment, landowner transfer of water production rights (or relocation of production) without a change in purpose of the use *within* a Subarea requires Watermaster

notification but does not require Watermaster approval. If the production that is currently occurring west of the Calico-Newberry Fault were to shift to east of the Calico-Newberry fault, the water levels of the easterly part of the Lower Mojave River Subbasin would likely be adversely affected, causing a localized lowering of groundwater levels east of the fault even if not a depletion of supplies in the Baja Subarea as a whole. If all 7,682 AF of the FPA west of the fault were to be produced east of the fault, the decline in groundwater levels east of the fault would continue and perhaps accelerate, and the amount of riparian vegetation would be expected to continue to decline and the distance from ground to groundwater for domestic wells in Newberry Springs would likely increase. If 100 percent of the production rights were exercised or transferred to the easterly basin, an additional 7,657 AFY could be pumped (7,682 minus 25 for the project), which may result in a further 0.9 feet per year decline in the easterly subbasin water level.

The rate of decline of the water level is expected to slow in the future as the FPA is brought closer to the Production Safe Yield. If it is assumed that the easterly subbasin was to be brought into equilibrium in 9 years, the decline in water level due to the transferred water rights would amount to about 4 feet. The 4 feet of lowered water level would amount to about 48 acres of riparian habitat transitioning to a more typical desert habitat.

The average well depth in the Newberry Springs area is 261 feet and the average static water level is 123 feet. An additional drop of 4 feet of water level assumed in this scenario would not have an impact on the capability of the average well to produce water.

Specific data was not available on the static water level of the shallowest wells. If the worst case were assumed, then the shallowest wells, at 150 feet deep, would have static water levels of 135 feet. This would leave 15 feet for pumping drawdown and future reductions in water level. If the subbasin were to stabilize in 9 years, the estimated drop in water level would be 5.9 feet. If the 4 feet additional drop were assumed in this scenario, the total drop would be 9.9 feet. This would leave about 5 feet for pumping drawdown.

Based on a review of factors expected to influence decisions about water production, as well as communications with the landowners in the project site, the likelihood that 100 percent of current water production on the west side of the Calico-Newberry fault would shift to the east side of the fault is very low. First, historically, of the total FPA in the Baja Subarea, only 45 percent has been produced east of the Calico-Newberry Fault. Second, it is known that the easterly subbasin is at a lower water level than the westerly subbasin and the easterly subbasin is declining at a faster rate than the westerly subbasin. Because of the known declining water levels on the east side of the fault and the on-going rampdowns of FPA under the Stipulated Judgment in the Baja Subarea as a whole, it is highly unlikely that the current landowners would shift water production from the west side of the fault to the east side of the fault.

This shift from west to east is unlikely because significant capital expenditures would be required to construct new wells, irrigation systems, and/or purchase land for farming on the east side. Confidence in an adequate long-term source of water on the east side of the fault would be a prerequisite to such investments. Based on communications with landowners within the project site, none of them are currently contemplating expanding farming activities on the east side of the fault because the investments that would be required to do so are not perceived to be prudent given declining water levels. Two of the largest landowners on the project site indicated that they plan to use their water rights on the west side of the fault for pistachio farming and that use of water rights for new investments on the east side would be risky given the continued FPA ramp downs. This scenario is further discussed as Scenario 4 in Section 4.4.

The negative economic perception of the declining water levels east of the Calico-Newberry Fault will also tend to depress expansion of farming by farmers outside the project site who are already located east of the fault and dampen the economic attractiveness of purchasing additional water production rights from the landowners on the west side of the fault. It is possible that transfers of FPA could occur to address pumping in excess of allocated FPA on the east side. Such transfers would have a net neutral impact on water levels in the two subbasins.

For these reasons, a shift of 100 percent of the actual historic production within the project site from the west to east is highly unlikely. Based on discussions with landowners that make up about half of the project area FPA, no additional production on the east side is anticipated for their water rights.

In the unlikely event that such transfer of pumping rights were to occur, there are legal measures under the Stipulated Judgment that could address the potential for dropping groundwater levels east of the Fault. First, on an annual basis, the Watermaster is tasked with monitoring the aquifer and recommending adjustments (“rampdowns”) to the FPA in order to achieve long term sustainability in the Baja Subarea. Since the Watermaster administers the FPA by Subareas and not by a portion of a subbasin, some portions of subbasins could be more affected than other portions. In other words, it is possible for a portion of a subbasin, such as the area east of the Calico-Newberry fault, to be in decline, and other portions to be rising, while the subarea as a whole is in equilibrium. If that becomes the case, Watermaster nonetheless has the ability to balance the subbasins by further reducing FPA for the entire subarea. The potential for even further rampdowns as a reaction to shifting production to the east side of the fault is another reason the current landowners would be unlikely to shift or transfer FPA to the east side of fault.

Second, the Watermaster has the authority to purchase supplemental water and could recharge the easterly subbasin through spreading (i.e., percolating) imported water. Monitoring/study may be necessary to ensure that the supplemental water would be delivered to the locations

where it is needed. The cost of such monitoring would logically be borne by those pumping the water.

A third strategy may be for the Watermaster to convey local westerly subbasin water to the easterly subbasin and spread it in the easterly subbasin. This strategy may have the advantage of requiring only a very short pipeline from the west side of the Calico-Newberry fault to the east side of the Calico-Newberry fault. This strategy could be used to even out the water levels on either side of the Calico-Newberry fault and could be considered regardless of whether or not the Project is constructed. There may be other tools the Watermaster has to address overdraft conditions under the Stipulated Judgment.

None of the measures would be required to be undertaken as a result of the construction or operation of the proposed project itself. These changes in pumping patterns, should they occur, would be independent of the project and could occur under current conditions, with or without the project and would not impact overall demand and supply but only localized demand and supply. Further, under the Stipulated Judgment, only the Watermaster has the authority to implement these water-balancing measures (with the approval of the Court). Whether the Watermaster would implement any of the strategies available to it to achieve equilibrium between the easterly and westerly portions of the subbasin is uncertain although it is noted that the Watermaster has been actively addressing the overdraft situation in the Baja Subarea and would be expected to continue to do so.

The County lacks authority to require a party to the Stipulated Judgment to reduce pumping its judicially allocated water production rights. Even if the County had such authority under the Stipulated Judgment or otherwise, there would be an inadequate nexus between the impacts of the project and a requirement that the landowners retire their existing rights to pump groundwater under the Stipulated Judgment. The declining groundwater levels in the Baja Subarea is not caused by the development of solar energy projects and would not be exacerbated by the construction and operation of the project except as an indirect impact as discussed under Scenario 3.

However, because the County lacks authority over the Watermaster and cannot unilaterally adjust production allowances, it is therefore conservatively assumed that environmental impacts of Scenario 3 could be significant and unavoidable if this scenario were to occur.

Scenario 4: Continued Pumping and Irrigation on the West Side of the Calico-Newberry Fault

Scenario 4 considers the condition where the landowners within the project site could continue to produce and use the water on the west side of Calico-Newberry fault. There are some known

areas in the west that would have increasing water demands. For example, there were about 290 acres of pistachio trees recently planted on the western portion. These trees take about seven years to start producing nuts and require more water as they mature (12 years to full maturity). These trees may take up to 6 AFY of water per acre planted. Based on these types of increased demands, it is reasonable to estimate that a majority of the unused water rights from the project site would likely be used in the west subbasin rather than be transferred to the east subbasin.

This scenario would have a net neutral impact on the Baja Subarea and would not affect the Lower Mojave River Valley Subbasin and therefore, would not affect the riparian vegetation at the Camp Cady Wildlife Area or residential wells in the Newberry Springs area in the eastern subbasin.

SUMMARY

Scenarios 1 and 4 would have no adverse impact on the groundwater levels in the subbasin east of the fault. Scenarios 2 and 3 evaluate the potential water-related environmental impacts due to localized shifts in groundwater levels that could result if the current landowners either transfer or shift their existing FPA to other areas. These shifts would not change existing supply or demand on a Subarea wide basis but only on a localized basis with the Subarea. These scenarios are unlikely due to either controls on inter-basin transfers or to the economic disincentives to shifting FPA to the east side of the Calico-Newberry Fault.

As noted, these scenarios could occur with or without the approval of the project. It is therefore questionable whether these impacts to localized groundwater levels on the east side of Calico Fault can reasonably be considered to be foreseeable indirect impacts of the project. Impacts are conservatively assumed to be significant and unavoidable because the County could not compel any actions by the Watermaster to adjust FPA or take other actions to address declining groundwater levels east of the Calico-Newberry Fault.

Mitigation Measures: No feasible mitigation measures are available.

Level of Significance: Significant and unavoidable.

EROSION ON- OR OFF-SITE

Impact 3.9-3	The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion on- or off-site. Impacts would be less than significant.
---------------------	---

No rivers or streams exist on the project site, and no alteration to those types of features would take place with project implementation.

Site preparation and grading activities would consist of clearing, grubbing, scarifying, recompacting, and grading to level the site and remove any mounds or holes that remain from the previous land use. Though grading is expected to occur throughout the site, the site's cut and fill would balance. No importing or exporting of materials would be necessary, and the negligible grading (smoothing) of the project site is not anticipated to change surface flow patterns in the project area since site drainage would be designed to follow natural drainage patterns. None of the on-site facilities, including fences and panel posts, are expected to prevent stormwater flow. The disturbance area will be compacted and stabilized to prevent erosion/sedimentation. Additionally, the Mojave River wash limits are not included within the project disturbance area (Joseph E. Bonadiman & Associates 2018a, 2018b).

The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

FLOODING ON- OR OFF-SITE

Impact 3.9-4	The project would not substantially alter the existing drainage pattern in the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Impacts would be less than significant.
---------------------	--

Based on the hydrologic analysis and on preliminary design of the retention basins, the proposed Daggett Solar Power Facility would provide adequate retention facilities to mitigate the expected 100-year, 24-hour volume increase caused by the project. The proposed basins would be located below the existing grade and at locations that will require little to no grading to direct drainage to the basins. The long, shallow design of the basins would maintain the existing conditions sheet

flow drainage to the maximum extent possible without unnecessarily concentrating flows at any single location.

Finally, the basin depths (1 to 3 feet) would ensure complete drawdown within 72 hours after cessation of the 100-year, 24-hour event to prevent long-term standing water and associated vector issues. For a summary of existing and developed on-site peak flows, refer to Table 3, Existing vs. Developed Conditions Volume and Peak Flows Increase, in the Addendum to Preliminary Hydrology Study & Hydraulics Report in **Appendix I-2**.

The proposed project would result in an increase in peak flows ranging from 2.4 to 13.6 percent, with a total site-wide increase of 9.5 percent (570 cubic feet per second [cfs]) and an average per-acre increase of 0.20 cfs for the site. This increase in flow is conservative, as it has been assumed that the proposed conditions project cover will be 100 percent barren; following regrowth of natural vegetative cover, peak flow increases from the initial project developed will be reduced to near-existing conditions. As stated above, these increased flows would be discharged from the proposed basins via wide, shallow weirs to mimic sheet flow conditions and evenly spread the flow increases and to prevent concentrated discharge at a single location.

The published peak 100-year flow for the Mojave River (downstream conveyance for the project site) is 18,500 cfs. Therefore, the proposed site-wide increase of 570 cfs would result in a total wash flow of 18,500 cfs, a 1 percent increase. Based on the negligible increase in flows expected from project implementation, along with the anticipated regrowth of natural vegetative cover, which would reduce peak flows to near-existing conditions, a less than significant impact would occur.

Mitigation Measures: None required.

Level of Significance: Less than significant.

STORMWATER DRAINAGE SYSTEMS AND POLLUTED RUNOFF

Impact 3.9-5	The project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be less than significant.
---------------------	---

No storm drains systems exist within the project site limits or downstream of the project site (see Impact 3.9-3 regarding the capacity of the Mojave River wash). See Impact 3.9-6 regarding water quality and pollutants.

Thus, project operations as designed would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, nor would project

operations result in substantial additional sources of polluted runoff. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

WATER QUALITY

Impact 3.9-6	The project would not otherwise substantially degrade water quality. Impacts would be less than significant.
---------------------	---

The proposed retention basins would provide retention and infiltration of 115 percent of the calculated 100-year, 24-hour volume increase. This retention volume is far greater than the 2-year, 1-hour (85th percentile) event required by San Bernardino County for water quality treatment provided via infiltration Low Impact Development (LID) best management practices. The proposed retention and infiltration volume will be adequate for any anticipated pollutants resulting from the small amount of paving (parking areas) and number of rooftops proposed. As such, it is not anticipated that the project will have an adverse impact on water quality.

SHORT-TERM CONSTRUCTION

Though grading is expected to occur throughout the site, the site's cut and fill would balance, no importing or exporting of materials would be necessary, and the leveling of the project site is not anticipated to change surface flow patterns in the project area (Joseph E. Bonadiman & Associates 2018a, 2018b). The disturbance area would be compacted and stabilized to prevent erosion/sedimentation. As discussed above in Impact 3.9-1, project compliance with existing regulatory requirements, such as implementation of a County approved WQMP with source control BMPs, would adequately protect water quality during project construction. Project construction would not degrade water quality. Thus, impacts would be less than significant in this regard.

LONG-TERM OPERATIONS

As discussed in Impact 3.9-1, project compliance with regulatory requirements would protect water quality from project operations. Compliance with existing federal, state, and local regulations as discussed above would protect water quality and ensure project compliance with applicable water quality standards. Project operations would occur in compliance with such requirements. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

STRUCTURES WITHIN A 100-YEAR FLOODPLAIN

Impact 3.9-7	The project would not be placed within a 100-year flood hazard area structures which would impede or redirect flows. Impacts would be less than significant.
---------------------	---

No published flood information and/or flood hazard area information is available from FEMA for the project area. For this reason, the following modeling was conducted as part of the preliminary hydrology and hydraulics study:

- A two-dimensional flood modeling for the on-site study watershed north (downstream) of the A.T.S.F. railroad culverts was performed using FLO-2D, according to the recommendations found in the FLO-2D User's Manual (v. 2004.10, October 2004).
- Off-site flood impacts were modeled using hydrographs for the 12 culvert discharge locations, the east Daggett channel discharge location, and the Mojave River wash.
- On-site precipitation was modeled using the San Bernardino County Hydrology Manual rainfall distribution graph. On-site losses were modeled using the SCS method.

The FLO-2D floodplain model was independently developed as part of the preliminary hydrology and hydraulics study to assist in project design considerations. The project proposes photovoltaic panels on pilings. According to the FEMA National Flood Insurance Program, piers and pilings are acceptable within flood-prone watersheds (areas similar to the project site) and not considered an impediment to flood flows (Joseph E. Bonadiman & Associates 2018a). However, the elevation at which piers and pilings are placed is a critical component of the overall site design to avoid the impediment of water flow and/or redirection of flows.

For this reason, a focused point-by-point analysis will be performed in final design to provide detailed photovoltaic panel elevation requirements for all panel locations to ensure that all panels are elevated a minimum of 1 foot above the calculated flood depths from the FLO-2D modeling. For detailed analysis and modeling results, refer to Table 10, Existing Culverts Hydraulics Calculations Summary, in the Addendum to Preliminary Hydrology Study & Hydraulics Report in **Appendix I-2**.

In addition, existing on-site railroad culverts Numbers 1 and 2 were found to have adequate capacity to convey the calculated tributary 100-year flows without water overtopping the existing railroad berms. Therefore, the project would not place structures within a 100-year flood hazard

area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. Thus, a less than significant impact would occur.

Mitigation Measures: None required.

Level of Significance: Less than significant.

FLOOD RISK AND FAILURE OF A LEVEE OR DAM

Impact 3.9-8	The project would not 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. Impacts would be less than significant.
---------------------	---

The San Bernardino County (2007c) Hazard Overlay for the Desert Region identifies the Mojave River wash as an Area of Inundation. The Mojave River wash, however, is located north and well outside of the project site boundaries. No portion of the project site is indicated as a potential Area of Inundation. Also refer to Impact 3.9-7. The project would not place structures in an area that would impede or redirect flood flows, nor would it expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding because of levee or dam failure. A less than significant impact would occur.

Mitigation Measures: None required.

Level of Significance: Less than significant.

INUNDATION BY SEICHE, TSUNAMI, OR MUDFLOW

Impact 3.9-9	Implementation of the project would not result in inundation by seiche, tsunami, or mudflow. No impact would occur.
---------------------	--

A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to water storage facilities, because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. Tsunamis are a type of earthquake-induced flooding that is produced by large-scale sudden disturbances of the sea floor. Tsunamis interact with the shallow sea floor topography upon approaching a landmass, resulting in an increase in wave height and a destructive wave surge into low-lying coastal areas. The project site is approximately 110 miles inland from the Pacific Ocean, and no reservoirs or enclosed bodies of water exist near the project site. The project is not anticipated to be subject to the effects of seiche or tsunami.

Mudflows are landslide events in which a mass of saturated soil flows downhill as a very thick liquid. The soils in the project area are moderately well drained, the terrain is relatively flat, and mudflows have not historically been an issue in the area. The closest area to the project site with

documented landslide reports or maps is Victorville, approximately 34 miles to the southwest (CGS 2015). Additionally, there are no substantial slopes on or in the immediate vicinity of the site with the potential to result in mudflow impacts. No impact would occur.

Mitigation Measures: None required.

Level of Significance: No impact.

CUMULATIVE IMPACTS

Impact 3.9-10	Implementation of the project could result in cumulative impacts to hydrology and water quality. Impacts would be significant and unavoidable.
----------------------	---

Cumulative impacts to hydrology and water quality generally occur as a result of incremental changes that degrade water quality. Cumulative impacts can also include individual projects which, taken together, adversely contribute to drainage flows or increase potential for flooding in a project area or watershed. **Table 3.0-1** in Section 3.0 identifies the cumulative projects considered in this evaluation.

According to the County of San Bernardino General Plan EIR, General Plan buildout would contribute to increased hydrology and water quality impacts. However, impacts would be reduced to a less than significant level following compliance with General Plan goals, policies, and programs, and through compliance with San Bernardino County Flood Control District requirements. As stated in the Preliminary Hydrology Study and Flood Analysis (**Appendix I-1**), the proposed project would result in a 100-year, 24-hour volume increase of 373.27 AF. Project design features would capture and retain this volume in strip basins which would mimic existing hydrology patterns and mitigate hydrology impacts. Additionally, the proposed project would not substantially alter the existing topography of the project site that would impact hydrology drainage or water quality.

Additionally, groundwater supplies would be adequate to serve construction and operational demands of the proposed project. According to the WSA, the project, when considered with current and anticipated future development within the subbasin, would not adversely affect groundwater availability in the immediate future or over the long-term, due to existing and anticipated groundwater supplies and ongoing regulation and management of the subbasin by the MWA (Tetra Tech, 2018; see **Appendix I-3**).

Based on the findings of the WSA, there is sufficient groundwater supply available for the project during normal, single dry and multiple dry water years during a 20-year projection (Tetra Tech 2018). Additionally, the project would replace a more water-intensive land use with a less water-

intensive land use. While the WSA assumed conservatively that the reduction in groundwater usage at the project site due to the conversion of agricultural land uses may be transferred to other areas within the subarea, thereby decreasing local water usage, the project would require only a limited amount of water as compared to the overall size of the subbasin, thereby having a minimal contribution to anticipated future increase on groundwater demands (Tetra Tech 2018). Refer to Section 3.13, Utilities and Service Systems, for additional discussion.

However, as discussed above under Impact 3.9-2, the project would contribute to potential indirect impacts relative to groundwater supplies with the subarea. Although groundwater would be affected by planned and future land uses within the subarea, water supplies would continue to be subject to regulation to ensure that such supplies are not adversely affected by development.

Various scenarios have been considered relative to the proposed project and potential environmental impacts resulting from the transfer or shift of the FPA. If such a shift were to occur, it is not possible to know when, where or how much water would be pumped. As previously noted, the scenarios analyzed could occur with or without the approval of the project.

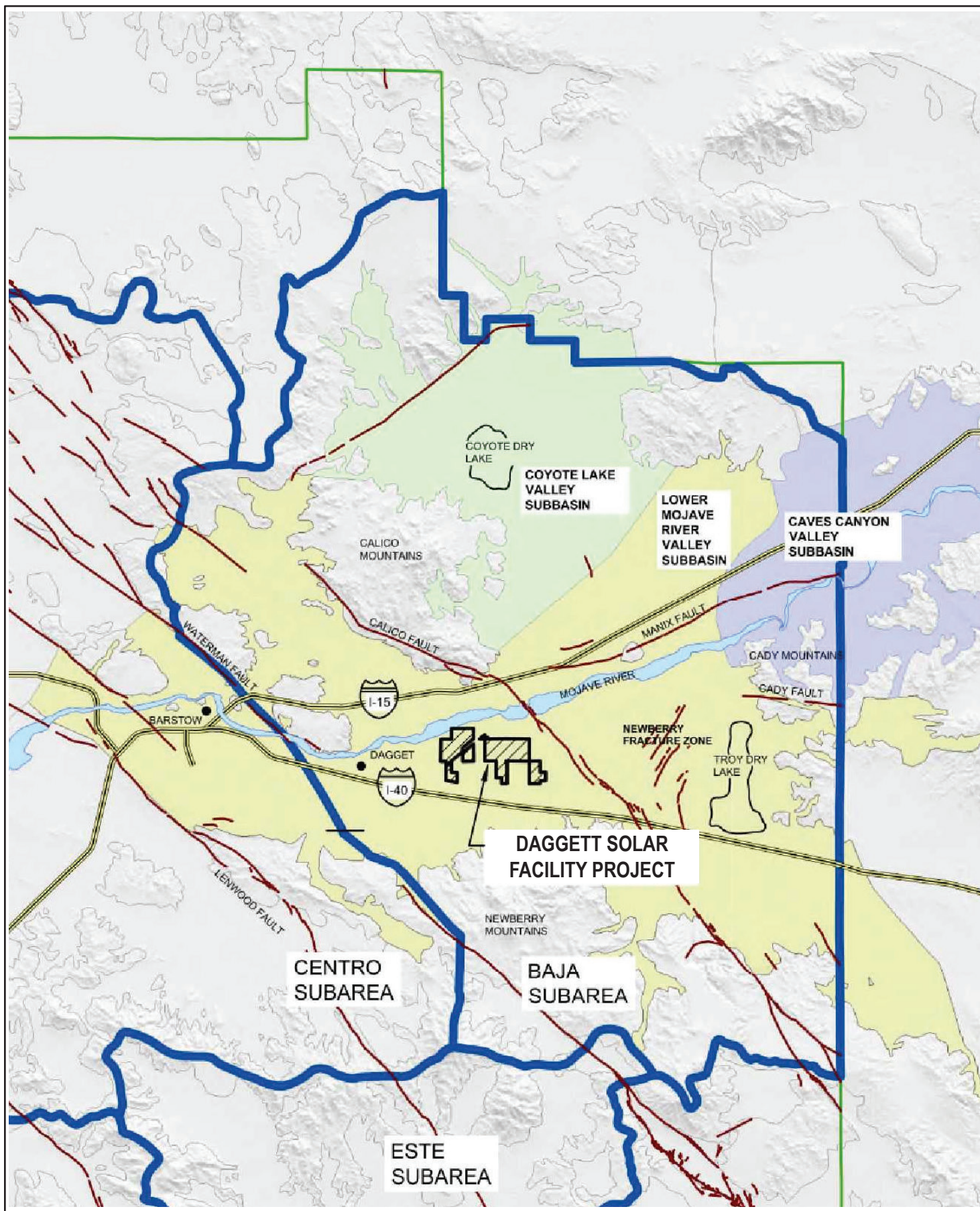
It is therefore questionable whether these impacts are reasonably foreseeable indirect impacts of the project. Accordingly, these impacts are conservatively assumed to be significant and unavoidable because the County could not compel any actions by the Watermaster to adjust FPA or take other actions to reach equilibrium in the Baja Subarea.

As discussed, the project would not result in a significant impact on hydrology and water quality following compliance with existing regulations, except with respect to groundwater supplies. Each development project would be subject to compliance with existing regulations and would be required to address site-specific hydrology and water quality issues to County standards through implementation of recommendations outlined in site-specific hydrologic and water quality evaluations. Cumulative development would be required to construct on- and off-site facilities capable of offsetting any identified cumulative impacts to drainage and flooding conditions and would be required to mitigate potential water quality impacts. Because of the project's conservatively assumed impacts to groundwater supplies, the project is considered to contribute considerably to the significant and unavoidable cumulative impact on groundwater supplies.

Mitigation Measures: No feasible mitigation measures are available (impacts on groundwater supplies).

Level of Significance: Significant and unavoidable.

This page is intentionally blank.



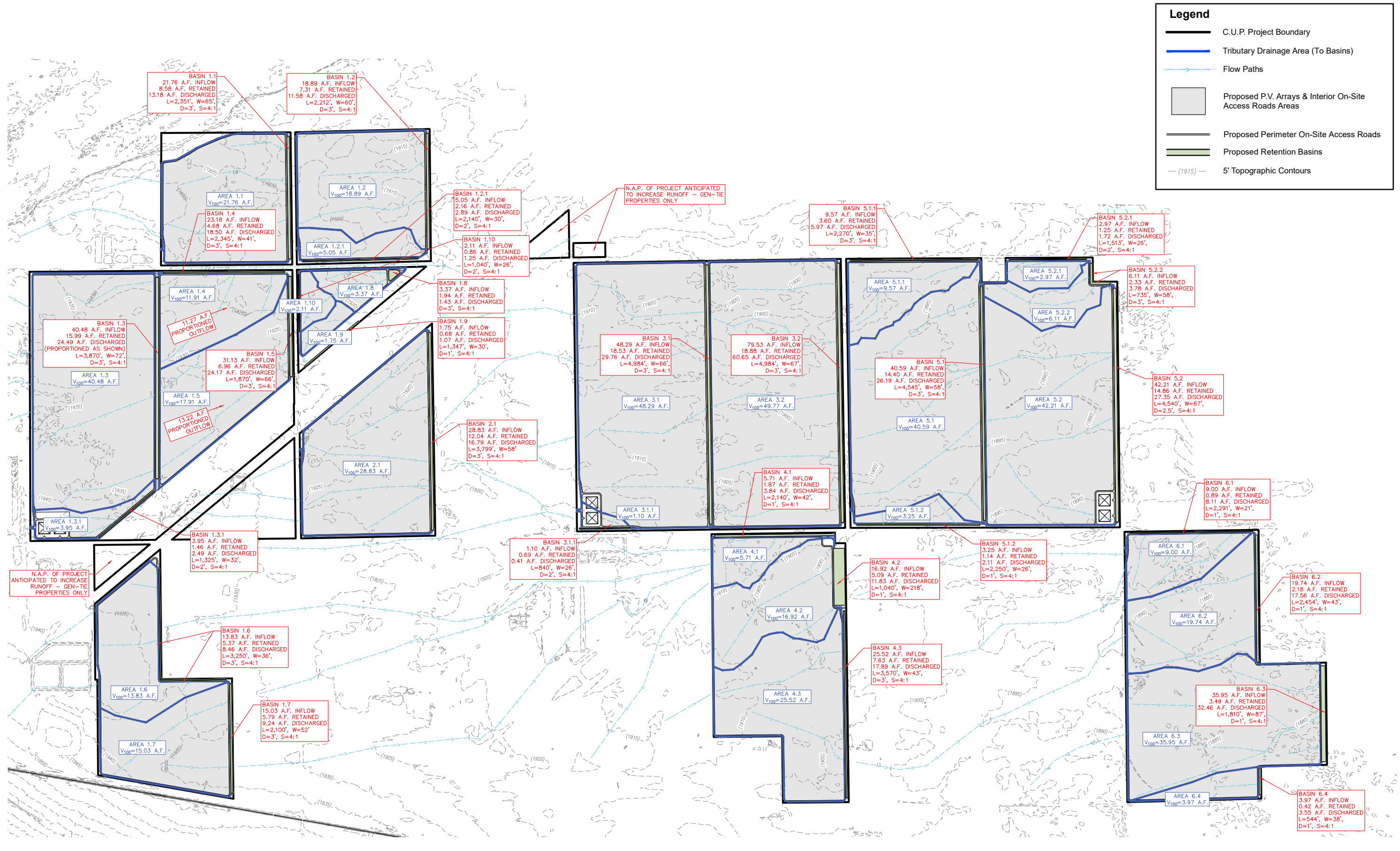
DAGGETT SOLAR POWER FACILITY
ENVIRONMENTAL IMPACT REPORT

Baja Subarea

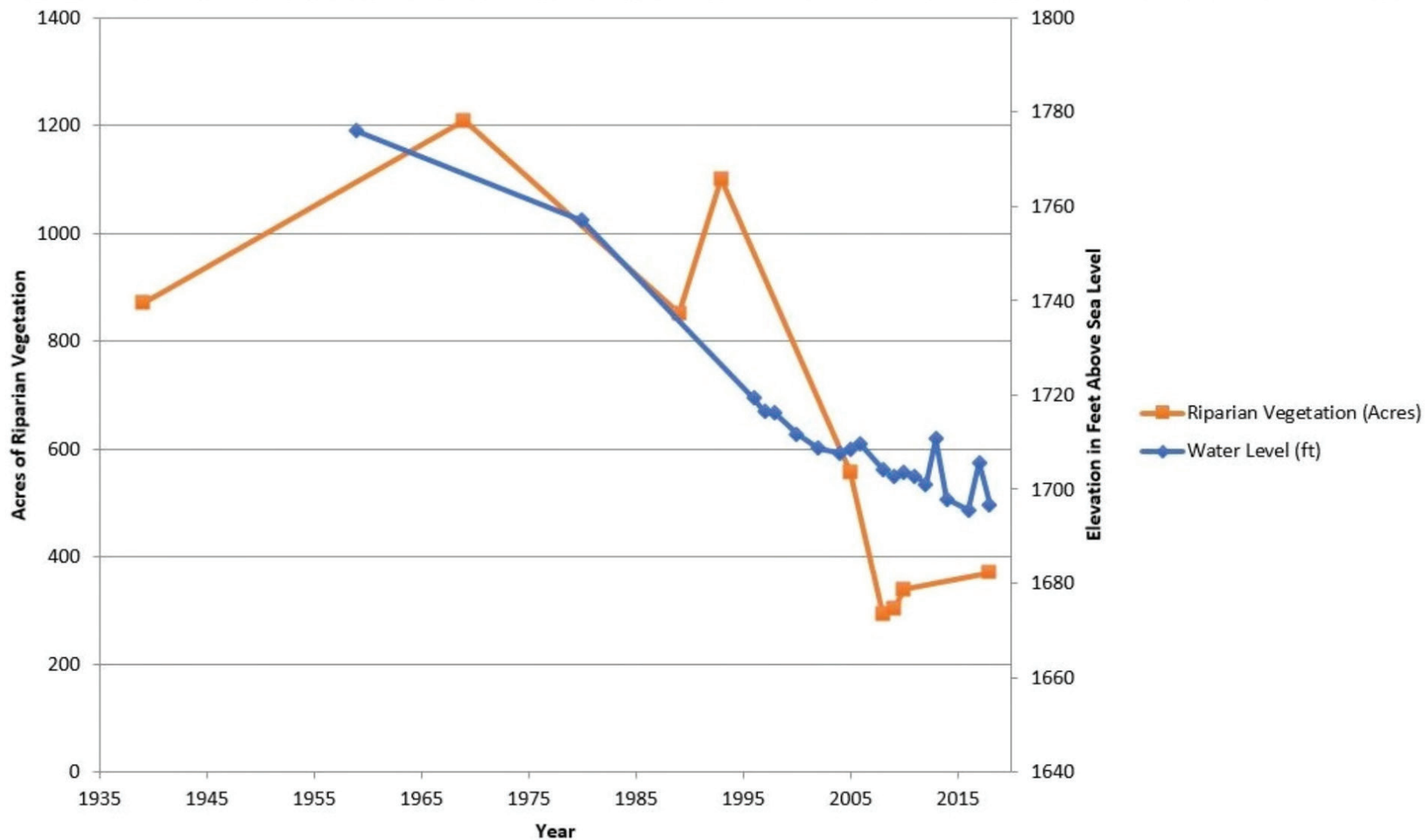
Exhibit 3.9-1

This page is intentionally blank.

12/13/2018 J:\M\00166360\GIS\MXD\5-9-1 drainage plan 11x17.mxd



This page is intentionally blank.



This page is intentionally blank.

Section 3.10

Land Use and Planning

This section evaluates land use and planning impacts that may result from the project. The following discussion addresses the existing land use and planning conditions of the affected environment, identifies applicable County goals and policies, identifies and analyzes environmental impacts, and lists measures required to reduce or avoid adverse impacts, as applicable.

Information for this section is largely based on the *San Bernardino County Code*, Title 8, Development Code, Chapter 82.01, *Land Use Plan, Land Use Zoning Districts, and Overlays*; and the *County of San Bernardino 2007 General Plan*. Additionally, information provided in the *Land Evaluation and Site Assessment* (LESA) prepared by Tetra Tech pertaining to suitability of the site for agricultural use has been incorporated (2018a; see **Appendix C**). Issues pertaining to airport operations and public safety relative to the proposed project are based on the findings of the *Airport Safety and Compatibility Technical Memorandum* prepared by Tetra Tech (2019; see **Appendix H-3**). All of the technical reports referenced above were peer reviewed by Michael Baker International.

ENVIRONMENTAL SETTING

The project site is generally bounded by the town of Daggett approximately 0.5 miles to the west; the Mojave River, Yermo, and Interstate 15 (I-15) to the north; Barstow-Daggett Airport, State Route 66 (SR 66), and Interstate 40 (I-40) to the south; and Newberry Springs and Mojave Valley to the east.

The project site is located within the boundaries of the Desert Planning Region of unincorporated San Bernardino County. The Desert Planning Region consists of mountain ranges interspersed with long, broad valleys that often contain dry lakes.

Lands affected by the project largely comprise active or formerly active agriculture land, as well as existing infrastructure associated with the nearby Coolwater Generating Station (no longer in service) and an associated transmission corridor. Railroad infrastructure and other supporting infrastructure used to deliver coal to the power plant is present. The general project area also contains electric utility-related uses on land owned by Southern California Edison (SCE). Private lands in the central and eastern portions of the site consist of agricultural lands that produce primarily alfalfa and pistachios, sparsely spaced rural residential dwellings, previously disturbed and now fallow farmland, and some undeveloped desert land.

Immediately adjacent to the project site is an approximately 1,000-foot-wide high-voltage transmission corridor owned by the Los Angeles Department of Water and Power (LADWP). The transmission corridor contains several high-voltage transmission lines and diagonally bisects to the project site. Additionally, the Burlington Northern and Santa Fe (BNSF) railroad tracks are to the south of the project site; the Union Pacific tracks lie to the north. The 44 megawatt (MW) photovoltaic Sunray Solar project is located directly west of the subject site. Barstow-Daggett Airport, a County-owned, public-use, general-aviation airport, is located directly south of the site. Refer also to **Exhibit 2.0-1, Project Location** (see Section 2.0, *Project Description*).

COUNTY OF SAN BERNARDINO GENERAL PLAN

LAND USE DESIGNATIONS AND ZONING

The County of San Bernardino General Plan designates the project site with the following land uses: General Industrial, Residential, Open/Non-Developed, and Agricultural. San Bernardino County zoning districts for the project site are listed in **Table 3.10-1, Existing Zoning Districts**.

Table 3.10-1:
Existing Zoning Districts

Zoning District	Zoning Category Description	Gross Acres
AG	Agriculture	~ 287
RC	Resource Conservation	~ 2,455
IR	Regional Industrial	~ 284
RL	Rural Living	~ 367
Total		± 3,393¹

Source: HDR Engineering 2018

¹ Although the total gross acreage of project parcels is approximately ± 3,393 acres, the full project is described as ± 3,500 acres, which would include any easements, the gen-tie line, potentially temporary construction impacts, and any other miscellaneous project features. Where gen-tie routes are outside of existing rights-of-way, they traverse the same zoning districts identified above.

County zoning for the project site allows the development of renewable energy generation facilities with County approval of a Conditional Use Permit (CUP). Development would occur on privately owned land.

The project is being designed in accordance with San Bernardino County's Solar Ordinance (an ordinance amending Development Code Chapter 84.29, Renewable Energy Generation Facilities) and the County's General Plan Renewable Energy and Conservation Element (August 8, 2017), which strives to preserve the character of the project area and surrounding communities.

REGULATORY FRAMEWORK

FEDERAL

Federal Aviation Administration Regulations

Federal Aviation Administration (FAA) regulations address potential aircraft obstruction for structures taller than 200 feet or within 20,000 feet of an airport. Specifically, Code of Federal Regulations Title 14, Part 77, establishes standards and notification requirements for objects that have the potential to affect navigable airspace. In 1993, Part 77.13(a)(5)(ii) was revised to include only those airports under construction and excluded proposed airports. Nonetheless, the Part 77 standards are intended to evaluate the effect of the construction or alteration of structures on airport operating procedures; determine if there is a potential hazard to air navigation; and identify measures to enhance safety. Specifically, the FAA requires notification through the filing of FAA Form 7460, Notice of Proposed Construction or Alteration, if a structure is over 200 feet in height or closer than 20,000 feet to an existing airport or airport under construction (Title 14, Part 77.13).

STATE

California Planning and Zoning Law

The legal framework in which California cities and counties exercise local planning and land use functions is set forth in California Planning and Zoning Law, Government Code Sections 65000–66499.58. Under state planning law, each city and county must adopt a comprehensive, long-term general plan. State law gives cities and counties wide latitude in how a jurisdiction may create a general plan, but there are fundamental requirements that must be met. These requirements include the inclusion of seven mandatory elements described in the Government Code, including a section on land use. Each of the elements must contain text and descriptions setting forth objectives, principles, standards, policies, and plan proposals; diagrams and maps that incorporate data and analysis; and mitigation measures.

California Codes

The California Codes are 29 legal codes enacted by the State Legislature, which together form the general statutory law for the state. Unlike the United States Code or other state legal codes, the California Codes have never been consolidated into a single unified code. The official codes are maintained by the California Legislative Counsel for the Legislature.

California Government Code Section 53091(d) states, “Building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency.”

Furthermore, Section 53091(e) states, “Zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, or for the production or generation of electrical energy, facilities that are subject to Section 12808.5 of the Public Utilities Code, or electrical substations in an electrical transmission system that receives electricity at less than 100,000 volts. Zoning ordinances of a county or city shall apply to the location or construction of facilities for the storage or transmission of electrical energy by a local agency, if the zoning ordinances make provision for those facilities.”

California Public Utilities Commission

California Public Utilities Commission’s (CPUC) review of transmission line applications occurs under two concurrent and parallel processes: (1) environmental review pursuant to the California Environmental Quality Act (CEQA); and (2) review of project needs and costs pursuant to Public Utilities Code Section 1001 et seq. and General Order 131-D. Since SCE would be making modifications to their existing substation to accommodate this project, the CPUC’s regulatory process is described below.

CPUC General Order 131-D, Rules relating to the planning and construction of electric generation, transmission/power/distribution line facilities, and substations located in California, states that no electric public utilities will begin construction in the state of any new electric generating plant, or of the modification, alteration, or addition to an existing electric generating plant, or of electric transmission/power/distribution line facilities, or of new, upgraded, or modified substations, exceeding 50 kilovolts (kV), without first complying with the provisions of the General Order. For the purposes of the General Order, a transmission line is a line designated to operate at or above 200 kV. A power line is a line designated to operate between 50 and 200 kV. A distribution line is a line designated to operate under 50 kV.

REGIONAL

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the metropolitan planning organization for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The region encompasses a population exceeding 19 million in an area of more than 38,000 square miles. As the designated metropolitan planning organization, SCAG is mandated

by the federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality. Additional mandates exist at the state level.

SCAG is responsible for the maintenance of a continuous, comprehensive, and coordinated planning process. The agency is also responsible for the development of demographic projections and the development of integrated land use, housing, employment, transportation programs, measures, and strategies for portions of the Air Quality Management Plan.

SCAG Regional Transportation Plan/Sustainable Communities Strategy Plan

SCAG adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in April 2016. The RTP/SCS is intended to provide guidance for increasing mobility for the region’s residents and visitors while emphasizing sustainability and integrated planning. The RTP/SCS encompasses three key principles for the region’s future: mobility, economy, and sustainability. The RTP/SCS emphasizes a commitment to reduce emissions from transportation sources in conformance with Senate Bill 375, improve public health, and meet the federal Clean Air Act National Ambient Air Quality Standards (NAAQS).

Intergovernmental Review

SCAG’s Intergovernmental Review Section is responsible for performing consistency review of regionally significant local plans, projects, and programs with SCAG’s adopted regional plans. The criteria for projects of regional significance are outlined in CEQA Guidelines Sections 15125 and 15206 and include projects that directly relate to the policies and strategies contained in the Regional Comprehensive Plan (RCP) and the RTP. SCAG’s Intergovernmental Review Section uses the criteria recommended by CEQA Guidelines Section 15206 to determine whether a project is considered regionally significant.

A proposed plan, project, or program is directed to demonstrate how it is consistent with the 2016–2040 RTP/SCS, which is established through consistency with RTP/SCS goals and adopted growth forecasts. SCAG encourages the use of 2016–2040 RTP/SCS program EIR mitigation measures to aid in demonstrating consistency with regional plans and policies.

LOCAL

San Bernardino County General Plan

Relevant goals and policies of the County’s General Plan are identified below. The General Plan identifies three diverse planning regions in the county (Valley, Mountain, and Desert), which offer varied terrain and natural features, as well as in the specific issues of concern and in the

development opportunities that they offer. The project site is in the Desert Planning Region, which is the largest of the three planning regions. This region includes a significant portion of the Mojave Desert and contains approximately 93 percent (18,735 square miles) of all land in San Bernardino County. This region is defined as including all of the unincorporated area of the county lying north and east of the Mountain Planning Region.

Policies have been drafted to specifically address each particular planning region and are called Regional Policies. These Regional Policies are in addition to the countywide policies under each of the eight General Plan elements.

Land Use Element

GOAL LU 1 The County will have a compatible and harmonious arrangement of land uses by providing a type and mix of functionally well-integrated land uses that are fiscally viable and meet general social and economic needs of the residents.

Policy LU 1.1 Develop a well-integrated mix of residential, commercial, industrial, and public uses that meet the social and economic needs of the residents in the three geographic regions of the County: Valley, Mountain, and Desert.

GOAL LU 4 The unincorporated communities within the County will be sufficiently served by industrial land uses.

Policy LU 4.1 Protect areas best suited for industrial activity by virtue of their location and other criteria from residential and other incompatible uses.

Desert Region Goals and Policies of the Land Use Element

GOAL D/LU 1 Maintain land use patterns in the Desert Region that enhance the rural environment and preserve the quality of life of the residents of the region.

Policy D/LU 1.2 Limit future industrial development to those uses which are compatible with the Community Industrial Land Use Zoning District or zone, are necessary to meet the service, employment and support needs of the region, do not have excessive water requirements, and do not adversely impact the desert environment.

GOAL D/LU 3 Ensure that commercial and industrial development within the region is compatible with the rural desert character and meets the needs of local residents.

Renewable Energy and Conservation Element

The County adopted a Renewable Energy and Conservation Element (RECE) for inclusion in the San Bernardino County General Plan in August 2017. The element includes land use guidance regarding renewable energy projects. One of the element's guiding principles includes keeping utility-oriented projects separate from or sufficiently buffered from existing communities to avoid adverse impacts on community development and quality of life.

The County Board of Supervisors adopted an amendment to the RECE on February 28, 2019, prohibiting utility-scale renewable energy development on lands designated as Rural Living or on lands located within the boundary of an existing community plan, unless an application for development of a renewable energy project has been accepted as complete in compliance with California Government Code Section 65943 before the effective date of the resolution. Therefore, the proposed project is not subject to this new policy because its application was deemed complete on March 22, 2018.

RE GOAL 2 The County will be home to diverse and innovative renewable energy systems that provide reliable and affordable energy to our unique Valley, Mountain, and Desert regions.

RE Policy 2.1 Support solar energy generation, solar water heating, wind energy and bioenergy systems that are consistent with the orientation, siting and environmental compatibility policies of the General Plan.

RE Policy 2.2 Promote use of energy storage technologies that are appropriate for the character of the proposed location.

RE Policy 2.3 Encourage the use of feasible emerging and experimental renewable energy technologies that are compatible with County regulatory standards.

RE GOAL 3 Community-oriented renewable energy facilities will be prioritized to complement local values and support a high quality of life in unincorporated communities.

RE Policy 3.6 Encourage renewable energy facilities to meet community goals, including supporting community health, wellness, and recreational needs.

RE GOAL 4 The County will establish a new era of sustainable energy production and consumption in the context of sound resource conservation and renewable energy development practices that reduce greenhouse gases and dependency on fossil fuels.

<i>RE Policy 4.7</i>	<p>RE project site selection and site design shall be guided by the following priorities relative to habitat conservation and mitigation:</p> <ul style="list-style-type: none">• Avoid sensitive habitat, including wildlife corridors, during site selection and project design.• Where necessary and feasible, conduct mitigation on-site.• When on-site habitat mitigation is not possible or adequate, establish mitigation off-site in an area designated for habitat conservation.
RE GOAL 5	<p>Renewable energy facilities will be located in areas that meet County standards, local values, community needs and environmental priorities.</p>
<i>RE Policy 5.1</i>	<p>Encourage the siting of RE generation facilities on disturbed or degraded sites in proximity to necessary transmission infrastructure.</p>
<i>RE Policy 5.2</i>	<p>Utility-oriented RE generation projects on private land in the unincorporated County will be limited to the site-types below, in addition to meeting criteria established herein and in the Development Code:</p> <ol style="list-style-type: none">Private lands adjacent to the federal Development Focus Areas supported by the Board of Supervisors that meet siting criteria and development standardsWaste Disposal SitesMining Sites (operating and reclaimed)Fallow, degraded and unviable agricultural landsAirports (existing and abandoned or adaptively re-used)BrownfieldsCalifornia Department of Toxic Substance Control Cleanup Program SitesResource Conservation and Recovery Act SitesSites within or adjacent to electric transmission and utility distribution corridorsIndustrial zones proven to not conflict with economic development needs

- xi. Other sites proven by a detailed suitability analysis to reflect the significantly disturbed nature or conditions of those listed above

RE Policy 5.8 Discourage conversion of productive or viable prime agricultural lands to RE generation facilities.

County Ordinances

In 2013, the County of San Bernardino passed an ordinance amending Chapter 84.29, Renewable Energy Generation Facilities, and Chapter 810.01, Definitions, of the San Bernardino County Development Code, relating to the regulation of commercial solar energy generation facilities. The ordinance requires that the County make findings for solar renewable energy projects prior to approving such projects. The findings require that prior to approval of a commercial solar facility, it must be determined that the location of the proposed commercial facility is appropriate in relation to the desirability and future development of communities, neighborhoods, and rural residential uses. Additionally, the ordinance requires that the Planning Commission consider (1) the characteristics of the commercial solar energy facility development site and its physical and environmental setting, as well as the physical layout and design of the proposed development in relation to nearby communities, neighborhoods, and rural residential uses; and (2) the location of other commercial solar energy generation facilities that have been constructed, approved, or applied for in the vicinity, whether in a city or unincorporated territory, or on state or federal land. The proposed project would be subject to these and additional findings requirements during the County's review and CUP application process.

Airport Land Use Plan

The project area is located within the boundaries of the Airport Comprehensive Land Use Plan for Barstow-Daggett Airport (County of San Bernardino 1992). The airport operates as a County-owned, public use, general aviation airport and is located directly to the south of the project site, north of I-40.

Community Plans and Action Plans

The project site is not located in an area covered by a Community Plan adopted in support of the County's General Plan. However, the County is currently preparing action plans for review by the Board of Supervisors to address land use planning issues relative to the Daggett, Newberry Springs and Yermo areas. The documents will be included in the County Policy Plan once adopted by the Board of Supervisors. After the adoption of the County Policy Plan, the Development Code will be updated to reflect the new policies.

No specific goals or policies for guiding future development are applicable to the project as Community Plans are still being reviewed for inclusion in the County Policy Plan.

IMPACT ANALYSIS AND MITIGATION MEASURES

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

The following thresholds of significance are based, in part, on CEQA Guidelines Appendix G. For the purposes of this EIR, the proposed project may have a significant adverse impact related to land use if it would do any of the following:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

PROJECT IMPACTS AND MITIGATION

PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY

Impact 3.10-1	The project would not physically divide an established community. Impacts would be less than significant.
----------------------	--

As described above, in addition to the existing natural gas-fired Coolwater Generating Station, uses in the area surrounding the project site include electric utility and transportation infrastructure, agricultural lands, limited rural residential uses, undeveloped land, the 44 MW photovoltaic Sunray Solar Project, and Barstow-Daggett Airport. Route 66, the National Trails Highway, is to the south of the project site and I-15 is to the north. The Burlington Northern Santa Fe railroad tracks run south of the project site, and the Union Pacific tracks are to the north. An LADWP high-voltage transmission corridor approximately 1,000 feet wide traverses the project site. In addition, high-voltage transmission lines and electrical substations owned by SCE and the Sunray Solar Project are located in the project area. Residential uses in the area are limited but are generally concentrated just north of Santa Fe Street/Elkhorn Street and north of Valley Center Road, with other scattered residential uses in the vicinity.

Construction vehicles would access the project site from I-15 and I-40. During construction, materials would be placed within the project boundaries adjacent to the then-current phase of construction, and therefore would not interfere with or restrict any existing off-site roadways.

SCE would conduct a limited scope of work within and surrounding the existing Coolwater substations to facilitate connection of the proposed project to the SCE system, including extending the gen-tie from the last pole structure into the substation and installing underground telecom facilities both inside and outside the existing substation fence line. However, such improvements would not restrict or otherwise affect existing access routes or existing development.

The project as designed would maintain all existing access routes in the area. The project would not result in the construction of new access routes or the elimination of existing area roadways that could have the potential to isolate existing uses or create a division between existing local uses.

As described above, the project does not include the construction of any components that would physically divide an established community. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CONFLICT WITH AN APPLICABLE PLAN

Impact 3.10-2	The project could conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant with mitigation.
----------------------	--

General Plan

The San Bernardino County General Plan designates the project site with the following land uses: General Industrial, Residential, Open/Non-Developed, and Agricultural. County zoning for the project site allows the development of renewable energy generation facilities with County approval of a CUP (Development Code Section 85.06).

Additionally, the County's General Plan Renewable Energy and Conservation Element is intended to establish goals and policies to manage renewable energy development and conservation. The project is subject to such goals and policies contained in the Renewable Energy and Conservation

Element and will be evaluated for conformance with such policies during County environmental review and processing. The project's consistency with the applicable goals and policies is described in **Table 3.10-2**.

As previously stated, the County adopted an amendment to the RECE on February 28, 2019 prohibiting utility-scale renewable energy development on lands designated as Rural Living or on lands located within the boundary of an adopted community plan, unless an application for development of a renewable energy project has been accepted as complete in compliance with California Government Code Section 65943 before the effective date of the resolution. As the proposed project application was deemed complete on March 22, 2018, it is not subject to this new policy.

A discussion of how the project has been designed in accordance with San Bernardino County's Solar Ordinance (an ordinance amending Development Code Chapter 84.29, Renewable Energy Generation Facilities) is discussed further in **Table 3.10-3** below.

Height Variance

The project is also seeking an exception and a variance from the height restrictions pursuant to Development Code Chapters 83.02.040(c)(2)(T) and 85.17. The general height limits within the Desert District are 75 feet within the IR zone and 35 feet within the AG, RC and RL zones. Development Code Chapter 83.020.040 allows for miscellaneous structures to be increased by up to 50 percent of the height limit for the applicable zone. With a height exception, the applicable height limits would be 112.50 feet in the IR zone and 52.5 feet in the AG, RC and RL zones. The project is proposing to obtain a variance pursuant to Development Code Chapter 85.17 from this height restriction to allow gen-tie poles up to 159 feet in height.

While the gen-tie line poles would generally be up to 120 feet in height to accommodate engineering and safety clearance requirements, some poles may need to be up to 159 feet in height at locations where the lines would cross over the existing 60-foot high-voltage transmission lines in the area, while other poles may be considerably shorter than 120 feet. Additionally, some sections of the gen-tie line may be placed underground where necessary, particularly in the areas of the Barstow-Daggett Airport and the LADWP right-of-way, thereby eliminating the need for poles in those sections. The final gen-tie alignments and associated pole locations and heights will not be known until the proposed project's final engineering stage.

The project site is located near several existing transmission lines of varying heights. Variance from the County's height restrictions would not be distinctive in this area due to the presence of the existing transmission lines and therefore the variance would not result in significant impacts

to the aesthetics of the area; refer to Section 3.1, Aesthetics and Visual Resources, for additional discussion.

Proposed Subdivision and Road Vacations

The Daggett Solar Power Facility consists of 51 Assessor Parcels totaling approximately 3,393 acres. The project proposes to subdivide and/or merge 47 of these 51 parcels into 14 new parcels. After the recordation of all phases of the Final Map, the site would consist of these 14 new parcels. The smallest legal parcel would be 5.0 acres and the largest would be 635 acres. All of the newly created parcels will have both physical and legal access to a public road. Lot mergers and/or lot line adjustments may be used in lieu of a tentative map on some project areas.

- *Subdivision Map(s)* - It is anticipated that the applicant would file a tentative map to create the new parcels followed by the phased recordation of 5 final maps. A number of dedications will be required by the County as part of the mapping process to help establish proper access (ingress/egress) based on County requirements.
- *Road Vacations* - It is anticipated that the County Public Works Department may require one or more road vacations on Assessor Parcels 0515-111-14, 15 & 16. Many of the dirt roads surrounding the site have offers of dedication that have not been accepted by the County. It is possible that the County may require a vacation on one or more of these roads if a solar array is planned to be constructed across one of these roads.

The Subdivision Map would result in mapping changes only and the road vacations would not preclude access to properties. Therefore, these changes would not result in significant land use impacts.

**Table 3.10-2:
Project Consistency with Applicable Policies of General Plan**

General Plan Policy	Consistency Analysis
GOAL LU 1. The County will have a compatible and harmonious arrangement of land uses by providing a type and mix of functionally well-integrated land uses that are fiscally viable and meet general social and economic needs of the residents.	Consistent. The project is compatible and harmonious with surrounding properties and land uses. The project provides an important source of clean and renewable energy.
Policy LU 1.1. Develop a well-integrated mix of residential, commercial, industrial, and public uses that meet the social and economic needs of the residents in the three geographic regions of the County: Valley, Mountain, and Desert.	Consistent. The project is in the Desert region and provides an important source of clean and renewable energy, compatible with surrounding land uses.

Table 3.10-2, continued

General Plan Policy	Consistency Analysis
GOAL LU 4. The unincorporated communities within the County will be sufficiently served by industrial land uses.	Consistent. The project provides an important source of clean and renewable energy.
Policy LU 4.1. Protect areas best suited for industrial activity by virtue of their location and other criteria from residential and other incompatible uses.	Consistent. The project is properly sited adjacent to existing energy infrastructure and is compatible with surrounding land uses.
GOAL D/LU 1. Maintain land use patterns in the Desert Region that enhance the rural environment and preserve the quality of life of the residents of the region.	Consistent. The project will place new energy infrastructure near existing utility infrastructure, consistent and compatible with surrounding rural properties.
D/LU 1.2. Limit future industrial development to those uses which are compatible with the Community Industrial Land Use Zoning District or zone, are necessary to meet the service, employment and support needs of the region, do not have excessive water requirements, and do not adversely impact the desert environment.	Consistent. The project proposes industrial development compatible with surrounding land uses. The project has prepared a Water Supply Assessment demonstrating that the project does not have excessive water requirements; refer to Section 3.9 Hydrology and Water Quality and Section 3.13 Utilities and Service Systems.
GOAL D/LU 3. Ensure that commercial and industrial development within the region is compatible with the rural desert character and meets the needs of local residents.	Consistent. The project proposes energy infrastructure adjacent to existing energy infrastructure, compatible with surrounding land uses. The project will provide an important source of clean and renewable energy.
RE Policy 2.1: Support solar energy generation, solar water heating, wind energy and bioenergy systems that are consistent with the orientation, siting and environmental compatibility policies of the General Plan.	Consistent. The proposed project design is consistent with the County's Solar Ordinance (an ordinance amending Chapter 84.29, Renewable Energy Generation Facilities) and Renewable Energy and Conservation Element (August 8, 2017). The project would preserve the character of the project area and surrounding communities and avoid the loss of the qualities that contribute to the local economy. The project would use existing transmission infrastructure adjacent to the existing Coolwater Generating Station, a recently retired natural gas-fired power plant. The project site contains existing industrial and utility uses and is adjacent to the Sunray Solar Project. The site is traversed by the LADWP high voltage transmission corridor of approximately 1,000 feet in width and is near several high-voltage substations and transmission lines owned by Southern California Edison. The project is designed to minimize impacts to surrounding properties by including measures such as setbacks, fencing and impact minimization measures (e.g., dust control during construction).
RE 2.1.1: Utilize renewable energy development standards in the Development Code to minimize impacts on surrounding properties.	
RE Policy 2.2: Promote use of energy storage technologies that are appropriate for the character of the proposed location.	Consistent. The project includes up to 450 MW of battery storage.

Table 3.10-2, continued

General Plan Policy	Consistency Analysis
RE 2.2.1: Encourage onsite energy storage with RE generation facilities, consistent with County Development Code requirements.	
RE 2.2.2: Encourage and allow energy storage facilities as an accessory component of RE generation facilities.	
<p>RE Goal 4: The County will establish a new era of sustainable energy production and consumption in the context of sound resource conservation and renewable energy development practices that reduce greenhouse gases and dependency on fossil fuels.</p> <p>RE Objective 4.1: The County will continue its efforts to meet or exceed State Greenhouse Gas reduction goals, by encouraging renewable energy development that will be compatible with the natural environment and the integrity of unincorporated communities.</p>	<p>Consistent. The project would assist in achieving the State's Renewable Portfolio Standard (RPS) and greenhouse gas emissions reduction objectives by developing and constructing California RPS-qualified solar power generation. The project would contribute to the County's greenhouse reduction goals by reducing the need for fossil fuel use for energy generation.</p>
RE Policy 4.1: Apply standards to the design, siting, and operation of all renewable energy facilities that protect the environment, including sensitive biological resources, air quality, water supply and quality, cultural, archaeological, paleontological and scenic resources.	<p>Consistent. The site has been previously disturbed by former industrial or agricultural activities. Prior surveys have documented that the project area includes mostly marginal habitat for sensitive species due to previous disturbance and that cultural and scenic resources can be avoided.</p>
RE 4.1.1: Consult with Native American tribes in the identification, evaluation, and treatment of cultural resources and in the preparation and implementation of measures required to identify, evaluate, protect, and manage cultural resources.	<p>Consistent. In compliance with AB 52, the County of San Bernardino distributed letters to applicable tribes that had previously requested to be notified of future projects proposed by the County, notifying each tribe of the opportunity to consult with the County regarding the proposed project. Tribal consultation efforts remained ongoing; refer to Section 3.5, Cultural Resources.</p>
RE 4.1.2: RE development applications shall be subject to thorough environmental review, including consideration of water consumption, before being permitted.	<p>Consistent. The County has prepared a draft Water Supply Assessment and Environmental Impact Report analyzing the project, including water consumption; refer to Section 3.9 Hydrology and Water Quality, and 3.13 Utilities and Service Systems.</p>
RE Policy 4.2: Ensure that renewable energy facilities do not disrupt, degrade, or alter the local hydrology and hydrogeology.	<p>Consistent. The project is designed to avoid significant hydrology and hydrogeology impacts. Jurisdictional waters surveys have been completed and show that aquatic resources will be avoided. Minimal paving is proposed. Site drainage is designed to follow the natural drainage pattern. Project facilities will not prevent storm water flow. Retention basins will mitigate any potential increases in runoff.</p>

Table 3.10-2, continued

General Plan Policy	Consistency Analysis
RE Policy 4.2.1: Require a groundwater impact assessment that evaluates the short and long-term impacts to groundwater usage.	Consistent. The County has prepared a draft Water Supply Assessment evaluating short and long-term impacts to groundwater, which demonstrates there is adequate groundwater to serve the project and other anticipated users.
RE Policy 4.3: Require construction and operation of all renewable energy facilities to minimize negative effects and optimize benefits to unincorporated communities.	Consistent. The project will be a positive economic stimulus locally in the form of job creation and associated spending during construction and operation, and to San Bernardino County in the form of property taxes and fee revenues. The project is designed to minimize aesthetic, water consumption and air quality impacts.
RE 4.3.1: Define measures required to minimize ground disturbance, soil erosion, flooding, and blowing of sand and dust, with appropriate enforcement mechanisms in the Development Code.	Consistent. Minimal site grading is proposed for the majority of the site. The project will apply dust control measures in compliance with Mojave Desert Air Quality Management District regulations, including using water trucks to apply water and/or dust palliatives to minimize the production of visible dust emissions in areas where grading occurs, within the staging areas, and on any unpaved roads used during project construction and will employ other required mitigation measures to minimize ground disturbance, soil erosion and flooding; refer to Section 3.6 Geology and Soils, and Section 3.9 Hydrology and Water Quality.
RE 4.3.2: Require operators to track and report energy production and other benefits cited in a project proposal, in addition to tracking efforts to avoid and minimize negative impacts.	Consistent. The County will adopt a Mitigation Monitoring and Reporting Program that will track compliance with mitigation measures to minimize negative impacts and any conditions of approval requiring the tracking and reporting of energy production.
RE 4.3.3: Give preference to the utilization of existing infrastructure to minimize the need for additional transmission development.	Consistent. The project is designed to include the use of existing transmission and access infrastructure in the area developed in part for the retired Coolwater Generating Station. The project will deliver its electrical output to two existing substations owned and operated by SCE.
RE 4.3.4: Establish inspection protocols and programs to ensure that RE facilities are constructed, operated, and eventually decommissioned consistent with the requirements of the San Bernardino County Code, and in a manner that will not be detrimental to the public health, safety, or welfare.	Consistent. The County will conduct inspections are required to ensure compliance with the conditional use permit. Decommissioning would comply with applicable requirements including the requirements of San Bernardino County Development Code Section 84.29.060.
RE Policy 4.4: Encourage siting, construction and screening of RE generation facilities to avoid, minimize or mitigate significant changes to the visual environment including minimizing light and glare.	Consistent. A Visual Impact Analysis has been prepared for the project by HDR (see Appendix B-1). The project would use solar panels that have a low profile, thereby minimizing visual impacts. The panels

Table 3.10-2, continued

General Plan Policy	Consistency Analysis
<p>RE 4.4.1: Reduce visual impacts through a combination of minimized reflective surfaces, context-sensitive color treatments, nature-oriented geometry, minimized vegetation clearing under and around arrays, conservation of pre-existing native plants, replanting of native plants as appropriate, maintenance of natural landscapes around the edges of facility complexes, and lighting design to minimize night-sky impacts, including attraction of and impact to nocturnal migratory birds.</p>	<p>are specially designed with anti-reflective coatings that absorb as much of the sun's energy as possible, to maximize efficiency and to not be a substantial source of glare.</p> <p>Nighttime lighting impacts would be minimized by including only small lighting features that are equipped with on/off switches or motion detectors. The lighting impacts from such fixtures would be similar to those of domestic fixtures on local homes.</p>
<p>RE Policy 4.5: Require RE generation facility developers to provide and implement a decommissioning plan that provides for reclamation of the site to a condition at least as good as that which existed before the lands were disturbed or another appropriate end use that is stable (i.e. with interim vegetative cover), prevents nuisance, and is readily adaptable for alternative land uses. Decommissioning plans shall:</p>	<p>Consistent. Decommissioning would comply with applicable regulations including the requirements of San Bernardino County Development Code Section 84.29.060. The Development Code requires a decommissioning plan that includes a cost estimate of the decommissioning and site restoration work and which provides for an inspection after all decommissioning and site restoration has been completed.</p>
<p>RE 4.5.1: Include a cost estimate of the decommissioning and site restoration work for the purpose of providing a bond to guarantee completion of decommissioning.</p>	
<p>RE 4.5.2: Provide for an inspection after all decommissioning and site restoration work to ensure that the work has been completed to the standards required by the County, prior to release of the decommissioning bond.</p>	
<p>RE 4.5.3: Require any structures created during construction to be decommissioned and all material recycled to the greatest extent possible.</p>	<p>Consistent. The majority of components used to construct the proposed system are recyclable. Solar panels typically consist of silicon, glass, and an aluminum frame. Tracking systems typically consist of steel and concrete, in addition to motors and control systems. All of these materials can be recycled.</p> <p>Numerous recyclers for the various materials to be used on the project site operate in San Bernardino and Riverside Counties. Metal, scrap equipment, and parts that do not have free-flowing oil can be sent for salvage. Equipment containing any free-flowing oil would be managed as waste and would require evaluation. Oil and lubricants removed from equipment would be managed as used oil, which is a hazardous waste in California. Decommissioning would comply with federal, state, and local standards and all regulations that exist when the project is shut down, including the requirements of San Bernardino County Development Code Section 84.29.060.</p>
<p>RE 4.5.4: Require all material recovered during decommissioning and site restoration work of a renewable energy facility, including the renewable energy technology itself, to be reused or recycled to the greatest extent possible.</p>	
<p>RE Policy 4.6: Require all recyclable electronic and/or toxic materials to be recycled in accordance with the requirements of the Basel Convention or comparable standard.</p>	

Table 3.10-2, continued

General Plan Policy	Consistency Analysis
<p>RE Policy 4.7: RE project site selection and site design shall be guided by the following priorities relative to habitat conservation and mitigation:</p> <ul style="list-style-type: none"> • Avoid sensitive habitat, including wildlife corridors, during site selection and project design. • Where necessary and feasible, conduct mitigation on-site. • When on-site habitat mitigation is not possible or adequate, establish mitigation off-site in an area designated for habitat conservation. 	<p>Consistent. General vegetation mapping, identification of all observed plant and animal species, a habitat assessment for special-status species, and an assessment for potential federally regulated waters of the U.S. and state-regulated streambeds have been conducted and a Biological Resources Technical Report for the project has been prepared by HDR (see Appendix E-1). The project is designed to minimize impacts to these resources; refer to Section 3.4 Biological Resources.</p>
<p>RE Policy 4.8: Encourage mitigation for RE generation facility projects to locate habitat conservation offsets on public lands where suitable habitat is available.</p>	<p>Consistent. No required habitat conservation offsets have been identified in the EIR.</p>
<p>RE 4.8.1: Collaborate with appropriate state and federal agencies to facilitate mitigation/habitat conservation activities on public lands.</p>	
<p>RE Policy 4.9: Encourage RE facility developers to design projects in ways that provide sanctuary (i.e., a safe place to nest, breed and/or feed) for native bees, butterflies and birds where feasible and appropriate, according to expert recommendations.</p>	<p>Consistent. The project is designed to minimize impacts to potential habitat and associated native vegetation. Planting native vegetation that may provide benefits to native bees, butterflies, and birds is incorporated into the project design where feasible and appropriate.</p>
<p>RE Goal 5: Renewable energy facilities will be located in areas that meet County standards, local values, community needs and environmental and cultural resource protection priorities.</p>	<p>Consistent. The site and design meets County standards, preserves the character of the project area and surrounding communities, and protects environmental and cultural resources.</p>
<p>RE Objective 5.2: Utility-oriented RE facilities will be subject to site selection criteria consistent with County priorities expressed in this Element.</p>	
<p>RE Policy 5.1: Encourage the siting of RE generation facilities on disturbed or degraded sites in proximity to necessary transmission infrastructure.</p>	<p>Consistent. The project is designed to include the use of existing transmission and access infrastructure in the area formerly utilized by the retired Coolwater Generating Station.</p>
<p>RE 5.1.2: Siting of community-oriented and utility-oriented RE generation facilities will conform to applicable standards set forth in the Development Code.</p>	<p>Consistent. See above. The project will comply with all Development Code requirements.</p>
<p>RE Policy 5.2: Utility-oriented RE generation projects on private land in the unincorporated County will be limited to the site-types below, in addition to meeting criteria established herein and in the Development Code:</p> <ul style="list-style-type: none"> i. Private lands adjacent to the federal Development Focus Areas supported by the 	<p>Consistent. The project site is located on private lands adjacent to Development Focus Areas and is composed of degraded agricultural and fallow lands with significant previous disturbance and close to existing high voltage electrical infrastructure which it intends to utilize. The solar project is not a permanent use and therefore, once the solar project is decommissioned, the site can be returned to uses</p>

Table 3.10-2, continued

General Plan Policy	Consistency Analysis
<p>Board of Supervisors that meet siting criteria and development standards</p> <ul style="list-style-type: none"> ii. Waste Disposal Sites iii. Mining Sites (operating and reclaimed) iv. Fallow, degraded and unviable agricultural lands v. Airports (existing and abandoned or adaptively re-used) vi. Brownfields vii. California Department of Toxic Substance Control Cleanup Program Sites viii. Resource Conservation and Recovery Act Sites ix. Sites within or adjacent to electric transmission and utility distribution corridors x. Industrial zones proven to not conflict with economic development needs xi. Other sites proven by a detailed suitability analysis to reflect the significantly disturbed nature or conditions of those listed above. 	<p>such as agriculture. Long-term viability of agriculture in this area is uncertain due to groundwater supply constraints.</p>
<p>RE Policy 5.3: Collaborate with utilities and RE generation facility developers to encourage collocation of transmission and intertie facilities.</p>	<p>Consistent. The project is located close to existing high voltage electrical infrastructure.</p>
<p>RE Policy 5.4: Utility-oriented RE generation facilities will be required to meet a higher standard of evaluation for appropriate site selection due to its size and distance from population centers.</p>	<p>Consistent. The project has been evaluated in accordance with the policies of the Renewable Energy Element and is appropriately sited and designed to be away from population centers.</p>
<p>RE 5.4.2: Encourage utility-oriented RE generation to occur in the five DRECP Development Focus Areas (DFAs) that were supported by the Board of Supervisors on February 17, 2016, Resolution No. 2016-20 and on adjacent private lands.</p>	<p>Consistent. This project is located adjacent to appropriate Development Focus Areas.</p>
<p>RE Policy 5.6: Consult Native American tribes early in the site selection process, with joint evaluation of a Phase 1 Cultural Resources Analysis prior to approval of a site for utility-oriented RE generation.</p>	<p>Consistent. The Cultural Resources Inventory prepared by HDR (see Appendix F-1) has been provided by the County to Native American Tribes.</p>
<p>RE Policy 5.7: Support renewable energy projects that are compatible with protection of the scenic and recreational assets that define San Bernardino County for its residents and make it a destination for tourists.</p> <p>RE 5.7.1: Site RE generation facilities in a manner that will avoid, minimize or substantially mitigate adverse impacts to sensitive habitats, cultural resources, surrounding land uses, and scenic viewsheds.</p>	<p>Consistent. The site is in close proximity to existing infrastructure historically used for the Coolwater Generating Station, and other industrial and transportation uses. The Visual Impact Analysis prepared by HDR (see Appendix B-1) determined that the project would have a limited potential to adversely impact the destination for tourists. Although the project would be constructed on some</p>

Table 3.10-2, continued

General Plan Policy	Consistency Analysis
RE Policy 5.8: Discourage conversion of productive or viable prime agricultural lands to RE generation facilities.	lands that are currently in agricultural production, the solar project would not be a permanent use and in the future, the facility may be decommissioned and the affected lands could be returned to agricultural uses.

Findings per Development Code Section 85.06.035***(Findings for a Commercial Solar Energy Facility)***

Per Development Code Section 85.06.035, the following are the required findings that the reviewing authority must determine to be true before approving a commercial solar energy facility. Project consistency with each finding is described in **Table 3.10-3**.

Table 3.10-3:
Project Consistency with Applicable Policies of
Development Code Section 85.06.035

Goal/Objective/Policy	Consistency Analysis
The proposed commercial solar energy facility is either (a) sufficiently separated from existing communities and existing/developing rural residential areas so as to avoid adverse effects, or (b) of a sufficiently small size, provided with adequate setbacks, designed to be lower profile than otherwise permitted, and sufficiently screened from public view so as to not adversely affect the desirability and future development of communities, neighborhoods, and rural residential use.	Consistent. The project site is in close proximity to infrastructure historically used for the Coolwater Generating Station and other transportation and industrial and uses, including solar. The project would be located in an area with few residences. The project design includes setbacks from roads as well as fencing to shield the facility from public view.
Proposed fencing, walls, landscaping, and other perimeter features of the proposed commercial solar energy generation facility will minimize the visual impact of the project so as to blend with and be subordinate to the environment and character of the area where the facility is to be located.	Consistent. Chain-link fencing with one foot of barbed wire is proposed along the perimeter of the project site or set back a minimum of 15 feet along existing or proposed County right-of-way. Access gates would be provided at each site entry road. The project would use solar panels that have a low profile, thereby minimizing visual impacts. The panels are specially designed with anti-reflective coatings that absorb as much of the sun's energy as possible, to maximize efficiency and to not be a substantial source of glare. Nighttime lighting impacts would be minimized by including only small lighting features that are equipped with on/off switches or motion detectors. The lighting impacts from such fixtures would be similar to those of domestic fixtures on local homes.

Table 3.10-3, continued

Goal/Objective/Policy	Consistency Analysis
The siting and design of the proposed commercial solar energy generation facility will be either: (a) unobtrusive and not detract from the natural features, open space and visual qualities of the area as viewed from communities, rural residential uses, and major roadways and highways or (b) located in such proximity to already disturbed lands, such as electrical substations, surface mining operations, landfills, wastewater treatment facilities, etc., that it will not further detract from the natural features, open space and visual qualities of the area as viewed from communities, rural residential uses, and major roadways and highways.	Consistent. The site is located in an area with previous industrial development, electric transmission lines and transportation uses. The project area contains a majority of land that has been previously disturbed. The visual resources report for the project shows that the facility will be compatible with the overall character of the area.
The siting and design of project site access and maintenance roads have been incorporated in the visual analysis for the project and shall minimize visibility from public view points while providing needed access to the development site.	Consistent. Within the project site, a minimum 20-foot-wide perimeter access route would be constructed along the project site's fence line. All interior access routes would be a minimum of 20 feet in width. All roads within the site would consist of compacted native soil per Fire Department requirements. These project features have been incorporated into the project's visual analysis; refer to Section 3.1, Aesthetics.
The proposed commercial solar energy generation facility will not adversely affect the feasibility of financing infrastructure development in areas planned for infrastructure development or will be located within an area not planned for future infrastructure development (e.g., areas outside of water agency jurisdiction).	Consistent. No element of the proposed project is expected to impact the feasibility of financing infrastructure development for the local area. Furthermore, pursuant to Development Code Section 84.29.040, the project is also required to pay public safety services impact fees to offset any increased need for possible services.
The proposed commercial solar energy generation facility will not adversely affect to a significant degree the availability of groundwater supplies for existing communities and existing and developing rural residential areas.	Consistent. The project will be using water from existing on-site wells. The project's demand for water is not expected to exceed the water allotted to the landowners who are part of the project. A Water Supply Assessment has been prepared that analyzes groundwater supplies for the project and other users and determines that the project will not adversely affect availability of groundwater supplies to a significant degree.
The proposed commercial energy generation facility will minimize site grading, excavating, and filling activities by being located on land where the existing grade does not exceed an average of five (5) percent across the developed portion of the project site, and by utilizing construction methods that minimize ground disturbance.	Consistent. Minimal site grading is proposed for the majority of the site with finished topographical grades being similar to existing conditions, and less than five percent on average.

Table 3.10-3, continued

Goal/Objective/Policy	Consistency Analysis
The proposed commercial solar energy generation facility will be located in proximity to existing electrical infrastructure, such as transmission lines, utility corridors, and roads, so that: (a) minimal ground disturbance and above ground infrastructure will be required to connect to the existing transmission grid, considering the location of the project site and the location and capacity of the transmission grid, (b) new electrical generation tie lines will be co-located on existing power poles whenever possible, and (c) existing rights-of-way and designated utility corridors will be utilized to the extent practicable.	Consistent. The project is designed to include use of existing transmission and access infrastructure in the area developed for the retired Coolwater Generating Station. The project will connect and deliver its output to two existing substations.
The proposed commercial solar energy generation facility will be sited so as to avoid or minimize impacts to the habitat of special status species, including threatened, endangered, or rare species, Critical Habitat Areas as designated by the U.S. Fish and Wildlife Service, important habitat/wildlife linkages or areas of connectivity designated by County, state or federal agencies, and areas of Habitat Conservation Plans or Natural Community Conservation Plans that discourage or preclude development.	Consistent. General vegetation mapping, identification of all observed plant and animal species, a habitat assessment for special-status species, and an assessment for potential federally regulated waters of the U.S. and state-regulated streambeds have been conducted and a biological resources technical report for the project site has been prepared. The project site has habitat that has been mostly disturbed by previous industrial or agricultural activities. Any significant habitat for special status species can be avoided.
Adequate provision has been made to maintain and promote native vegetation and avoid the proliferation of invasive weeds during and following construction.	Consistent. The project includes measures to minimize the growth of invasive weeds during and following construction.
The proposed commercial solar energy generation facility will be located so as to avoid or mitigate impacts to significant cultural and historic resources, as well as sacred landscapes.	Consistent. A cultural resources inventory of the proposed project site has been conducted. The project is designed to avoid impacts to significant cultural and historic resources.
The proposed commercial solar energy generation facility will be designed in a manner that does not impede flood flows, avoids substantial modification of natural water courses, and will not result in erosion or substantially affect area water quality.	Consistent. The project is designed to maintain the natural drainage pattern. None of the on-site facilities, including fences and panel posts, should prevent stormwater flow. The retention basins proposed to attenuate anticipated increases in on-site runoff volume are long, shallow strip basins placed at locations designed to allow for normalization discharged basin flows.

Table 3.10-3, continued

Goal/Objective/Policy	Consistency Analysis
<p>The proposed commercial solar energy generation facility will not be located within a floodway designated by the Federal Emergency Management Agency (FEMA), has been evaluated for flood hazard impacts pursuant to Chapter 82.14 of the Development Code, and will not result in increased flood hazards to upstream or downstream properties.</p>	<p>Consistent. The applicable FEMA Flood Insurance Rate Maps for the project site are Map Numbers 06071C3975H, 06071C4000H, 06071C4600H, and 06071C4625H (effective date 8/28/2008). Based on the National Flood Hazard Map, the entire Project site is within Zone D, which indicates flooding hazards for the site have not been determined. The <i>Preliminary Hydrology Study & Flood Analysis</i> (2018a; see Appendix I-1) and the <i>Addendum to Preliminary Hydrology Study & Hydraulics Analysis</i> (2018b, see Appendix I-2) prepared by Joseph E. Bonadiman & Associates is included in this document. The Study and Analysis describes the site's hydrology and mitigation measures that will be implemented to minimize impacts.</p>
<p>All on-site solar panels, switches, inverters, transformers, and substations shall be located at least one foot above the base flood elevation as shown on the Flood Insurance Rate Maps.</p>	<p>Consistent. Based on the National Flood Hazard Map, the entire project site is within Zone D, which indicates flooding hazards for the site have not been determined. However, a hydrology report was prepared and mitigation measures that would be implemented by the Applicant would minimize impacts.</p>
<p>For development sites proposed on or adjacent to undeveloped alluvial fans, the commercial solar energy generation facility has been designed to avoid potential channel migration zones as demonstrated by a geomorphic assessment of the risk of existing channels migrating into the proposed development footprint, resulting in erosion impacts.</p>	<p>Consistent. The project site is located north of undeveloped alluvial fans of the Newberry Mountains, but the solar facility is sited to avoid potential channel migration zones and associated erosion impacts.</p>
<p>For proposed facilities located on prime agricultural soils or land designated by the California Farmland Mapping and Monitoring Program as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, where use of the land for agricultural purposes is feasible, the proposed commercial solar energy generation facility will not substantially affect the agricultural viability of surrounding lands.</p>	<p>Consistent. According to data from the California Department of Conservation's Farmland Mapping and Monitoring Program, the Project site includes lands in the following Important Farmland categories: Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. However, a Land Evaluation and Site Assessment (LESA) analysis was prepared, which indicates that the project would not result in a substantial loss of Farmland that would be of significant value to the County; refer to Section 3.2, Agriculture and Forestry Resources. Furthermore, solar energy generation is considered an interim land use (with a limited-term contract with a utility) and is expected to be removed after its contractual lifetime. The project would not have an adverse effect on the agricultural viability of surrounding lands.</p>

Table 3.10-3, continued

Goal/Objective/Policy	Consistency Analysis
If the proposed site is subject to a Williamson Act contract, the proposed commercial solar energy generation facility is consistent with the principals of compatibility set forth in California Government Code Section 51238.1.	Consistent. The project site is not subject to Williamson Act contracts.
The proposed commercial solar energy generation facility will not preclude access to significant mineral resources.	Consistent. The project site is not located in an area of known, significant mineral resources. Additionally, solar energy generation is considered an interim land use (with a limited-term contract with a utility) and is expected to be removed after its contractual lifetime.
The proposed commercial solar energy generation facility will avoid modification of scenic natural formations.	Consistent. The project would avoid any further modification of scenic natural formations.
The proposed commercial solar energy generation facility will be designed, constructed, and operated so as to minimize dust generation, including provision of sufficient watering of excavated or graded soil during construction to prevent excessive dust. Watering will occur at a minimum of three (3) times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust palliative, or other approved dust control measure.	Consistent. The project will apply dust control measures in compliance with permit conditions and Mojave Desert Air Quality Management District (MDAQMD) guidance.
All clearing, grading, earth moving, and excavation activities will cease during period of winds greater than 20 miles per hour (averaged over one hour), or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures, or neighboring property, and in conformance with Air Quality Management District (AQMD) regulations.	Consistent. The project will apply dust control measures in compliance with permit conditions and MDAQMD regulations.
For sites where the boundary of a new commercial solar energy generation facility will be located within one-quarter mile of a primary residential structure, an adequate wind barrier will be provided to reduce potentially blowing dust in the direction of the residence during construction and ongoing operation of the commercial solar energy generation facility.	Consistent. The project will comply with required measures to mitigate wind-blown dust.
Any unpaved roads and access ways will be treated and maintained with a dust palliative or graveled or treated by another approved dust control method to prevent excessive dust, and paving requirements will be applied pursuant to Chapter 83.09 of the Development Code.	Consistent. See above.
On-site vehicle speed will be limited to 15 miles per hour.	Consistent. See above.

Table 3.10-3, continued

Goal/Objective/Policy	Consistency Analysis
For proposed commercial solar energy generation facilities within two (2) miles of the Joshua Tree National Park boundaries, the location, design, and operation of the proposed commercial solar energy facility will not be a predominant visual feature along the main access roads to the park (Park Boulevard and Utah Trail), nor will it substantially impair views from hiking/nature trails, campgrounds, and backcountry camping areas within the National Park.	Consistent. The project site is not located within two miles of Joshua Tree National Park. Joshua Tree National Park is located approximately 70 miles to the southeast.
For proposed facilities within two (2) miles of the Mojave National Preserve boundaries, the location, design, and operation of the proposed commercial solar energy facility will not be a predominant visual feature of, nor substantially impair views from, hiking and backcountry camping areas within the National Preserve.	Consistent. The project site is not located within two miles of the Mojave National Preserve. The Mojave National Preserve is located approximately 67 miles to the east.
For proposed facilities within two (2) miles of Death Valley National Park boundaries, the location, design, and operation of the proposed commercial solar energy facility will not be a predominant visual feature of, nor substantially impair views from, hiking and backcountry camping areas within the National Park.	Consistent. The project site is not located within two miles of Death Valley National Park. Death Valley National Park is located approximately 55 miles to the northeast.
For proposed facilities within two (2) miles of the boundaries of a County, state or federal agency designated wilderness area, the location, design, and operation of the proposed commercial solar energy facility will not be a predominant visual feature of, nor substantially impair views from, the designated wilderness area.	Consistent. The project is located approximately 2 from the Newberry Mountains Wilderness Area. The panels are specially designed with anti-reflective coatings to absorb as much of the sun's energy as possible, to maximize efficiency. They reflect much less of the sun's energy than normal glass because the panels are intended to absorb, not reflect sunlight in order to convert it to electrical current. The panels are designed with an anti-reflective coating for solar energy conversion efficiency and the project would not be a substantial source of glare. Nighttime lighting impacts would be minimized by including only small lighting features that are equipped with on/off switches or motion detectors. The lighting impacts from such fixtures would be similar to those of domestic fixtures on local homes. A visual analysis was conducted and found that the project will not significantly impact views from the Newberry Mountains Wilderness Area; refer to Section 3.1, Aesthetics.

Table 3.10-3, continued

Goal/Objective/Policy	Consistency Analysis
For proposed facilities within two (2) miles of the boundaries of any active military base, the location, design, and operation of the proposed commercial solar energy facility will not substantially impair the mission of the facility.	Consistent. The nearest active military base is the Marine Corps Logistic Base in Barstow, located approximately 7.5 miles to the northwest. Fort Irwin also conducts helicopter training at the Daggett Airport. Construction and/or operation of the project would not preclude military operations from occurring within the project area.
When located within a city's sphere of influence, in addition to other County requirements, the proposed commercial solar energy facility will also be consistent with relevant city zoning requirements that would be applied to similar facilities within the city.	Consistent. The project site is not located within the sphere of influence of a city. The City of Barstow sphere of influence is located approximately three miles west of the project site.
On terms and in an amount acceptable to the Director, adequate surety is provided for reclamation of commercial solar energy generation facility sites should energy production cease for a continuous period of 180 days and/or if the site is abandoned.	Consistent. Decommissioning of the site will occur in compliance with Development Code Section 84.29.060, which requires removal of site facilities when operations cease. The requirement for a removal surety bond will be included in the Conditions of Approval to be adopted for the project.

Agriculture/Farmlands

The project site is not subject to a Williamson Act contract (California Department of Conservation 2016a); therefore, no conflicts would occur in this regard. Portions of the site contain lands that are under active cultivation, as well as agricultural lands that are currently in a fallow state. The proposed project would result in the on-site conversion of land designated as Prime Farmland, Unique Farmland, and/or Farmland of Statewide Importance (Farmland), as shown on the California Department of Conservation's (2016b) San Bernardino County Important Farmland 2016 map, to nonagricultural use as portions of the project site are designated as such; refer also to **Exhibit 3.2-2, Farmland Map**, in Section 3.2, Agricultural and Forestry Resources.

Although the project would result in the loss of designated Farmland, such impacts are not considered to be significant as use of the site is not restricted by an agricultural contract and the site is not otherwise designated as preserve lands intended for the long-term protection of agricultural resources. Additionally, a Land Evaluation and Site Assessment (LESA) was prepared for the project (Tetra Tech 2018a; see **Appendix C**) which determined that, due to the character and quality of resources on-site, the project would not result in a substantial loss of Farmland that would be of significant value to the County.

For the above reasons, the project is not considered to conflict with an applicable land use plan, policy or regulation (e.g., Williamson Act or formal preserve dedication) adopted for the purpose

of avoiding or mitigating an environmental effect. Impacts are considered less than significant. Refer to Section 3.2, Agriculture and Forestry Resources, for additional discussion.

Airport Land Use Plans

The project area is in proximity to existing high voltage electrical infrastructure, existing energy generation facilities, and other industrial uses. These include the existing non-operating Coolwater Generating Station, a 626 MW natural gas-fired power plant, the 44 MW photovoltaic Sunray Solar Project, several high-voltage substations and transmission lines owned by SCE, the LADWP high-voltage transmission corridor of approximately 1,000 feet in width and Barstow-Daggett Airport. Therefore, structural elements similar to those proposed with the project are present in the surrounding setting and in proximity to ongoing operations at Barstow-Daggett Airport.

The Airport Comprehensive Land Use Plan (ACLUP) for Barstow-Daggett Airport was prepared to comply with state planning law and is the primary land use document for the airport (County of San Bernardino 1992 and FAA 2012). The project is being designed in conformance with ACLUP policies and with input received from Airport and Fort Irwin Training Center staff. Additionally, an Obstruction Evaluation and Airspace Analysis was prepared by Capital Airspace Group for the project to identify aviation safety data necessary to be incorporated into the final project design (Tetra Tech 2019; see **Appendix H-3**).

The ACLUP establishes land uses for the area in the vicinity of the airport. The plan area is divided into three Safety Areas, each of which reflects a particular level and type of hazard or risk within its borders. Portions of the project site is located within Safety Area 1 and Safety Area 3, although Safety Area 1 represents a relatively small portion of the overall project site. In general, land uses in Safety Review Area 3 are typically compatible with the airport's activities, while development in Safety Area 1 is more restrictive and prohibitive.

Safety Area 1 is designated as both a runway object-free area (OFA) and a runway protection zone (RPZ). The project portion within Safety Area 1 is located within the RPZ, while no project features are located in the OFA. The intention of the RPZ is to identify and preserve an area off each runway end that has significant potential for aircraft crashes during takeoffs and landings. Therefore, development in the RPZ is either prohibited or restricted based on FAA requirements.

Development, and associated design features, that might create glare, produce misleading lights, or lead to the construction of residences, fuel handling and storage facilities, smoke generating activities, and places of public assembly are prohibited in the RPZ. Furthermore, according to current FAA guidance, solar panels are prohibited within runway protection zones (RPZs). Therefore, impacts are potentially significant.

The applicant will be required to obtain a Determination of No Hazard from the Federal Aviation Administration (FAA) prior to issuance of building and grading permits from the County. Development of the project in the RPZ would be in accordance with guidance for Safety Review Areas, and in consultation with the FAA and Airport Land Use Commission (ALUC). FAA review and issuance of a Determination of No Hazard will require the project applicant would incorporate final design modifications and safety features (e.g., maximum height, clearance requirements) in accordance with the Obstruction Evaluation. In addition, project facilities including solar panels, fences and transmission line poles within the RPZ or Safety Area 1 would be reviewed by the FAA for compatibility with airport operations. If the FAA finds that development within the Safety Areas does not pose a hazard to airport activities based on height, glare, proximity to runways, and other air navigation safety factors, the FAA may issue a Determination of No Hazard, which gives the applicant approval to proceed with the project as designed. If the FAA finds that the structures within the RPZ do not comply with FAA requirements, the FAA may require project alterations, such as removing solar panels from the RPZ or undergrounding utilities, before a Determination of No Hazard is granted to the applicant. Potential impacts to airport operations and public safety would be minimized to a less than significant level with implementation of mitigation measure **HM-2** because the mitigation measure requires the applicant to provide the County with a Determination of No Hazard from the FAA prior to issuance of building or grading permits.

Mitigation Measures: The mitigation measure for Impact 3.10-2 is the same as mitigation measure **HM-2** which was previously described under Impact 3.8-5. Mitigation measure **HM-2** is repeated in this section for the reader's convenience.

HM-2 Prior to issuance of building and grading permits, the Applicant shall provide to the County a Determination of No Hazard issued by the Federal Aviation Association (FAA).

Level of Significance: Less than significant with mitigation.

HABITAT CONSERVATION PLAN

Impact 3.10-3 **The project would not conflict with any applicable habitat conservation plan or natural community conservation plan. No impact would occur.**

Currently, there is not a regional multiple species habitat conservation program in place in San Bernardino County. As discussed in the discussion for Impact 3.4-6 in Section 3.4, Biological Resources, the proposed project would not conflict with any applicable habitat conservation plans or natural community conservation plans.

The project site is not located within 2 miles of Joshua Tree National Park, Mojave National Preserve, Death Valley National Park, or any wilderness area designated by a county, state, or federal agency. The northern boundary of the Bureau of Land Management's (BLM) Newberry Mountain Wilderness is approximately 1.2 miles south of the project site; the Mojave National Preserve is over 70 miles from the nearest project site boundary.

Additional areas under varying levels of conservation management within the project vicinity include the 11 Desert Region areas designated by the BLM as Areas of Critical Environmental Concern and Special Areas, as well as the Big Morongo Canyon Preserve recognized by The Nature Conservancy. Although these conservation and preservation planning areas are co-located in the Desert Region of San Bernardino County with the project site, the project would not impact these areas.

Of these conservation planning areas, Johnson Valley and Soggy Dry Lake are the closest to the project site, approximately 29 miles and 27 miles away, respectively. The project would not impact these or any of the other conservation and preservation planning areas in the Desert Region.

The West Mojave Plan is a habitat conservation plan and federal land use plan amendment implemented on BLM-administered public lands. The project lies within the boundaries of the West Mojave Plan planning area. A Record of Decision was signed in 2006 implementing Alternative B of this plan, which applies only to BLM-administered public lands. The proposed project occurs on private land and therefore is not subject to the West Mojave Plan.

The Desert Renewable Energy Conservation Plan (DRECP) has been developed for the Mojave and Colorado deserts that would, when complete, provide long-term endangered species permit assurances and facilitate renewable energy project review and approval processes. The DRECP is being implemented using a phased approach starting with the BLM component (Phase I) that designates development focus areas, conservation areas, and recreation areas on public lands. The project site is identified as a development focus area in the DRECP; however, the proposed project would occur on private land and is therefore not currently subject to the DRECP.

The project site is not currently located within an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan that would require project conformance, and no take of critical habitat would occur with project implementation. Therefore, the project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. No impact would occur in this regard.

Mitigation Measures: None required.

Level of Significance: No impact.

CUMULATIVE IMPACTS

Impact 3.10-4	The project would not result in cumulative impacts related to land use and planning. Impacts would be less than significant.
----------------------	---

Cumulative land use and planning impacts may occur when project-specific impacts evaluated in an EIR are combined with the effects of other projects which, when examined individually, may not be considered to be significant. Projects depicted in **Table 3.0-1, Cumulative Projects**, were included in review of the potential for significant cumulative land use impacts. The inclusion of all projects in **Table 3.0-1** was based on the location of these projects in the general site vicinity and the possibility that these projects, in combination with the proposed project, may conflict with their respective land use plans and policies.

As discussed above, the proposed project would not physically divide an established community; would not conflict with the goals and objectives of the County General Plan; and would not conflict with any applicable habitat conservation plan or natural community conservation plan. Similarly, it is not anticipated that any of the cumulative projects identified in **Table 3.0-1** would result in land use conflicts. If incompatibilities or land use conflicts are identified for any of the cumulative projects, like the proposed project, the County would require mitigation to avoid or minimize this type of land use impact. Therefore, no cumulatively considerable land use and planning impacts would occur and accordingly the proposed project would not contribute considerably to a significant cumulative impact.

Mitigation Measures: None required.

Level of Significance: Less than significant.

Section 3.11

Noise

The purpose of this section is to evaluate the proposed project's noise impacts. This section evaluates short-term construction-related impacts and long-term conditions. This section also presents relevant regulatory guidelines and County policies related to noise. The analysis in this section is based on a technical report, *Sound Survey and Analysis Report*, prepared by Tetra Tech (2018; see **Appendix J**) and peer reviewed by Michael Baker International.

ENVIRONMENTAL SETTING

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or hertz (Hz).

A-Weighted Sound Level

Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by differentiating among frequencies in a manner approximating the sensitivity of the human ear.

The dBA approximates the frequency response of the average young ear when listening to ordinary sounds. When people make judgments about the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Examples of typical noise from outdoor and indoor activities are listed in **Table 3.11-1, Typical Noise Levels**.

**Table 3.11-1:
Typical Noise Levels**

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet	100	
Gas lawn mower at 3 feet	90	
Diesel truck at 50 feet, at 50 mph	80	Food blender at 3 feet; garbage disposal at 3 feet
Noisy urban area, daytime; gas lawn mower at 100 feet	70	Vacuum cleaner at 10 feet
Commercial area; heavy traffic at 300 feet	60	Normal speech at 3 feet
Quiet urban, daytime	50	Large business office; dishwasher next room
Quiet urban, nighttime	40	Theater; large conference room (background)
Quiet suburban, nighttime	30	Library
Quiet rural, nighttime	20	Bedroom at night; concert hall (background)
	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2013

Addition of Decibels

The decibel scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound and twice as loud as a 60 dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions (FTA 2006).

Sound Propagation and Attenuation

Generally, sound spreads (propagates) uniformly outward in a spherical pattern. The sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate

of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Caltrans 2013).

Noise levels may also be reduced by intervening structures or landforms; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA (FHWA 2006). The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

Noise

Noise is a subjective reaction to different types of sounds. Noise is typically defined as airborne sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. A typical noise environment consists of a base of steady “background” noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway. Perceptions of sound and noise are highly subjective from person to person.

Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs.

Equivalent Energy Level (L_{eq})

L_{eq} is also referred to as the time-average sound level. It is the equivalent steady-state sound level that in a stated period of time would contain the same acoustical energy as the time-varying sound level during the same time period.

Community Noise Equivalent Level (CNEL)

The CNEL scale represents a time-weighted, 24-hour average noise level based on the A-weighted sound level. The CNEL scale divides the day into three weighted time periods (Day – 7 a.m. to 7 p.m., Evening – 7 p.m. to 10 p.m., and Night – 10 p.m. to 7 a.m.). The CNEL scale accounts for the

increased noise sensitivity during the evening hours (7 p.m. to 10 p.m.) and nighttime hours (10 p.m. to 7 a.m.) by adding 5 dBA and 10 dBA, respectively, to the average sound levels occurring during the evening and nighttime hours.

Day-Night Average (L_{dn})

The L_{dn} scale represents a logical simplification of CNEL. It divides the day into two weighted time periods (Day – 7 a.m. to 7 p.m., and Night – 10 p.m. to 7 a.m.) rather than the three used in the CNEL measurement, with no significant loss in accuracy.

Human Response to Noise

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance.

The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. For ground vehicles, a noise level of about 55 dBA L_{dn} is the threshold at which a substantial percentage of people begin to report annoyance.

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion.

Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over 8 hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

FUNDAMENTALS OF ENVIRONMENTAL GROUNDBORNE VIBRATION

Sources of groundborne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV is generally used to characterize potential for building damage, while RMS is best for characterizing human response to ground vibration. However, to evaluate annoyance to humans, the vibration dB (VdB) notation is commonly used. The decibel notation acts to compress the range of numbers required to describe vibration. The abbreviation VdB is used for vibration decibels to reduce the potential for confusion with sound decibels.

Table 3.11-2, Typical Levels of Groundborne Vibration, displays common vibration sources and the effects on people and buildings. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying.

**Table 3.11-2:
Typical Levels of Groundborne Vibration**

Human/Structural Response	PPV (in/sec)	Velocity Level (VdB)	Typical Sources (50 feet from source)
Threshold, minor cosmetic damage, fragile buildings	0.4	100	Blasting from construction projects
	0.17–0.2	92–94	Heavy tracked construction equipment
Difficulty with tasks, such as reading a computer screen	0.125	90	
	0.074	85	Commuter rail, upper range
Residential annoyance, infrequent events	0.04	80	Rapid transit, upper range
	0.013	75	Commuter rail, typical
	0.023	72	Bus or truck bump over
Residential annoyance, frequent events	0.013	70	Rapid transit, typical
Approximate threshold of human perception	0.007	65	
	0.005	62	Bus or truck, typical
	0.0013	50	Typical background vibration levels

Source: Tetra Tech 2018

EXISTING CONDITIONS

NOISE-SENSITIVE RECEPTORS

Noise-sensitive land uses are those that may be subject to stress and/or interference from excessive noise. Typically, residential uses are considered noise-sensitive receptors. Other noise-sensitive land uses include schools, hospitals, and institutional uses such as churches and museums. Industrial and commercial land uses are generally not considered sensitive to noise.

There are residences located adjacent to the project to the north and south, as well as residences scattered to north and east of the project site. The town of Daggett is approximately 0.5 miles to the west, and the town of Newberry Springs is approximately 1 mile southeast of the project boundary. Short-term noise measurements were conducted at eight residential locations in the project vicinity, as shown in **Exhibit 3.11-1, Noise Measurement Locations**. The noise measurement locations (MLs) were selected to be representative of the potential receptors nearest the project.

EXISTING AMBIENT NOISE LEVELS

Table 3.11-3, Measured Noise Levels, summarizes the measured ambient sound levels observed at each of the monitoring locations for both the daytime and nighttime L_{eq} .

**Table 3.11-3:
Measured Noise Levels**

Monitoring Location	Time Period	Leq (dBA)
ML-1 (1.1 mile north)	Day	50
	Night	46
ML-2 (190 feet north)	Day	43
	Night	40
ML-3 (0.75 mile east)	Day	39
	Night	38
ML-4 (adjacent)	Day	37
	Night	39
ML-5 (adjacent)	Day	46
	Night	41
ML-6 (adjacent)	Day	56
	Night	48
ML-7 (0.25 mile south)	Day	49
	Night	47
ML-8 (adjacent)	Day	46
	Night	45

Source: Tetra Tech 2018

Ambient sound levels exhibited typical day/night patterns. Daytime L_{eq} sound levels at the measurement locations ranged from a low of 37 dBA at ML-4 to a high of 56 dBA at ML-6. Nighttime sound levels ranged from a low of 38 dBA at ML-3 to 48 dBA at ML-6. The daytime and nighttime measurements at ML-1 were heavily influenced by rustling trees due to moderate wind. The noise levels at ML-2, ML-3, and ML-8 were heavily influenced by vehicle traffic along adjacent roads. The noise levels at ML-4, ML-5, ML-6, and ML-7 were influenced by vehicle traffic as well as train traffic associated with the nearby railway.

REGULATORY FRAMEWORK

FEDERAL

Occupational Safety and Health Administration

With the Occupational Safety and Health Act of 1970, Congress created OSHA to ensure safe and healthful working conditions for working men and women by setting and enforcing standards

and by providing training, outreach, education, and assistance. The Act requires protection against the effects of noise exposure for employees when sound levels exceed 90 dBA over an eight-hour period. If such controls fail to reduce sound levels to within acceptable levels, personal protective equipment is required. Additionally, a Hearing Conservation Program must be instituted by the employers whenever employee noise exposure equals or exceeds an eight-hour time-weighted average sound level of 85 dBA. The Hearing Conservation Program requirements consist of periodic area and personal noise monitoring, performance and evaluation of audiograms, provision of hearing protection, annual employee training, and record keeping.

Federal Transit Administration Construction Noise Guidelines

There are no standardized state or federal regulatory standards developed for assessing construction noise impacts. However, the Federal Transit Administration (FTA) has developed and published a guideline criterion that is considered to be reasonable to assess noise impacts from construction operations. The FTA noise criteria are summarized in **Table 3.11-4** below.

**Table 3.11-4:
FTA Construction Noise Criteria**

Land Use	8-hour (dBA Leq)		30- Day Average Ldn (dB) or Leq (dBA)
	Day	Night	
Residential	80	70	75a
Commercial	85	85	80b
Industrial	90	90	85b

^a In urban areas with very high ambient noise ($L_{dn} > 65$ dB), L_{dn} from construction operations should not exceed existing ambient + 10 dB.

^b Twenty-four hour L_{eq} , not L_{dn} .

STATE

California Environmental Quality Act

Primary environmental legislation in California is found in the California Environmental Quality Act (CEQA) and its implementing guidelines (CEQA Guidelines), which require that projects with potential adverse effects (or impacts) on the environment undergo environmental review, including noise analysis.

California Noise Control Act of 1973

California Health and Safety Code Sections 46000 through 46080, known as the California Noise Control Act, find that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic

damage. The act also finds that there is a continuous and increasing bombardment of noise in urban, suburban, and rural areas. The act declares that the State of California has a responsibility to protect the health and welfare of its citizens through the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians that is free from noise that jeopardizes their health or welfare.

State of California 2017 General Plan Guidelines

The California Governor's Office of Planning and Research's noise element guidelines include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The guidelines contain a table that describes the compatibility of various land uses with a range of environmental noise levels in terms of CNEL. **Table 3.11-5, Land Use Compatibility for Community Noise Environments**, presents guidelines for determining acceptable and unacceptable community noise exposure limits for various land use categories. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

**Table 3.11-5:
Land Use Compatibility for Community Noise Environments**

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density, Single-Family, Duplex, Mobile Homes	50–60	55–70	70–75	75–85
Residential – Multiple Family	50–65	60–70	70–75	70–85
Transient Lodging – Motel, Hotels	50–65	60–70	70–80	80–85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	80–85
Auditoriums, Concert Halls, Amphitheaters	NA	50–70	NA	65–85
Sports Arenas, Outdoor Spectator Sports	NA	50–75	NA	70–85
Playgrounds, Neighborhood Parks	50–70	NA	65–75	75–85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–70	NA	70–80	80–85
Office Buildings, Business Commercial and Professional	50–70	65–75	75–85	NA
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	75–85	NA

Source: California Governor's Office of Planning and Research (OPR) 2017

Table 3.11-5, continued

Notes: NA: not applicable; L_{dn} : average day/night sound level; CNEL: community noise equivalent level

Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable – New construction or development should generally not be undertaken.

LOCAL

County of San Bernardino 2007 General Plan

The purpose of the County's General Plan Noise Element is to limit the community's exposure to excessive noise levels. The element contains goals, policies, and programs that must be used to guide decisions concerning land uses that are common sources of excessive noise levels. The General Plan noise policies most applicable to the proposed project are included below.

GOAL N 1 The County will abate and avoid excessive noise exposures through noise mitigation measures incorporated into the design of new noise-generating and new noise-sensitive land uses, while protecting areas within the County where the present noise environment is within acceptable limits.

Policy N 1.1 Designate areas within San Bernardino County as "noise impacted" if exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Chapter 83.01 of the Development Code [**Table 3.11-5** in this EIR].

Policy N 1.3 When industrial, commercial, or other land uses, including locally regulated noise sources, are proposed for areas containing noise sensitive land uses, noise levels generated by the proposed use will not exceed the performance standards of Table N-2 [**Table 3.11-4** in this EIR] within outdoor activity areas. If outdoor activity areas have not yet been determined, noise levels shall not exceed the performance standards listed in Chapter 83.01 of the Development Code at the boundary of areas planned or zoned for residential or other noise-sensitive land uses.

Policy N 1.5 Limit truck traffic in residential and commercial areas to designated truck routes; limit construction, delivery, and through-truck traffic to designated routes; and distribute maps of approved truck routes to County traffic officers.

Policy N 1.6 Enforce the hourly noise-level performance standards for stationary and other locally regulated sources, such as industrial, recreational, and construction activities as well as mechanical and electrical equipment.

GOAL N 2 The County will strive to preserve and maintain the quiet environment of mountain, desert and other rural areas.

Policy N 2.1 The County will require appropriate and feasible on-site noise attenuating measures that may include noise walls, enclosure of noise-generating equipment, site planning to locate noise sources away from sensitive receptors, and other comparable features.

County of San Bernardino Development Code

Noise Standard

The County's Development Code (Division 3, Countywide Development Standards; Chapter 83.01, General Performance Standards, Section 83.01.080, Noise) sets interior and exterior noise standards for specific land uses by type of noise source. Noise standards for stationary noise sources are summarized in **Table 3.11-6, Noise Standards for Stationary Noise Sources**. As shown, the noise standard for residential properties is 55 dBA L_{eq} from 7 a.m. to 10 p.m. and 45 dBA L_{eq} from 10 p.m. to 7 a.m. For industrial properties, the noise standard from stationary noise sources is 70 dBA at any time of the day or night. Areas exposed to noise levels exceeding these standards are considered noise-impacted areas. The County's Development Code exempts noise from construction noise, provided that construction is limited to the hours between 7 a.m. and 7 p.m., except on Sundays or federal holidays, when construction is not allowed.

**Table 3.11-6:
Noise Standards for Stationary Noise Sources**

Affected Land Uses (Receiving Noise)	7 a.m. – 10 p.m. L_{eq}	10 p.m. – 7 a.m. L_{eq}
Residential	55 dBA	45 dBA
Professional Services	55 dBA	55 dBA
Other Commercial	60 dBA	60 dBA
Industrial	70 dBA	70 dBA

Source: San Bernardino County 2014, Development Code, Section 83.01.080, Table 83-2

Notes:

L_{eq} = (Equivalent Energy Level). The sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period, typically 1, 8, or 24 hours.

dBA = (A-weighted Sound Pressure Level). The sound pressure level, in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound, placing greater emphasis on those frequencies within the sensitivity range of the human ear.

Vibration Standard

Development Code Section 83.01.090, Vibration, establishes standards for acceptable vibration levels. The section states that no ground vibration shall be allowed that can be felt without the aid of instruments at or beyond the lot line, nor shall any vibration be allowed which produces a particle velocity greater than or equal to two-tenths (0.20) inches per second measured at or beyond the lot line. Temporary construction, maintenance, repair, or demolition activities between 7 a.m. and 7 p.m. are exempt from this vibration limit, except on Sundays and federal holidays, when construction is prohibited.

IMPACT ANALYSIS AND MITIGATION MEASURES**THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE**

A project would result in a significant impact if it would:

- Expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.
- Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project located within an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

PROJECT IMPACTS AND MITIGATION

ANALYSIS OF PROJECT EFFECTS AND DETERMINATION OF SIGNIFICANCE

EXCEED NOISE STANDARDS

Impact 3.11-1	The project could cause exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Impacts would be less than significant with mitigation.
----------------------	---

SHORT-TERM CONSTRUCTION

The proposed project is expected to be constructed in three phases. Within each development phase (Phases 1-3), the construction activities are separated into five different stages: (1) site preparation and grading; (2) solar array foundation installation, conductor installation, and construction of control building; (3) solar panel assembly and constructing electrical components; (4) inverter pad construction, substation installation, cabling and gen-tie construction; and (5) array and interconnection commissioning.

Based on sound model calculations, construction sound levels are predicted to range from 40 to 85 dBA at residential properties located at ML-1 through ML-8. **Table 3.11-7, Projected Construction Noise Levels by Stage (dBA)**, summarizes the projected construction noise resulting from project construction. As shown in the table, the highest projected sound levels from construction-related activity are expected to occur at ML-2, ML-5, and ML-8 during activities associated with Stage 3 and Stage 4; refer to **Exhibit 3.11-1, Noise Measurement Locations**.

**Table 3.11-7:
Projected Construction Noise Levels by Stage (dBA)**

Construction Stage	USEPA Construction Noise Level at 50 Feet	ML-1	ML-2	ML-3	ML-4	ML-5	ML-6	ML-7	ML-8
Stage 1	87	46	76	50	74	81	74	59	76
Stage 2	86	44	74	48	73	80	73	58	75
Stage 3	91	49	79	53	78	85	78	63	80
Stage 4	89	48	78	52	76	83	76	61	78
Stage 5	82	40	70	44	69	76	69	54	71

Source: Tetra Tech 2018

The construction of the project may cause short-term, but unavoidable noise impacts that could be loud enough at times to temporarily interfere with speech communication outdoors and indoors with windows open for the limited number of nearby receptors. The noise levels resulting from the construction activities will vary significantly depending on several factors such as the type and age of equipment, specific equipment manufacture and model, the operations being performed, and the overall condition of the equipment and exhaust system mufflers.

Project construction would occur between 7 a.m. and 7 p.m., Monday through Friday in compliance with the County Code. However, at receptors located adjacent to the project property line there is a potential that the construction noise levels will exceed the FTA threshold of 80 dBA. Therefore, to reduce construction noise levels to below the FTA threshold noise modeling calculations show that temporary sound barriers, or other engineering solution, should be utilized when construction activities are located within 200 feet of a residence so that the noise level at the residents' property line is less than the FTA threshold of 80 dBA.

Implementation of mitigation measure **NOI-1** would reduce short-term related noise level impacts because it identifies specific noise reduction and abatement construction procedures to be implemented during construction (i.e., limiting construction noise to daytime hours and deploying a sound barrier when construction activities are located within 200 feet of a residence to ensure that noise levels at a resident's property line remain below the FTA threshold of 80 dBA). Due to the anticipated infrequent nature of loud construction activities at the site, the limited hours of construction, and the implementation of mitigation measure **NOI-1**, temporary noise impacts due to project construction would be less than significant.

In addition, the County's Development Code expressly exempts construction noise. Nonetheless, mitigation measure **NOI-1** would be implemented to reduce short-term construction noise to less than significant levels.

LONG-TERM OPERATION

The primary noise sources during operation will be the inverters, transformers, and battery storage heating, ventilation and air conditioning units (HVAC) units. **Table 3.11-8, Projected Operational Noise**, shows the projected exterior noise levels resulting from full, normal operation of the project at the noise measurement locations. The table also includes the predicted net increase in sound energy at each of the eight MLs.

**Table 3.11-8:
Projected Operational Noise**

Monitoring Location	Daytime Ambient L_{eq} , dBA	Operational Sound Level, dBA	Total Sound Level (Ambient + Project), dBA	Net Increase in Sound Level, dBA
ML-1 (1.1 mile north)	50	28	50	0
ML-2 (190 feet north)	43	46	48	5
ML-3 (0.75 mile east)	39	33	40	1
ML-4 (adjacent)	37	55	55	18
ML-5 (adjacent)	46	41	47	1
ML-6 (adjacent)	56	46	56	0
ML-7 (0.25 mile south)	49	40	50	1
ML-8 (adjacent)	46	44	48	2

Source: Tetra Tech 2018

Noise contours displaying sound levels are shown in **Exhibit 3.11-2, Operational Noise Contour**. The noise contours are graphical representations of the cumulative noise associated with full operation of the equipment and show how operational noise would be distributed over the surrounding area within a 1-mile radius of the project. **Exhibit 3.11-2** also shows the sound levels at the noise measurement locations.

Typically, the noise-producing equipment would not operate during the nighttime (10 p.m. to 7 a.m.) The calculated noise level at ML-4 is shown to be at the County's daytime noise threshold of 55 dBA for stationary noise sources. To reduce noise levels at the sensitive receptors near ML-4, mitigation measure **NOI-2** would be required. Implementation of mitigation measure **NOI-2** would reduce operational noise to less than significant levels because it would require that battery storage containers located in the eastern portion of the project be rotated so that HVAC units are pointed away from sensitive receptors (or a comparable engineering solution to minimize noise from such equipment) to ensure compliance with noise level thresholds. With implementation of mitigation measure **NOI-2**, operational noise impacts to sensitive receptors would be less than significant.

Ambient noise at ML-6 was measured at 56 dBA, which exceeds the County's daytime threshold of 55 dBA, but the additional noise from project operations would not be enough to increase noise levels at ML-6. Therefore, no mitigation is required to reduce noise impacts at ML-6.

DECOMMISSIONING NOISE

Decommissioning would first involve removing the solar photovoltaic (PV) panels for sale into a secondary solar PV panel market or for recycling. Most of the components of the solar installation are composed of materials that can be easily recycled. If the panels can no longer be used in a solar array, the aluminum can be resold and the glass can be recycled. Other components of the solar installation, such as the solar array structure and mechanical assemblies, can be recycled since they are made from galvanized steel. Equipment such as inverters and switchgears can be reused, or their components recycled. The equipment pads are made from concrete that can be crushed and recycled. Conduit and wire would be removed by uncovering trenches and backfilling when done. The electrical wiring is made from copper and/or aluminum and could also be reused or recycled.

Noise levels from decommissioning would be similar to the construction process. The same types of heavy equipment and vehicles would be used to decommission the site as were used to construct it. Decommissioning activities would comply with County construction noise ordinance standards as detailed previously. Implementation of mitigation measure **NOI-1** would reduce decommissioning-related noise level impacts by outlining noise reduction and abatement construction procedures, such as limiting construction noise to daytime hours and deploying a sound barrier when construction activities are located within 200 feet of a residence to ensure that noise level at the residents' property lines remains below the FTA threshold of 80 dBA. Therefore, noise impacts from project decommissioning would be less than significant with mitigation.

Mitigation Measures:

NOI-1 The following noise mitigation measures are required to minimize noise impacts:

- Maintain all construction tools and equipment in good operating order according to manufacturers' specifications.
- Limit use of major excavating and earthmoving machinery to daytime hours.
- To the extent feasible, schedule construction activity during normal working hours on weekdays when higher sound levels are typically present and are found acceptable. Some limited activities, such as concrete pours, may occur continuously until completion.
- Equip any internal combustion engine related to the job with a properly operating muffler that is free from rust, holes, and leaks.

- For construction devices that utilize internal combustion engines, ensure the engine's housing doors are kept closed, and install noise-insulating material mounted on the engine housing consistent with manufacturers' guidelines, if possible.
- Limit possible evening shift work to low noise activities such as welding, wire pulling, and other similar activities, together with appropriate material handling equipment.
- Utilize a complaint resolution procedure to address any noise complaints received from residents.
- Post signage showing the overall construction schedule.
- Deploy temporary sound barrier or other engineering solution when construction activities are located within 200 feet of a residence so that the noise level at the residents' property line is less than the federal transit administration threshold of 80 dBA. The sound barriers should be placed so that the construction equipment is blocked with a buffer of approximately 20 feet from the equipment to edges of the barrier. This reduction in noise can also be accomplished using a comparable engineering solution to minimize noise.

NOI-2 Battery storage containers located in the eastern portion of the project shall be rotated so that the heating, ventilation and air conditioning units are pointed away from receptors; or a comparable engineering solution to minimize noise from this equipment shall be implemented, such that noise levels do not exceed the County daytime threshold of 55 dBA.

Level of Significance After Mitigation: Less than significant with mitigation.

PERMANENT NOISE INCREASE

Impact 3.11-2	The project could result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Impacts would be less than significant with mitigation.
----------------------	--

As discussed in Impact 3.11-1 above, on-site noise sources associated with operation of the proposed project would include trackers, inverters, transformers, and battery storage HVAC units. The nearest noise-sensitive land uses are the residential properties adjacent to the project (ML-4, ML-5, ML-6, and ML-8). As shown in **Table 3.11-8** and **Exhibit 3.11-2**, during full, normal operation, noise levels at these locations would range from 47 to 56 dBA L_{eq} .

Typically, the noise-producing equipment will not operate during the nighttime (10 p.m. to 7 a.m.) Existing ambient noise at ML-6 was measured at 56 dBA, which exceeds the County's daytime threshold of 55 dBA. However, the additional noise from project operations would not increase the operational noise at ML-6, as shown in **Table 3.11-8**. In addition, operational noise levels at ML-6 were calculated to be in the 40-45 dBA range as shown in **Exhibit 3.11-2**. Therefore, no mitigation is required to reduce noise levels at ML-6.

Ambient noise levels at ML-4 were measured at 37 dBA with the dominant noise source coming from vehicle traffic along Silver Valley Road and Wildhorse Road. With the addition of the project, noise levels at ML-4 are expected to increase by 18 dBA to a total of 55 dBA, which would be at the County's daytime threshold for stationary sources. However, with implementation of mitigation measure **NOI-2**, noise levels at ML-4 with the addition of the project are expected to only increase by 11 dBA to a total of 48 dBA which would be less than the County's daytime threshold for stationary sources. Mitigation measure **NOI-2** would require that the battery storage containers located in the eastern portion of the property be sited so that the HVAC units are pointed away from sensitive receptors (or a comparable engineering solution) to reduce potential noise effects. With implementation of mitigation measure **NOI-2**, permanent noise impacts would be less than significant.

Mitigation Measures: Implement mitigation measure **NOI-2**.

Level of Significance After Mitigation: Less than significant with mitigation.

TEMPORARY NOISE INCREASE

Impact 3.11-3 The project could cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Impacts would be less than significant with mitigation.

As discussed in Impact 3.11-1 above, proposed project construction would consist of several phases and would include standard equipment such as graders, scrapers, backhoes, loaders, cranes, dozers, water trucks, portable generators and air compressors, and miscellaneous trucks. Noise levels generated by construction equipment would vary greatly, depending on factors such as the type and specific model of the equipment, the operation being performed, and the condition of the equipment.

The maximum noise level ranges for various pieces of construction equipment at a distance of 50 feet are listed in **Table 3.11-9, Construction Equipment Noise Emission Levels**. The maximum noise levels at 50 feet for typical equipment would be up to 90 dBA for the type of equipment normally used for this type of project. However, because equipment will be used throughout the site and at different intervals during the construction workday, and due to the typical operating

cycles for construction equipment involving 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings, the hourly average noise levels would vary. Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance.

Based on sound model calculations, construction sound levels are predicted to range from 40 to 85 dBA at residential properties at ML-1 through ML-8. **Table 3.11-7** summarizes the projected construction noise resulting from project construction. As shown in **Table 3.11-7**, the highest projected sound levels from construction-related activity are expected to occur at ML-2, ML-5, and ML-8 during activities associated with Stage 3 and Stage 4.

**Table 3.11-9:
Construction Equipment Noise Emission Levels**

Equipment Type	Typical Equipment dBA at 50 Feet
Generator	78
Loader	84
Paver	88
Pneumatic tools	85
Water pump	76
Vibratory pile driver (RTG Model RG21T)	85-90
Power hand saw	78
Shovel	82
Truck	88

Source: FHWA 2006

Noise from construction could result in annoyance at times to nearby noise-sensitive residences. However, the duration at any one location would be relatively brief, and project construction would comply with County construction noise ordinance standards (i.e., construction activities would take place only between the hours of 7 a.m. and 7 p.m. on weekdays, and not on Sundays or federal holidays). Although the County's Development Code exempts noise from construction, mitigation measure **NOI-1** would be implemented to reduce noise to less-than-significant levels. Mitigation measure **NOI-1** would reduce noise impacts because it would require noise reduction and abatement construction procedures (i.e., limiting construction activities to daytime hours and deploying a sound barrier when construction activities are located within 200 feet of a residence to ensure that noise levels at the residents' property line remains below the FTA threshold of 80 dBA). Due to the infrequent nature of loud construction activities at the site, the limited hours of construction and the implementation of mitigation measure **NOI-1**, the temporary increase in noise due to construction is considered to be a less than significant impact.

Mitigation Measures: Implement mitigation measure **NOI-1**.

Level of Significance After Mitigation: Less than significant with mitigation.

EXCESSIVE VIBRATIONS

Impact 3.11-4 **The project would not cause exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels. Impacts would be less than significant.**

Groundborne vibration is a small, rapidly fluctuating motion transmitted through the ground that diminishes rapidly over distance. Anticipated groundborne vibration from heavy equipment operations during project construction was evaluated and compared to relevant vibration impact criteria using the Federal Transit Administration's Transit Noise and Vibration Impact Assessment (FTA 2006), which provides vibration impact criteria and recommended methodologies and guidance for the assessment of vibration effects.

Vibration levels were evaluated for the worst-case vibration source, which would be pile driving. Based on vibration propagation calculations, construction vibration levels are predicted to range from 0.0002 peak particle velocity (PPV) inches per second (33 VdB) to 0.0805 PPV inches per second (86 VdB) at the nearest sensitive receptors. **Table 3.11-10, Projected Construction Vibration Levels**, summarizes the predicted vibration levels at each of the noise measurement locations using the highest vibration generating equipment, a vibratory pile driver.

**Table 3.11-10:
Projected Construction Vibration Levels**

Construction Operation	Vibration Level Metric	FTA Construction Vibration Level at 25 feet	ML-1	ML-2	ML-3	ML-4	ML-5	ML-6	ML-7	ML-8
Pile Driving	PPV in/sec	0.644	0.0002	0.0307	0.0003	0.0247	0.0805	0.0239	0.0017	0.0325
	VdB	104	33	78	39	76	86	75	53	78

Source: Tetra Tech 2018

As shown in **Table 3.11-10**, project construction would not exceed the County Development Code vibration threshold limit of 0.20 PPV inches per second. Therefore, project construction would not create substantial levels of groundborne vibration during operation.

Mitigation Measures: None required.

Level of Significance: Less than significant.

PUBLIC AIRPORT

Impact 3.11-5 **The project would not expose people residing or working in the project area to excessive noise levels within 2 miles of a public airport. Impacts would be less than significant.**

The project site is located directly north of the Barstow-Daggett Airport as shown on **Exhibit 3.11-3, Barstow-Daggett Airport Noise Contour**. According to the Barstow-Daggett Airport Comprehensive Land Use Plan (ACLUP), 65 CNEL is the acceptable level of aircraft noise for persons living in the vicinity of airports (County of San Bernardino 1992). This noise exposure level has been determined to be reasonable for persons residing in residential areas where homes are of typical California construction and may have windows partially open. **Exhibit 3.11-3** shows the estimated 65 CNEL noise contour identified in the ACLUP, along with project boundary.

Table 3.11-11, Land Use Compatibility Noise Environments – Barstow-Daggett Airport, identifies land uses compatible with airport operations.

Table 3.11-11:
Land Use Compatibility Noise Environments – Barstow-Daggett Airport

Land Use Category	Community Noise Exposure (Ldn or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density, Single-Family, Duplex, Mobile Homes	50–60	60–65	65–75	75–85
Residential – Multiple Family	50–60	60–65	65–75	75–85
Transient Lodging – Motel, Hotels	50–60	60–65	65–75	75–85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–65	NA	65–75	75–85
Auditoriums, Concert Halls, Amphitheaters	NA	50–70	70–85	NA
Sports Arenas, Outdoor Spectator Sports	NA	50–75	75–85	NA
Playgrounds, Neighborhood Parks	50–65	NA	65–75	75–85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–70	NA	70–80	80–85
Office Buildings, Business Commercial and Professional	50–65	65–75	75–85	NA
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	75–85	NA

Source: County of San Bernardino 1992

Notes: NA: not applicable; L_{dn}: average day/night sound level; CNEL: community noise equivalent level

As seen in **Exhibit 3.11-3**, a portion of the project site is located within the 65 CNEL contour. Per **Table 3.11-11**, the ACLUP indicates that noise levels ranging from 50 to 75 dBA would be normally acceptable for industrial, manufacturing, utilities, and agriculture land uses. Therefore, the

project would not require any special noise insulation and would not expose employees to excessive noise levels. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

PRIVATE AIRSTRIP

Impact 3.11-6 The project would not expose people residing or working in the project area to excessive noise levels in the vicinity of a private airstrip. Impacts would be less than significant.

The project site is not located in the vicinity of a private airstrip. The nearest private airport to the project site is the Depue Airport, approximately 20 miles to the west in Barstow. Therefore, the project would not expose people working in the project area to excessive noise levels associated with aircraft from a private airstrip. Project impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 3.11-7 The project would not result in cumulative noise impacts. Impacts would be less than significant with mitigation.

The geographic extent of the cumulative setting for noise consists of the project site and immediate vicinity. As stated previously, ambient noise levels in the project area are primarily affected by vehicle traffic on nearby and/or adjacent roadways. As a result, the primary factor for cumulative noise impact analysis is the consideration of future traffic noise levels along area roadways. However, ambient noise levels are also influenced by train traffic associated with the nearby railway and airplane and helicopter noise associated with the Barstow-Daggett Airport, as well as intermittent periods of moderate to strong winds.

When determining whether overall noise (and vibration) impacts from cumulative projects would be cumulatively significant and whether the project's incremental contribution to any significant cumulative impacts would be cumulatively considerable, it is important to note that noise and vibration are localized occurrences. As such, they decrease rapidly in magnitude as the distance from the source to the receptor increases. Therefore, only two projects identified in **Table 3.0-1** and shown on **Exhibit 3.0-1** in Section 3.0, Introduction to the Environmental Analysis, are in the direct vicinity of the project study area and are considered influential with regard to noise and

vibration. Only the Minneola Solar (project #4) located adjacent to the proposed project and Solar 33 (project #9) located approximately 3,200 feet to the southwest of the project site are physically close enough to have the potential to be considered in a cumulative context with the project's incremental contribution.

SHORT-TERM CONSTRUCTION

Construction equipment noise from the cumulative projects identified in **Table 3.0-1** and shown on **Exhibit 3.0-1** is anticipated to be similar in nature and magnitude to that identified for the proposed project. Specifically, noise levels from construction activities for all future development in the area would fluctuate depending on the particular type, number, and duration of usage for the varying equipment.

Although hourly average noise levels would vary, project construction noise levels would exceed applicable standards at nearby sensitive receptors and/or result in substantial increases in ambient noise levels, especially during the more noise-sensitive hours of the day. Implementation of mitigation measure **NOI-1** would reduce project construction noise impacts to a less than significant level.

Each cumulative project identified would require separate discretionary approval and CEQA assessment, which would address potential construction-related noise impacts and identify necessary mitigation measures, where appropriate. The existing noise environment is similar for the relevant cumulative projects and feasible mitigation for construction is available to reduce noise impacts from the relevant cumulative projects to less-than-significant levels. Therefore, it is anticipated that the individual cumulative projects would result in less than significant construction-related noise impacts (with implementation of mitigation such as **NOI-1**). Thus, when considered together with the proposed project, cumulative impacts would similarly be less than significant.

Vibration

Groundborne noise and vibration levels from construction of Minneola Solar (project #4) and Solar 33 (project #9) as shown on **Exhibit 3.0-1** would be similar in nature and magnitude to those identified for the proposed project. Specifically, construction activities would result in varying degrees of temporary groundborne noise and vibration, depending on the specific construction equipment used and activities involved. As discussed above, at a distance of approximately 50 feet, the vibration level from heavy construction machinery (such as a loaded truck or a drilling rig) would be between approximately 0.027 and 0.031 PPV inches per second. Vibration levels of this magnitude would be well below the County's and the FTA's threshold of 0.20 PPV inches per second.

Each of the cumulative projects would require separate CEQA analysis and approval relative to groundborne vibration. The existing vibration environment is similar for the relevant cumulative projects and feasible mitigation for construction is available to reduce vibration impacts from the relevant cumulative projects to less-than-significant levels. As such, it is anticipated that the cumulative projects would result in less than significant vibration impacts.

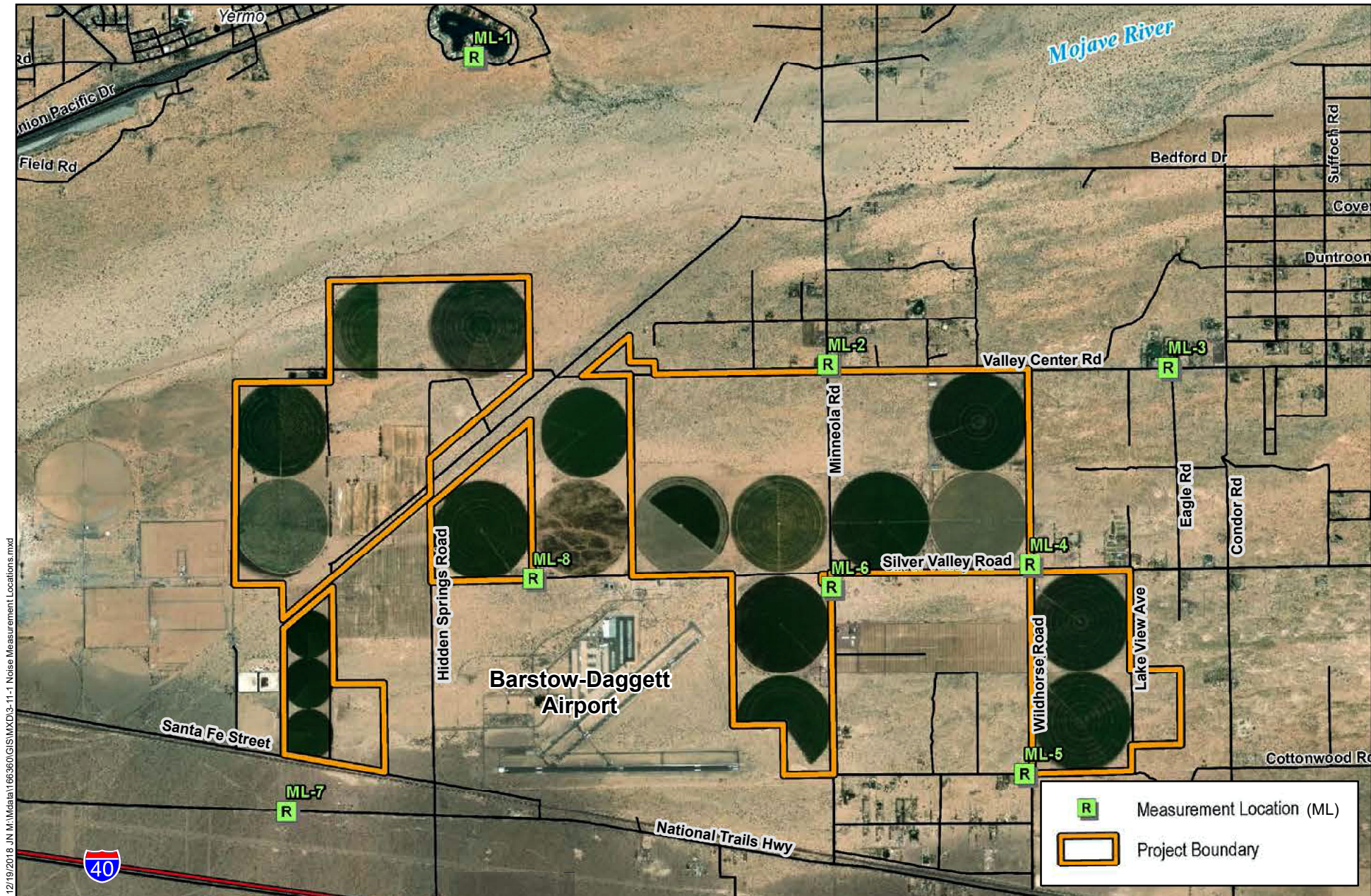
LONG-TERM OPERATION

Stationary-source and vehicular noise from the Minneola Solar (project #4) located adjacent to the proposed project and Solar 33 (project #9) located approximately 3,200 feet to the southwest of the proposed project would be similar in nature to those discussed for the proposed project. Operation of the cumulative projects could result in long-term stationary source noise levels that exceed applicable standards at nearby sensitive receptors and/or result in substantial increases in ambient noise levels. As discussed above, operation of the proposed project could result in a significant impact from long-term stationary source noise levels. However, implementation of mitigation measure **NOI-2** would reduce this impact to less than significant by requiring that battery storage containers located in the eastern portion of the project site be rotated so that the HVAC units are directed away from sensitive receptors (or a comparable engineering solution) to minimize noise from this equipment. None of the cumulative projects are located near enough to sensitive receptor ML-4 so as to result increase the noise levels at this location above the County's daytime noise threshold.

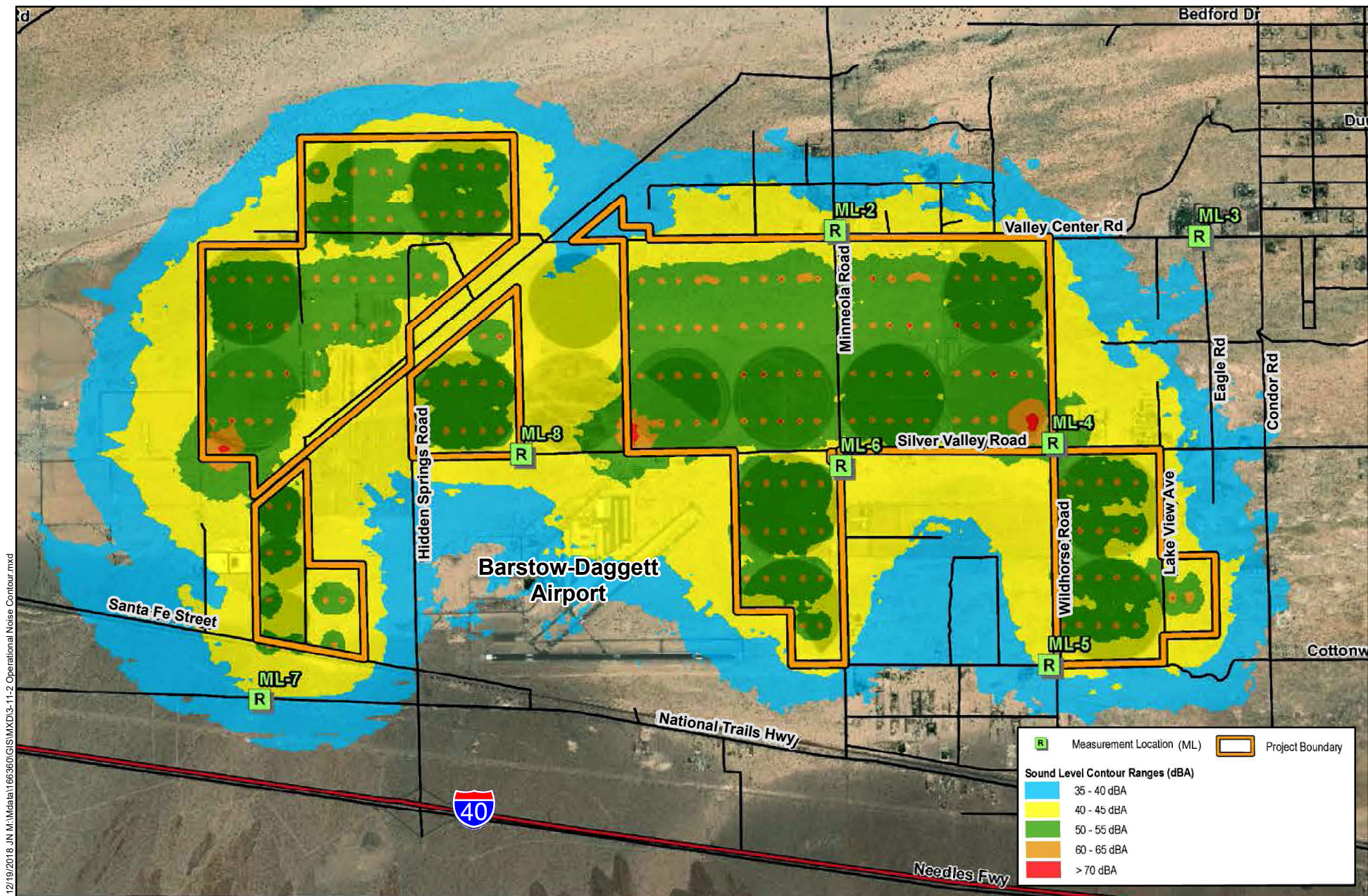
Each cumulative project would require separate discretionary approval and CEQA assessment, which would address potential operational noise impacts and identify necessary mitigation measures, where appropriate. All projects would be required to adhere to federal, state, and local requirements for noise impacts. Therefore, the cumulative projects are not anticipated to result in significant long-term cumulative noise impacts.

Mitigation Measure: Implement mitigation measures **NOI-1** and **NOI-2**.

Level of Significance: Less than significant with mitigation.

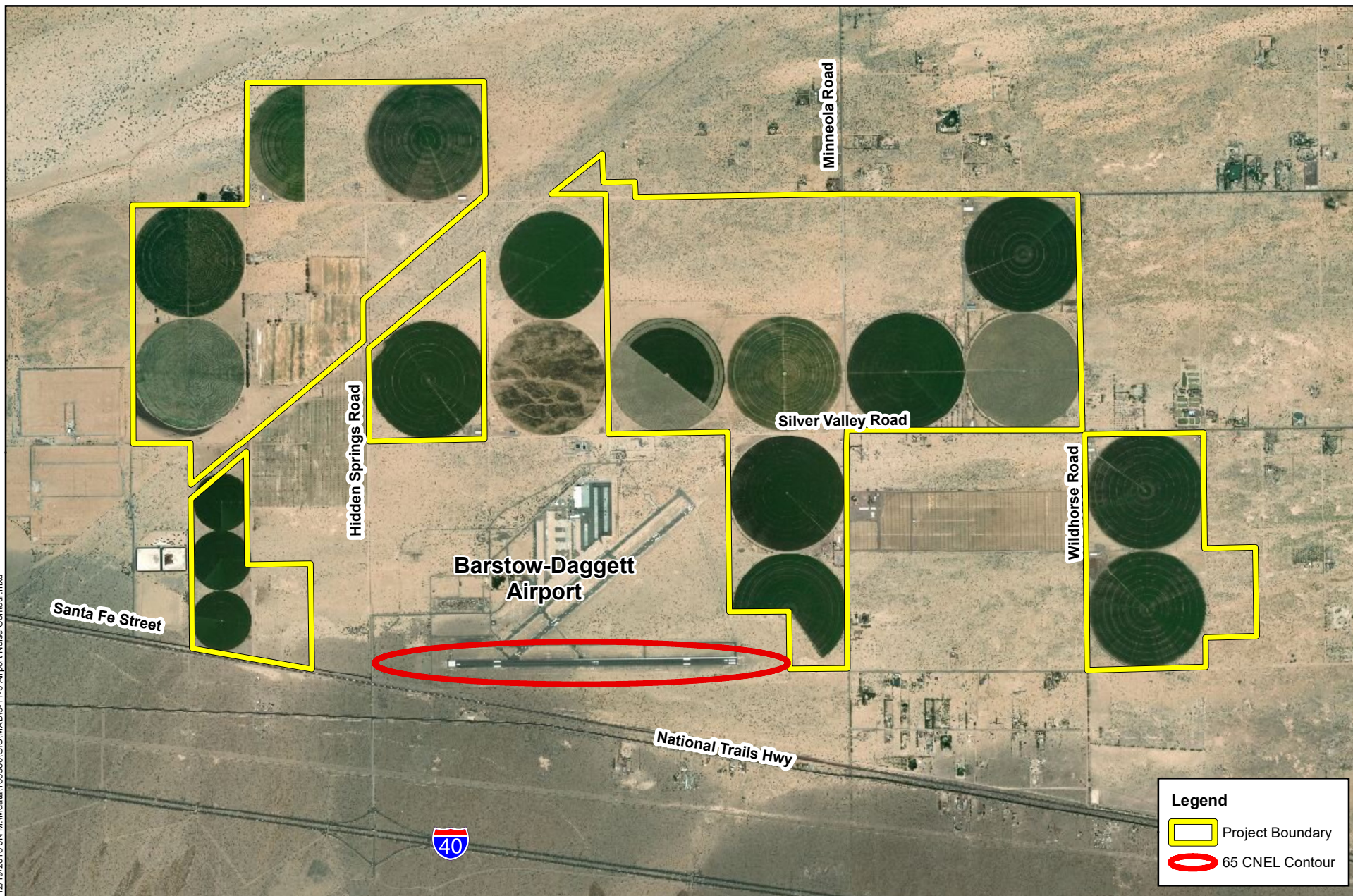


This page is intentionally blank.



This page is intentionally blank.

12/19/2018 JN M:\data\166360\GIS\MXD\3-11-3 Airport Noise Contour.mxd



This page is intentionally blank.

Section 3.12

Transportation and Traffic

This section describes regulations related to transportation and circulation and the existing transportation systems in the project area, identifies significance criteria for impacts on transportation and circulation, and evaluates potential impacts associated with the proposed project. The discussion in this section is largely based on the *Traffic Assessment and Trip Generation Report* prepared by Tetra Tech (2018a; see **Appendix K**) as well as the *Airport Safety and Compatibility Technical Memorandum* prepared by Tetra Tech (2018b; see **Appendix H-3**). Both reports were peer reviewed by Michael Baker International.

ENVIRONMENTAL SETTING

The project site is located in San Bernardino County and bounded by the town of Daggett to the west; Interstate 15 (I-15) to the north; Barstow-Daggett Airport and Interstate 40 (I-40) to the south; and Newberry Springs to the east. Two freeways provide access to the project vicinity: I-15 and I-40. Other major roadways in the vicinity include National Trails Highway, Hidden Springs Road, Valley Center Road, and Minneola Road.

AREA ROADWAYS

The following roadway segments were selected for review because of their proximity to the project site:

1. Hidden Springs Road
2. Silver Valley Road
3. Powerline Road
4. Minneola Road
5. Wildhorse Road
6. Valley Center Road
7. Sunray Lane
8. Santa Fe Street
9. National Trails Highway

Exhibit 3.12-1, Traffic Study Area, identifies the location of each roadway segments in relation to the project site.

EXISTING TRAFFIC VOLUMES

Table 3.12-1, Existing Roadway Conditions in the Project Area, summarizes the information collected by the County's Department of Public Works, Traffic Division, using its database of average daily traffic (ADT) counts. A range is shown if multiple locations along a designated roadway (but close to the project) were measured for ADT counts. As shown, all area roadways operate at level of service (LOS) A.

**Table 3.12-1:
Existing Roadway Conditions in the Project Area**

Roadway	Volume (ADT)	Level of Service (LOS)
Hidden Springs Road	485-892	A
Silver Valley Road	179	A
Powerline Road	No data	A (assumed)
Minneola Road	387-909	A
Wildhorse Road	21	A
Valley Center Road	64-708	A
Sunray Lane	No data	A (assumed)
Santa Fe Street	182	A
National Trails Highway	472	A

Source: Tetra Tech 2018a

REGULATORY FRAMEWORK

FEDERAL

Federal rules and regulations govern many facets of the county's traffic and circulation system, including transportation planning and programming; funding; and design, construction, and operation of facilities. The County complies with all applicable rules and regulations of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Federal Railroad Administration, the Federal Aviation Administration (FAA), and other federal agencies. In addition, the County coordinates with federal resource agencies where appropriate in the environmental clearance process for transportation facilities.

STATE

As it complies with federal rules and regulations, the County also complies with applicable state rules and regulations, including those of the California Department of Transportation (Caltrans), and coordinates with state resource agencies.

California Traffic Operations Standards

The Caltrans (2002) Guide for the Preparation of Traffic Impact Studies includes criteria for evaluating the effects of land use development and changes to the circulation system on state highways. Caltrans maintains a target LOS at the transition between LOS C and LOS D for freeway facilities.

REGIONAL

San Bernardino County Congestion Management Program

The passage of Proposition 111 in 1990 established a process for each metropolitan county in California to prepare a Congestion Management Plan (CMP). The San Bernardino Associated Governments (SANBAG) prepared the San Bernardino County CMP, in consultation with San Bernardino County and cities in the county, in an effort to align land use, transportation, and air quality management efforts and promote reasonable growth management programs that effectively use statewide transportation funds, while ensuring that new development pays its fair share of needed transportation improvements. In San Bernardino County, SANBAG is responsible for planning and managing vehicular congestion and coordinating regional transportation policies.

Through the use of traffic impact analysis reports and Comprehensive Transportation Plan model forecasts, the CMP evaluates proposed land use decisions to ensure adequate transportation network improvements that are developed to accommodate future growth in population. If a CMP facility is found to fall below the level of service standard under either existing or future conditions, a deficiency plan must be prepared, adopted, and implemented by local jurisdictions that contribute to such situations.

Annual monitoring activities are a method of accountability for those local jurisdictions required to mitigate a network facility with substandard level of service. While this interjurisdictional approach provides political and technical consistency for future development in the county, the CMP is only a mechanism to be used to guide efforts in a more efficient manner. It is not to be considered a replacement to the Regional Transportation Plan (RTP).

LOCAL

County of San Bernardino General Plan

The project site is located within the boundaries of the Desert Region, as identified in the County's General Plan. The Circulation and Infrastructure Element of the General Plan includes concepts and guidelines to maintain and plan for transportation facilities that adequately serve traffic. The following goals, policies, and programs are applicable to the proposed project:

GOAL D/CI 1	Ensure a safe and effective transportation system that provides adequate traffic movement while preserving the rural desert character of the region.
<i>Policy D/CI 1.1</i>	The County shall ensure that all new development proposals do not degrade Levels of Service (LOS) on Major Arterials below LOS C in the Desert Region.
<i>Policy D/CI 1.2</i>	Design roads to follow natural contours, avoid grid pattern streets, minimize cuts and fills and disturbance of natural resources and trees wherever possible.
<i>Policy D/CI 1.3</i>	Design road locations and alignments in such a manner to help preserve and protect sensitive habitats.
<i>Policy D/CI 1.4</i>	Preserve the rural character by discouraging required urban-scale improvements such as curbs, gutters and street lighting where the public health, safety and welfare are not endangered.
<i>Policy D/CI 1.8</i>	Design road standards and maintain major thoroughfares to complement the surrounding environment within the Desert Region.

IMPACT ANALYSIS AND MITIGATION MEASURES

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

A project would result in a significant impact if it would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

- Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

PROJECT IMPACTS AND MITIGATION

CONFLICT WITH AN APPLICABLE PLAN, ORDINANCE OR POLICY

Impact 3.12-1	The project could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. Impacts would be less than significant with mitigation.
----------------------	--

PROJECT-GENERATED TRAFFIC

Construction

Construction vehicles would access the project site from I-40 and I-15. Primary access points to the project site are shown on **Exhibit 3.12-2, Preliminary Access Plan**, and include Santa Fe Street, Hidden Springs Road, Minneola Road, Valley Center Road and Silver Valley Road. Construction traffic generated by the project would occur primarily as a result of construction workers traveling to and from the project's access points. Traffic would also be generated by heavy equipment. However, once the vehicles are delivered to the site, they will generally stay on the site and will not generate daily trips. Vehicle traffic would also be generated by construction material deliveries.

During construction, the project would generate a maximum of 500 additional round trips per day from construction workers traveling to and from the project's access points. The modeled construction phasing and operation phasing and ADT counts are included in **Appendix K**. Construction vehicles would access the project site from I-40 and I-15. During construction, materials would be placed within the project boundaries adjacent to the then-current phase of construction. To prevent theft and vandalism, materials would be secured within fenced areas. Storage containers may be used to house tools and other construction equipment. In addition, security guards would regularly monitor the site.

Construction traffic generated by the project has the potential to cause temporary impacts to transportation and traffic in the area. Implementation of mitigation measure **TRA-1** would reduce construction-related traffic impacts because it requires the project applicant to receive a County approved Construction Traffic Control Plan prior to commencement of construction activities. Therefore, impacts would be less than significant with mitigation.

Operation

During operation, the project would generate a maximum of 8 additional round trips per day as facility operators travel to and from the site. Periodic module cleaning and quarterly maintenance activities would utilize 6 to 8 full-time workers for one to two weeks per quarter, or up to 40 cumulative days per year. Operational impacts would be less than significant.

Mitigation Measures

TRA-1 Prior to commencement of construction activities, the applicant shall prepare and submit a Construction Traffic Control Plan to the County in accordance with both the Caltrans (2014) California Manual on Uniform Traffic Control Devices (CA MUTCD) and the Work Area Traffic Control Handbook for review and approval by the County, which will include:

- Timing the delivery of heavy equipment and building materials under the contractors' control during non-peak commute hours, to the extent feasible.
- Directing construction traffic with a flag person.
- Placing temporary signing, lighting, and traffic control devices if required, including but not limited to appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic.
- Ensuring access for emergency vehicles to the project site.

- Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections.
- Designating bicycle and pedestrian detour plans if/where applicable.
- Maintaining access to adjacent property.
- Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the a.m. and p.m. peak hours, distributing construction traffic flow across alternative routes to access the project site in a way that maintains level of service conditions at the time of construction, and avoiding residential neighborhoods to the maximum extent feasible.
- Coordinating the traffic control plan with the County, as well as potential traffic control plan adjustments, in the event of concurrent projects generating potentially overlapping traffic effects.
- Conducting additional traffic control plan coordination with Caltrans regarding the SR-58 Hinkley Expressway Project if construction of the proposed project occurs concurrently with construction of the expressway project.

Level of Significance: Less than significant with mitigation.

CONFLICT WITH A CONGESTION MANAGEMENT PROGRAM

Impact 3.12-2	The project would not conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. Impacts would be less than significant.
----------------------	---

The Congestion Management Program prepared by SANBAG was reviewed with respect to the proposed project. The CMP defines a network of state highways and arterials, level of service standards, and related procedures, and provides technical justification for the approach. The roadway network in the project area is characterized by free-flowing traffic conditions, and vehicles on the roadway generally travel unimpeded by others. Most project traffic would occur during construction and therefore would be temporary in nature and thus would not conflict with the CMP standards. During operation, the project would generate a maximum of 8 additional

round trips per day as facility operators travel to and from the site. This minimal additional traffic would similarly result in no noticeable effect on traffic volumes or circulation patterns, and thus would not conflict with the CMP. This impact would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

AIR TRAFFIC PATTERNS

Impact 3.12-3 The project could result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. Impacts would be less than significant with mitigation.

Barstow-Daggett Airport, a County-owned, public-use, general aviation airport, is directly south of the project site. The project site is not within 2 miles of a private airstrip. The nearest heliport is the SCE Solar Heliport approximately 2.7 miles east of the site. The nearest military airport is the Twentynine Palms Strategic Expeditionary Landing Field, about 65 miles to the southeast.

The Airport Comprehensive Land Use Plan (ACLUP) for Barstow-Daggett Airport was prepared to comply with state planning law and is the primary land use document for the airport (County of San Bernardino 1992 and FAA 2012). The project is being designed in conformance with ACLUP policies and with input received from Airport and Fort Irwin Training Center staff. Additionally, an Obstruction Evaluation and Airspace Analysis was prepared by Capital Airspace Group for the project to identify aviation safety data necessary to be incorporated into the final project design (Tetra Tech 2018b; see **Appendix H-3**).

The ACLUP establishes land uses for the area in the vicinity of the airport. The plan area is divided into three Safety Areas, each of which reflects a particular level and type of hazard or risk within its borders. Portions of the project site are located within Safety Area 1 and Safety Area 3, although Safety Area 1 represents a relatively small portion of the overall project site. In general, land uses in Safety Review Area 3 are typically compatible with the airport's activities, while development in Safety Area 1 is more restrictive and prohibitive.

Safety Area 1 is designated as both a runway object-free area (OFA) and a runway protection zone (RPZ). The project portion within Safety Area 1 is located within the RPZ, while no project features are located in the OFA. The intention of the RPZ is to identify and preserve an area off each runway end that has significant potential for aircraft crashes during takeoffs and landings. Therefore, development in the RPZ is either prohibited or restricted based on FAA requirements.

Development, and associated design features, that might create glare, produce misleading lights, or lead to the construction of residences, fuel handling and storage facilities, smoke generating activities, and places of public assembly are prohibited in the RPZ. Furthermore, according to current FAA guidance, solar panels are prohibited within runway protection zones (RPZs). Therefore, impacts are potentially significant.

The applicant will be required to obtain a Determination of No Hazard from the Federal Aviation Administration (FAA) prior to issuance of building and grading permits from the County. Development of the project in the RPZ would be in accordance with guidance for Safety Review Areas, and in consultation with the FAA and Airport Land Use Commission (ALUC). FAA review and issuance of a Determination of No Hazard will require the project applicant would incorporate final design modifications and safety features (e.g., maximum height, clearance requirements) in accordance with the Obstruction Evaluation. In addition, project facilities including solar panels, fences and transmission line poles within the RPZ or Safety Area 1 would be reviewed by the FAA for compatibility with airport operations. If the FAA finds that development within the Safety Areas does not pose a hazard to airport activities based on height, glare, proximity to runways, and other air navigation safety factors, the FAA may issue a Determination of No Hazard, which gives the applicant approval to proceed with the project as designed. If the FAA finds that the structures within the RPZ do not comply with FAA requirements, the FAA may require project alterations, such as removing solar panels from the RPZ or undergrounding utilities, before a Determination of No Hazard is granted to the applicant. Potential impacts to airport operations and public safety would be reduced to a less than significant level with implementation of mitigation measure **HM-2** because the mitigation measure ensures that the applicant provides the County with a Determination of No Hazard prior to issuance of building and grading permits.

Mitigation Measures: The mitigation measure for Impact 3.12.3 is the same as mitigation measure **HM-2** which was previously described under Impact 3.8-5. Mitigation measure **HM-2** is repeated in this section for the reader's convenience.

HM-2 Prior to issuance of building and grading permits, the Applicant shall provide to the County a Determination of No Hazard issued by the Federal Aviation Administration (FAA).

Level of Significance: Less than significant with mitigation.

DESIGN FEATURES

Impact 3.12-4	The project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Impacts would be less than significant.
----------------------	--

Project impacts would be to roads near the site as workers travel to and from the site. The heaviest use would be during construction activities, during which up to 500 workers will travel to and from the site, in addition to daily material deliveries. Up to 8 workers will continue to access the project's O&M building on a daily basis during operations.

Off-site improvements would consist of the following (see **Exhibit 3.12-2**):

- Hidden Springs Road, from where the paved road ends to the north of Santa Fe Street through the project area to the access points
- Power Line Road, from Santa Fe Street to the access points

Additional widening of existing offsite paved roads may also be necessary to support emergency vehicles and would be identified in consultation with the County. Primary access points would be used by construction activities. Those access points would remain in place during operation of the project, but access would be limited to maintenance, washing, repairs to project equipment, and other activities that will occur infrequently. Lines of sight are not currently obstructed for existing traffic and would not be altered by the project and therefore conflicts with farm equipment are not anticipated. Therefore, the project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

INADEQUATE EMERGENCY ACCESS

Impact 3.12-5	The project could result in inadequate emergency access. Impacts would be less than significant with mitigation.
----------------------	---

The project includes paved access off National Trails Highway suitable for emergency vehicle access, and roads within the facility would be suitable for emergency vehicle use. As discussed above, mitigation measure **TRA-1** would require a flag person to direct construction traffic, ensure emergency vehicles have access to project site, and maintain access to adjacent properties. These actions would ensure that adequate emergency access is maintained. Therefore, impacts would be less than significant with mitigation.

Mitigation Measures: Implementation of mitigation measure **TRA-1**.

Level of Significance: Less than significant with mitigation.

ALTERNATIVE TRANSPORTATION

Impact 3.12-6	The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Impacts would be less than significant.
----------------------	--

The project area and surrounding roads were evaluated to see if any impacts would take place to alternative transportation modes, including off-highway vehicles (OHV), walking, bicycling, and mass transit.

OHV

There are no identified OHV areas on the project site or in the immediate area. Therefore, the project is not anticipated to impact OHV transportation.

Bike Trails and Pedestrian Paths

All roads near the project site are either two-lane paved roads or existing dirt roads, with no bike trails or paths nearby. The project is not anticipated to impact cycling or walking activities.

Public Transportation

Mass transit opportunities are limited in the project area. The Victor Valley Transit Authority has a Route 5 dial-a-ride service that operates seven days a week between Barstow and the unincorporated communities of Daggett, Newberry Springs, and Yermo. The route travels I-40, I-15, and the National Trails Highway/Route 66. Impacts to this bus service are unlikely but possible due to construction work at the project site, especially if service occurs during peak traffic times when construction workers are driving to and from the project. However, impacts should be temporary and limited to the immediate project vicinity. No impacts are predicted during operations of the project.

Therefore, the project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, nor would it otherwise decrease the performance or safety of such facilities. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 3.12-7 The project would not result in a cumulative impact related to transportation and traffic. Impacts would be less than significant.

Cumulative projects that would have the potential to be considered in a cumulative context with the proposed project's incremental contribution, and that are included in the analysis of cumulative impacts relative to traffic, are identified in **Table 3.0-1** and **Exhibit 3.0-1** in Section 3.0 of this EIR.

As seen in **Table 3.12-1**, all the existing surrounding roadways operate at a level of service (LOS) of A. LOS is determined by the volume of vehicles that access the roadway on a daily basis, known as Average Daily Traffic (ADT). A roadway would be downgraded from LOS A to LOS B when the ADT reaches 1,200 vehicles. Traffic generated by the proposed project would occur primarily as a result of construction workers traveling to and from the project site while operation traffic impacts would be considered minimal given the disproportionate level of employees, approximately 500 construction employees compared to 6-8 operation employees. Construction vehicles would travel to the project site from Interstate 40 and National Trails Highway (Historic Route 66) then access the project on Hidden Spring Rd and Minneola Rd. Currently, the ADT for Hidden Springs Rd is 485-892 vehicles while Minneola Rd is 387-909.

As discussed in the project-specific trip generation analysis prepared for the project (Tetra Tech 2018a; see **Appendix K**), the proposed project would generate a maximum of 500 additional round trips per day for construction workers traveling to and from the project's access points. The ADT counts are for site activities that repeat daily, such as construction workers traveling to and from the site, and repeating material deliveries. Irregular or one-time deliveries to and from the project site, such as heavy equipment, will not have ADT counts. Construction traffic generated by this project has the potential to cause temporary impacts to transportation and traffic in the area. Due to the temporary nature of construction, these impacts will be short-lived. These impacts will be mitigated to a less-than-significant level with the development and implementation of a Traffic Control Plan as outlined in mitigation measure **TRA-1**.

Of the projects identified in **Table 3.0-1**, three of the projects would access their sites from I-40 and National Trails Highway; Sunpower Solar, Solar 33, and Solar 66. Construction of these projects would have an indirect cumulative impact on traffic if they were constructed at the same time as the proposed project because they would each generate additional traffic volumes temporarily as construction workers commuted to the project locations. Interstate 40 would accommodate most of the construction ADT because I-40 would be utilized for regional access while National Trails Highway would be used to access local sites, such as the City of Daggett. National Trails Highway operates at LOS A with an ADT of 472 vehicles, which should

accommodate cumulative impacts from the mentioned solar projects. Interstate 40 is a major east-west route that connects the project site to Barstow to the west and Needles to the east. Interstate 40 operates at LOS A which would accommodate foreseeable cumulative traffic impacts.

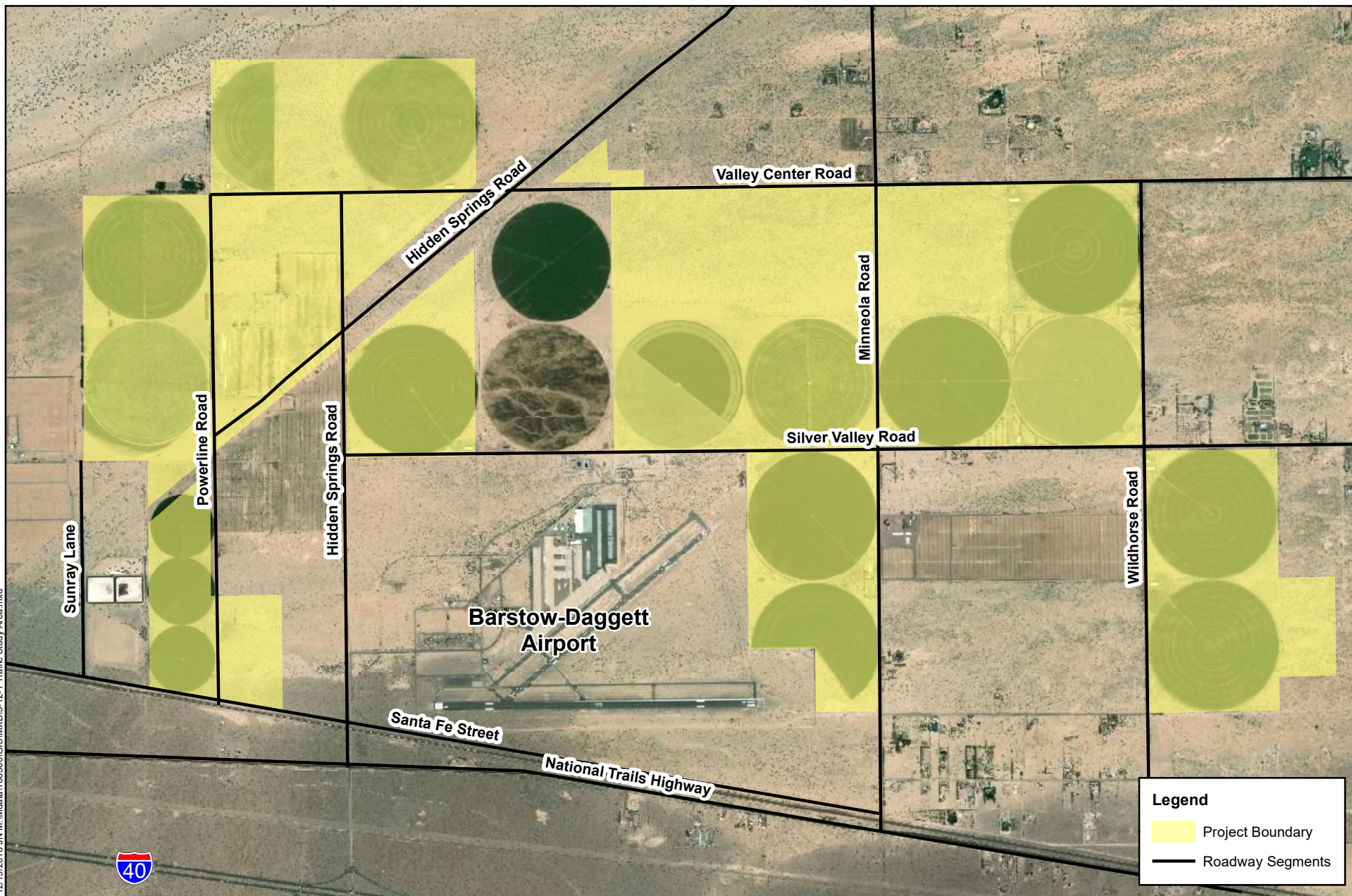
As discussed above, the analysis revealed that the roadways within the project vicinity would continue to operate at LOS A with the addition of project-related construction traffic. Although an increase in volume-to-capacity ratio would occur, the delay would be minimal. This temporary increase in traffic is considered less than significant and therefore would not result in a cumulatively significant impact. Accordingly, the proposed project would not result in a considerable contribution to a cumulative impact.

Mitigation Measures: None required.

Level of Significance: Less than significant.

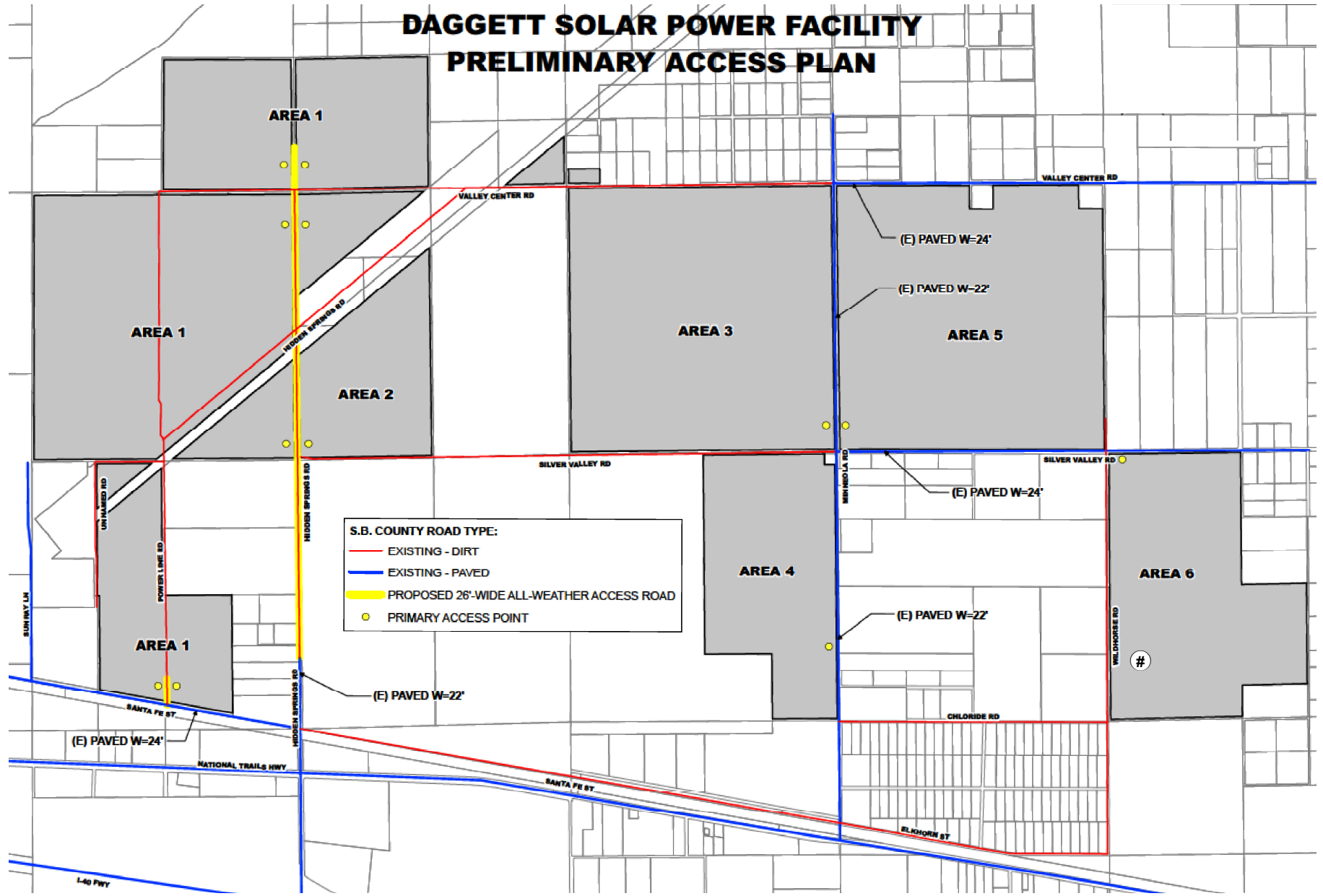
This page is intentionally blank.

12/19/2018 JN M:\data\166360\GIS\MXD\3-12-1 Traffic Study Area.mxd



This page is intentionally blank.

DAGGETT SOLAR POWER FACILITY PRELIMINARY ACCESS PLAN



12/19/2018 JN M:\data\166360\GIS\MXD\3-12-2 Preliminary Access Plan.mxd



This page is intentionally blank.

Section 3.13

Utilities and Service Systems

This section addresses potential utilities and service systems impacts that may result from construction and/or operation of the proposed project. The following discussion addresses the existing utilities and service systems conditions in the project area, identifies applicable regulations, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from project implementation, as applicable.

Information in this section is largely based on project-specific technical reports including the *Preliminary Hydrology Study & Flood Analysis* (2018a; see **Appendix I-1**) and the *Addendum to Preliminary Hydrology Study & Hydraulics Report* (2018b; see **Appendix I-2**), both prepared by Joseph E. Bonadiman & Associates. Specific information regarding groundwater resources was obtained from the *Water Supply Assessment* prepared by Tetra Tech (2018a; see **Appendix I-3**). All reports referenced above were peer reviewed by Michael Baker International.

ENVIRONMENTAL SETTING

Lands affected by the project are largely comprised of active or formerly active agriculture lands, as well as existing infrastructure associated with the nearby Coolwater Generating Station (no longer in service) and an associated transmission corridor. Railroad infrastructure and other supporting infrastructure used to deliver coal to the power plant is present. The project site also contains utility-related uses on land owned by Southern California Edison (SCE). Private lands in the central and eastern portions of the site consist of agricultural lands that produce primarily alfalfa and pistachios, sparsely spaced rural residential dwellings, previously disturbed and now fallow farmland, and some undeveloped desert land.

WATER

According to the County's General Plan, the County's domestic water sources are supplied through both local and imported water. It is estimated that, on average, 85% of domestic water for the County is supplied by local sources with the balance of 15% being imported purchased water (County 2007b). Supply percentages differ depending upon the geographic area. Imported water is primarily purchased from the Metropolitan Water District (MWD) of Southern California and the State Water Project (the California Aqueduct) as a supplemental source to local water supplies.

The project site lies within the Baja Subarea of the Mojave Basin, within the boundary of the Mojave Water Agency (MWA) Service Area; refer to **Exhibit 3.9-1, Baja Subarea**, for location. Groundwater sources within the basin primarily consist of recharge from the Mojave River, imported water from the State Water Project (SWP), subsurface flows from the Centro Subarea, and return flow from urban runoff and from irrigation activities (e.g., percolation through the ground surface). The project site is not connected to a public water system and there are no public water systems that can serve the project site. Rather, the site lies within an adjudicated water basin and groundwater is actively managed to achieve sustainability. Existing groundwater wells are present on the project site. The wells are operational and available to serve future on-site land uses.

A Stipulated Judgment was issued by the Superior Court in January of 1996 (Superior Court, Judgment after Trial for City of Barstow, et al vs. City of Adelanto, et al Case No. 208568, January 10, 1996) to address water supply shortages in the Mojave Basin Area where the proposed project is located. The adjudication of the Mojave Basin Area was the legal process that allocated the right to produce water from the natural water supply. As mandated in the Judgment, the MWA was appointed as the Basin Watermaster and tasked with the responsibility of sustainably managing water supplies in the Basin.

The Judgment determines water rights for each major producer [defined as a person or entity using 10 acre-feet per year (AFY) or more] based on their historical production. These rights are referred to as Base Annual Production (BAP). Specifically, BAP rights were assigned per court Judgment to each major producer; refer to Attachment A of **Appendix I-3**. The BAP represents the highest possible production for a given producer. There are seven landowners within the project area. The sum of the total BAP for all current project site landowners is 27,054 AFY. The MWA, as the court-appointed Watermaster, establishes Free Production Allowances (FPA) annually to maintain proper water balances. The Watermaster has recommended the FPA for the Baja Subarea be set at 35 percent of the BAP (7,682 AF for the landowners of the project site) for 2018-2019 (Tetra Tech 2018a).

The adjudication of the affected subbasin provides for a number of goals including: 1) to protect and allocate the rights of water producers; and 2) to protect the water supply and ensure its sustainability and availability in the future. It accomplishes these goals by first assigning rights to the producers and then by controlling the amount of water that can be produced by those rights to ultimately bring groundwater levels into balance (i.e. the inflow to the basin matches the outflow) and then maintain that balance. The adjudication considers changes to the needs of production and allows for flexibility to accommodate those changes. Additionally, the adjudication created an ongoing process where groundwater reports are provided to the court on a regular basis to ensure long-term stability of basin water supplies.

The MWA also implements its *2014 Groundwater Level Monitoring Plan* which includes details for the monitoring of wells used to measure groundwater levels. The Plan is actively monitored by MWA to ensure that established water supply goals continue to be met over the long-term.

WASTEWATER

The majority of residential properties located within the County's Desert Region (in which the project site is located) are on private sewage treatment systems (septic tanks). However, there are limited service sewerage agencies serving the region including the Victor Valley Regional Wastewater Agency, the City of Adelanto and the City of Barstow (County 2007b).

The project site is not currently served by a public wastewater treatment service provider. Wastewater disposal for the project area occurs via private septic systems.

STORMWATER

Under current conditions, on-site drainage on the project site is conveyed as natural overland flow along very gradual slopes and relatively unconcentrated, shallow channelization, with the exception of drainage improvements associated with the existing on-site railroad spur, Coolwater Generating Station, decommissioned/removed solar facilities and Barstow-Daggett Airport. Existing on-site paved and dirt roads do not have any associated storm drain facilities.

SOLID WASTE

The County of San Bernardino Solid Waste Management Division is responsible for operation and management of the County's solid waste disposal system. The system consists of six regional landfills, eight transfer stations, and five community collection centers (County 2007b). The County contracts with Burrtec Waste Industries for disposal site operations and maintenance. The County's Solid Waste Management Division also administers the County's solid waste handling franchise program and the refuse collection permit program, which authorize and regulate trash collection by private haulers in the unincorporated area (County 2007b).

All landfills and transfer stations owned and operated by the County have drop-off sites for recyclable materials. Permitted disposal capacity is available at the Barstow, California Street, Colton, Fort Irwin, Landers, Marine Corps Air Ground Combat Center, Mid-Valley, San Timoteo, and Victorville Landfills (County, 2007b). Recent expansion of the Barstow, Victorville, and California Street Landfills is anticipated to provide the County with a minimum of 20 additional years of capacity (County 2007b).

The regional landfills closest to the project site are the Barstow Landfill, located approximately 11 miles to the southwest, and the Victorville Landfill, located approximately 32 miles to the southwest (San Bernardino County Department of Public Works 2018).

REGULATORY FRAMEWORK

FEDERAL

Safe Drinking Water Act

Passed in 1974 and amended in 1986 and 1996, the Safe Drinking Water Act grants the EPA the authority to set drinking water standards. Drinking water standards apply to public water systems that provide water for human consumption through at least 15 service connections or regularly serve at least 25 individuals. There are two categories of drinking water standards: the National Primary Drinking Water Regulations and the National Secondary Drinking Water Regulations. The National Primary Drinking Water Regulations are legally enforceable standards that apply to public water systems. These standards protect drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in water. The National Secondary Drinking Water Regulations are nonmandatory guidelines for certain substances that do not present a risk to public health.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), which amends the Solid Waste Disposal Act of 1965, was enacted in 1976 to address municipal and industrial solid waste generated nationwide. The act gives the EPA the authority to control hazardous waste from “cradle to grave.” This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of nonhazardous solid wastes. The federal Hazardous and Solid Waste Amendments to the RCRA were adopted in 1984 and were aimed at waste minimization and phasing out land disposal of hazardous waste, as well as providing guidance for corrective action of releases. The amendments also allowed for increased enforcement authority for the EPA, more stringent hazardous waste management standards and a comprehensive underground storage tank program. Amendments to the RCRA in 1986 further enabled the EPA to address environmental hazards relative to underground tank storage of petroleum and other hazardous substances (EPA 2012).

REGIONAL

Urban Water Management Plan

Public water systems are required by the California Water Code to prepare Urban Water Management Plans (UWMP) to carry out “long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water” (Water Code Section 10610.2). UWMPs are prepared using input from multiple water systems operating in a region and include assessment of the reliability of water supply over a 20-year period and account for known and projected water demands during that time, including during normal, single-dry, and multiple-dry water years.

An UWMP for 2015 has been created by the MWA and covers the entire MWA service area. The project site lies within an adjudicated water basin, and therefore, groundwater within the basin is actively managed to achieve sustainability. As part of the UWMP, an analysis was performed to determine if MWA has adequate water supplies to meet demands during average, single-dry and multiple-dry years over the next 25 years. The report concluded that there would be adequate water supplies for such conditions over the time period considered (Tetra Tech 2018a).

Stipulated Judgment (Watermaster City of Barstow et al, v. City of Adelanto et al, Riverside County Superior Court Case No. 208568)

The Mojave Basin is an adjudicated basin. Pumping of groundwater from the basin is governed by a 1996 Stipulated Judgment issued by the Riverside County Superior Court. For purposes of defining and implementing a physical solution, the Mojave Basin Area consists of five distinct but hydrologically interrelated "Subareas." Each Subarea was found to be in overdraft to some extent due to the use of water by all of the producers in that Subarea. In addition, some Subareas were found to historically have received at least a part of their natural water supply as water flowing to them from upstream Subareas either on the surface or as subsurface flow. To maintain that historical relationship, the average annual obligation of any Subarea to another is set equal to the estimated average annual natural flow (excluding storm flow) between the Subareas over the 60-year period 1930-31 through 1989-90. If the Subarea obligation is not met, producers of water in the upstream Subarea must provide makeup water to the downstream Subarea.

To maintain proper water balances within each Subarea, the Judgment establishes a decreasing Free Production Allowance (FPA) in each Subarea during the first five years and provides for the Court to review and adjust, as appropriate, the FPA for each Subarea annually thereafter. The FPA is allocated among the Producers in the Subarea based on each Producer's percentage share of the FPA. All water produced in excess of any Producer's share of the FPA must be replaced by

the Producer, either by payment to the Watermaster of funds sufficient to purchase replacement water, or by transfer of unused FPA from another Producer.

Each Producer's percentage share of FPA in a Subarea was determined by first verifying the maximum annual water production (termed Base Annual Production or BAP) for each Producer during the five-year (1986-90) Base Period and then calculating each Producer's percentage share of the total of all such BAP in the Subarea. All such percentage allocations are of equal priority.

Producers within each Subarea are allowed to produce as much water as they need annually to meet their requirements, subject to compliance with the Physical Solution set forth in the Judgment. An underlying assumption of the Judgment is that sufficient water will be made available to meet the needs of the Basin in the future from a combination of natural supply, imported water, water conservation, water reuse and transfers of FPA among Producers.

STATE

Safe Water Drinking Act

Similar to the federal act, California implements the state's Safe Drinking Water Act (Health and Safety Code Section 116270 et seq.) to ensure public health and safety relative to clean drinking water. Under this act, the California Department of Public Health has the authority to protect public drinking water by adopting contaminant levels not to be exceeded in potable water supplies. Such thresholds are equal to or more stringent than established at the federal level under the EPA.

State Water Resources Control Board

Created by the California legislature in 1967, the five-member State Water Resources Control Board (SWRCB) allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine Regional Water Quality Control Boards (RWQCBs) located in the major watersheds of the state. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters. The SWRCB is responsible for implementing the Clean Water Act and issues National Pollutant Discharge Elimination System (NPDES) permits to cities and counties through the regional boards. The project site lies within the jurisdiction of the Lahontan RWQCB (Region 6).

California Water Plan

Water Code Sections 10004 through 10013 describe the components and characteristics of the California Water Plan prepared by the California Department of Water Resources. The plan

addresses the coordinated control, protection, conservation, development, and utilization of the state's water resources. Updated every 5 years, the most recent water plan is the California Water Plan Update 2013.

Senate Bill 610 (SB 610) amended Water Code sections 10910 and 10912 to create a direct relationship between water supply and land use.

The California Water Code, as amended by SB 610, requires that a water supply assessment (WSA) address the following questions:

- Is there a public water system that will service the project?
- Is there a current urban water management plan (UWMP) that accounts for the project demand?
- Is groundwater a component of the supplies for the project?
- Are there sufficient supplies to serve the project over the next 20 years?

Senate Bill 610 requires water suppliers to prepare a WSA for inclusion in the California Environmental Quality Act (CEQA) process for new development. Section 15155 of the CEQA Guidelines details the types of projects that require a WSA per SB 610. A WSA is required if (among other conditions):

- A project would result in the construction of more than 500 residential units and/or require a water demand equivalent to, or greater than, a 500-dwelling-unit project;
- A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A commercial office building that would employ more than 1,000 persons or have more than 250,000 square feet of floor space;
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A project would include a hotel or motel, or both, having more than 500 rooms;
- A mixed-use project that includes one or more of the projects specified above; and/or
- For public water systems with fewer than 5,000 service connections, a project that meets the following criteria:

1. A proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of a public water system's existing service connections; or
2. A mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

Because the proposed project is an industrial facility occupying more than 40 acres of land, a WSA has been prepared for the project and is included in **Appendix I-3** of this EIR (Tetra Tech 2018a).

California Integrated Waste Management Act

Assembly Bill (AB) 939 established the California Integrated Waste Management Act of 1989 (Public Resources Code Sections 42900–42927) which required all California cities and counties to reduce the volume of solid waste deposited in landfills by 50 percent by the year 2000. It also requires that cities and counties continue to remain at 50 percent or higher for each subsequent year. The act is intended to reduce, recycle and reuse solid waste generated to the maximum extent feasible.

The act requires each California city and County to prepare, adopt and submit to the California Department of Resources Recycling and Recovery (CalRecycle) a source reduction and recycling element (SRRE) that demonstrates how the jurisdiction will meet the act's mandated diversion goals. Each jurisdiction's SRRE must include specific components as defined in Public Resources Code Sections 41003 and 41303. In addition, the SRRE must include a program for management of solid waste generated in the jurisdiction consistent with the following hierarchy: (1) source reduction; (2) recycling and composting; and (3) environmentally safe transformation and land disposal. The SRRE is required to emphasize and maximize the use of all feasible source reduction, recycling, and composting options in order to reduce the amount of solid waste to be disposed of by transformation and land disposal (Public Resources Code Sections 40051, 41002, and 41302).

State-Mandated Solid Waste Diversion

As landfills reach their capacities and new landfill sites become increasingly difficult to establish, the need to reduce solid waste generation is significant. State law currently requires that local jurisdictions divert at least 50 percent of their solid waste from landfills through recycling, conservation and composting. The County of San Bernardino is required to comply with state regulations.

LOCAL***San Bernardino County General Plan***

The following goals, policies and programs from the County General Plan Circulation and Infrastructure Element are applicable to the proposed project:

Circulation and Infrastructure Element

GOAL CI 11 The County will coordinate and cooperate with governmental agencies at all levels to ensure safe, reliable, and high-quality water supply for all residents and ensure prevention of surface and ground water pollution.

Policy CI 11.12 Prior to approval of new development, ensure that adequate and reliable water supplies and conveyance systems will be available to support the development, consistent with coordination between land use planning and water system planning.

GOAL CI 12 The County will ensure adequate wastewater collection, treatment, and disposal consistent with the protection of public health and water quality.

Policy CI 12.12 Prior to approval of new development, ensure that adequate and reliable wastewater systems will be available to support the development, consistent with coordination between land use planning and wastewater system planning.

Policy CI 12.12 Cooperate with local wastewater/sewering authorities to monitor future development to ensure that development will proceed only when sufficient capacity or approved alternative wastewater treatment systems can be provided.

GOAL CI 14 The County will ensure a safe, efficient, economical, and integrated solid waste management system that considers all wastes generated within the County, including agricultural, residential, commercial, and industrial wastes, while recognizing the relationship between disposal issues and the conservation of natural resources.

Policy CI 14.1 Utilize a variety of feasible processes, including source reduction, transfer, recycling, land filling, composting, and resource recovery to achieve an integrated and balanced approach to solid waste management.

Policy CI 14.5 Coordinate with agencies at the state level, including the California Integrated Waste Management Board, counties and cities within the southern California region, and other interested agencies or persons in the public or private sectors to ensure effective solid waste management.

Renewable Energy Element

The County adopted a Renewable Energy and Conservation Element (RECE) for inclusion in the San Bernardino County General Plan in August 2017. The element includes land use guidance regarding new renewable energy projects within the County. Relevant goals and policies of the RECE pertaining to utilities are identified below.

Policy D/CI 4.3 Commercial and industrial development in rural areas shall ensure that adequate infrastructure is provided.

Conservation Element

Policy CO 5.2 The County Water Masters will continue to monitor the County's adjudicated groundwater basins to ensure a balanced hydrological system in terms of withdrawal and replenishment of water from groundwater basins.

Policy CO 5.3 The County will promote conservation of water and maximize the use of existing water resources by promoting activities/measures that facilitate the reclamation and reuse of water and wastewater.

IMPACT ANALYSIS AND MITIGATION MEASURES

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

The following thresholds of significance are based, in part, on CEQA Guidelines Appendix G. For the purposes of this EIR, the proposed project is evaluated against the following thresholds for the potential to result in a significant impact:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Comply with federal, state, and local statutes and regulations related to solid waste.

PROJECT IMPACTS AND MITIGATION

EXCEED WASTEWATER TREATMENT REQUIREMENTS OF THE REGIONAL WATER QUALITY BOARD

Impact 3.13-1	The project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. Impacts would be less than significant.
----------------------	---

The project site is overseen by the Lahontan Region RWQCB. Water quality standards for water bodies in the region are primarily contained in the Water Quality Control Plan for the Lahontan Region - Region 6 (Lahontan RWQCB 2016).

During project construction, portable toilets would be installed on-site for use by the construction crew. Sanitation waste would be disposed of in accordance with applicable sanitation waste management practices at an off-site facility.

Water used for dust suppression and earthwork activities would be directly applied to on-site soils and no runoff from the site is anticipated due to existing soil conditions. Refer also to Section 3.9, Hydrology and Water Quality, of this EIR for additional discussion.

During project operation, water would be required for panel washing activities and general maintenance. The frequency of panel washing would generally be determined based on soiling of the solar PV panels and expected benefit from cleaning. Should cleaning be necessary, water would be sprayed on the solar PV panels to remove dust. Water for panel washing would be obtained from on-site wells. Such effluent would not contain any toxicants or cleaning agents.

Wastewater disposal for the proposed operations and maintenance (O&M) building would be provided via an on-site septic system. No connection to public wastewater treatment service systems would occur.

Therefore, due to the nature of anticipated construction and operational activities, the project is not anticipated to exceed wastewater treatment requirements of the Lahontan Region RWQCB. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant impact.

REQUIRE NEW OR EXPANDED WATER OR WASTEWATER TREATMENT FACILITIES

Impact 3.13-2	The project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts would be less than significant.
----------------------	--

Refer to Impact 3.13-1, above, and Impact 3.13-4, below. The site is currently not served by public water or wastewater treatment service facilities.

The project would require the use of limited quantities of water during the construction phase for purposes of dust control and earthwork; operation of the proposed solar and energy storage project would also require use of water for maintenance purposes (e.g., panel washing) and in support of daily activities at the proposed on-site O&M facility. Bottled water would be brought to the site to provide drinking water for employees. Water for project construction and operation would be supplied from existing on-site groundwater wells; connection to a public water service system would not occur. Groundwater would not require treatment prior to use.

With project implementation, existing local demands within the project boundaries are expected to be substantially reduced. Project demands during construction are estimated to average 450 AFY (approximately 3.5 years) and then reduce to 25 AFY during operations. Over a 20-year period, the existing local use, if continued in its present form, would have amounted to approximately 167,000 AF; the project would amount to 2,280 AF (Tetra Tech 2018a). Anticipated water use for the project would therefore amount to less than 1.5 percent of the current agricultural use and water demands would be substantially reduced (however, it is anticipated that such reductions may be offset locally by others off-site exercising their water rights). Refer also to Impact 3.13-4 regarding water supply availability.

Additionally, as the project would not create new water demands and would re-allocate water to the project from on-site agricultural use, the project would not affect calculated UWMP water

demands. As stated previously, the UWMP indicates that MWA has adequate water supplies to meet anticipated demands during average, single-dry and multiple-dry year scenarios over the next 25 years (Tetra Tech 2018a). Refer also to **Appendix I-3**.

Therefore, the project would not require or result in the construction of new water treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts in this regard would be less than significant.

Wastewater disposal needs would be provided on-site via portable toilet facilities during the construction phase. Disposal of such wastewater would occur at a permitted off-site facility. Wastewater disposal for the O&M building would be provided via an on-site septic system. Connection to a public wastewater treatment service system would not occur. Therefore, the project would not require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts in this regard would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant impact.

REQUIRE NEW OR EXPANDED STORMWATER DRAINAGE FACILITIES

Impact 3.13-3	The project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts would be less than significant.
----------------------	--

Under current conditions, drainage on the project site is conveyed as natural overland flow along very gradual slopes and relatively unconcentrated, shallow channelization, with the exception of drainage improvements associated with the existing on-site railroad spur, Coolwater Generating Station, decommissioned/removed solar facilities and Barstow-Daggett Airport. Existing on-site paved and dirt roads do not support any associated storm drain facilities.

Refer to Section 3.9, Hydrology and Water Quality, for additional discussion of the proposed drainage improvements and potential project effects relative to stormwater quality. The proposed site drainage improvements have been designed to follow natural drainage patterns. None of the on-site facilities, including fences and panel posts, are expected to prevent or inhibit stormwater flows. The project would provide adequate retention facilities to mitigate the expected stormwater runoff volume increase caused by the project. Based on the negligible increase in flows expected from project implementation, along with the anticipated regrowth of

natural vegetative cover on-site, project design would reduce peak flows to near-existing conditions.

During project operations, the proposed solar and energy storage project would discharge uncontaminated water used in cleaning the solar PV panels. Such water would not contain any toxicants or cleaning agents. It is anticipated that the minimal amount of wastewater generated during panel cleaning activities would be absorbed through the ground surface and would not result in runoff from the project site.

Additionally, impervious surface would not be increased by the solar panels as they would be mounted above the ground surface and rainfall falling directly onto the panels would shed directly onto the ground below. The majority of the ground surface within the boundaries of the solar field would therefore remain pervious (e.g., not covered by impervious surfaces such as paved roadways or permanent structures). All proposed stormwater drainage improvements have been considered in the EIR analysis.

Therefore, the project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities that could cause significant environmental effects. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant impact.

REQUIRE NEW OR EXPANDED WATER SUPPLIES

Impact 3.13-4	The project would have sufficient water supplies available to serve the project from existing entitlements and resources, and new or expanded entitlements are not needed. Impacts would be less than significant.
----------------------	---

A Water Supply Assessment was prepared by Tetra Tech to evaluate anticipated water supply and demand for the project's construction and operational phases (Tetra Tech 2018a). Refer to **Appendix I-3** of this EIR. Refer also to Section 3.9, Hydrology and Water Quality, for additional discussion of potential project effects on groundwater supplies.

CONSTRUCTION

Water for construction would be used for purposes of dust control and earthwork. It is anticipated that water trucks would be filled on-site and used to spread water to mitigate potential visible fugitive dust from vehicular travel and wind erosion. Domestic water for use by employees would be provided from on-site wells (or temporarily by the construction contractor

through deliveries to the site). Domestic water for use by employees would be provided by the construction contractor through deliveries to the site or from on-site wells.

Seven landowners within the project area have a Free Production Allowance (FPA) of 7,682 AF for 2017-2018 (Tetra Tech 2018a). The project applicant has entered into agreements with these landowners to acquire the properties along with the acquisition of adequate water supply to meet construction (and operational) needs from the existing seven on-site wells. For the overall project (Phases 1 to 3), it is estimated that approximately 1,800 AF of water would be required for the purpose of dust suppression and earthwork during the approximately construction period.

The project would eliminate approximately 1,600 acres of agricultural use on the subject site which required water production of approximately 8,338 AF in 2017. The project would require approximately 450 AFY for an estimated 3.5 years for a total of 1,800 AF (during construction) and then reduce long-term water use to approximately 25 AFY (during project operation). As such, during construction, water production would be reduced by approximately 7,860 AF as compared to current agricultural production. However, the remaining rights to the production would still exist and, assuming those rights are exercised, there would be little or no net reduction in production. Therefore, the project would not increase, nor likely decrease, the amount of pumping (or extraction) from the subbasin and has contractual rights to use already allocated groundwater for which there are no other demands. (The demand for such water has already been allocated to the landowners whose land would be developed for the project.)

The maximum amount of pumping is thus capped and controlled under the Stipulated Judgment and the amount of water to be used by the Project is within the existing allocation and cannot by law exceed it without replacement. The WSA has demonstrated that the project would consume water that has already been allocated for consumption under Stipulated Judgment and there is sufficient water supply available for the Project during normal, single dry, and multiple dry water years during a 20-year projection. In addition to existing and planned future uses, including agricultural and manufacturing uses.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than Significant.

OPERATION

Periodic inspections and maintenance activities for the proposed solar PV facilities would occur. Use of nominal amounts of water may be necessary for maintenance in the event of repairs. Water would be sourced from groundwater wells on the proposed solar and energy storage project site.

Water would also be required for panel washing activities. The frequency of panel washing would be determined based on soiling of the solar PV panels and expected benefit from cleaning. Should cleaning be necessary, water would be sprayed on the solar PV panels to remove dust. An estimated 25 AF year of water would be necessary for project operation and maintenance purposes (for all phases of the project or full 650-megawatt buildout). This water would be obtained from on-site groundwater wells.

Project operations would be monitored via the proposed Supervisory Control and Data Acquisition (SCADA) system and the O&M building. The O&M building would be staffed with full- and part-time employees such as a plant manager, maintenance manager, solar technicians, and environmental specialists. All water for the O&M building would be provided via on-site groundwater wells.

The WSA prepared for the proposed project calculated the baseline groundwater budget for the Baja subarea groundwater basins in the absence of the proposed project and all other known cumulative projects not already in place for the normal (average), single-dry and multiple-dry year scenarios (Tetra Tech 2018a). With addition of the project, the WSA determined that an adequate water supply would be available to serve the site under the scenarios considered during a 20-year projection; refer to **Appendix I-3** for additional details. Therefore, there is sufficient water supply to meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses. As stated above, the project would replace a much more water-intensive land use with a less water-intensive land use. While the WSA assumes conservatively that the reduction in water usage at the project site due to the conversion of agricultural land uses to a solar PV facility may be transferred to other areas within the subarea, resulting in decreased local water usage, the project would require a minimal amount of water as compared to the size of the subbasin.

The project would require approximately 450 AFY for an estimated 3.5 years for a total of 1,800 AF (during construction) and then reduce long-term water use to approximately 25 AFY (during project operation). This would reduce production needs at the project site by more than 164,000 AF over 20 years, as compared to current conditions. However, as stated above, the remaining rights to the production would still exist and, assuming those rights are exercised, there would be little or no net reduction in production within the subbasin.

Further, the maximum amount of pumping is capped and controlled under the Stipulated Judgment. The amount of water to be used by the project is within the existing allocation and cannot by law exceed it without replacement. As imposed by the adjudication, consumptive use cannot be increased with a transfer or change in the purpose of the use (i.e. agricultural use to solar PV facility), and therefore, the project cannot consumptively use more water than under current conditions.

Although the subbasin is not yet considered to be balanced (water extracted out of the basin equal to water added to the basin), and the FPA is expected to decline in the future, there would be sufficient water available for the project because it would only use a fraction of the water it would make available due to the elimination of agricultural uses on-site. The large capacity of the subbasin as compared to the projected water budget deficit allows for the subbasin to provide sufficient water supply to the project, while the Watermaster would continue ongoing efforts to bring the basin into balance over the long-term (see also **Appendix I-3**).

An adequate water supply for project operations would be available through secured water rights acquired by the project applicant and/or through agreements with landowners who currently have on-site water allocations. No new or expanded entitlements are required. Impacts to water supplies in this regard would be less than significant.

As indicated above, a significant and unavoidable impact on groundwater levels east of the Calico-Newberry Fault may occur under certain future conditions, due to changing groundwater use within the affected subbasin. However, these changes would be location-based change and not a change in overall demand or water supplies in the Basin, which could stay the same. It is questionable whether such impacts can reasonably be considered to be foreseeable indirect impacts of the project. However, for the purposes of this EIR, these location-specific impacts on groundwater levels are assumed to be significant and unavoidable because the County could not compel action by the Watermaster to adjust FPA or take other action to achieve equilibrium in the Baja Subarea. Refer to Section 3.9, Hydrology and Water Quality, for an in-depth discussion.

Mitigation Measures: No mitigation measures required.

Level of Significance: Less than significant impact.

INADEQUATE WASTEWATER TREATMENT CAPACITY

Impact 3.13-5	The project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Impacts would be less than significant.
----------------------	---

Refer to Impacts 3.13-1 and 3.13-2. Wastewater disposal needs would be provided on-site via portable toilet facilities for use during the construction phase. Disposal of such wastewater would occur at a permitted off-site facility. Wastewater disposal for the O&M building would be provided via an on-site septic system. Public wastewater treatment services would not be required and no increase in demand for such services would occur with project implementation.

The project would not result in a determination by the wastewater treatment provider that serves the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant impact.

SUFFICIENT PERMITTED LANDFILL CAPACITY TO ACCOMMODATE SOLID WASTE DISPOSAL NEEDS

Impact 3.13-6 The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. Impacts would be less than significant.

The County of San Bernardino implements its Countywide Integrated Waste Management Plan to ensure the proper management and disposal of waste materials. According to the County's General Plan Program EIR, the County's Solid Waste Management Division is responsible for the operation and management of the County's solid waste disposal system, which consists of six regional landfills, eight transfer stations, and five community collection centers (County 2007b).

Solid waste from the project site would be disposed of at the Barstow Landfill or the Victorville Landfill, or at the California Street Landfill (located in Redlands). According to the General Plan Program EIR, prior or planned expansions to these landfills provide the County with a minimum of 20 additional years of landfill capacity (County 2007b). The Barstow Landfill has a remaining capacity of 71,481,660 cubic yards (c.y.) with an anticipated closure date of 2071 (CalRecycle 2018a); the Victorville Landfill has a remaining capacity of 81,510,000 c.y. with an anticipated closure date of 2047 (CalRecycle 2018b); and the California Street Landfill has a remaining capacity of 6,800,000 million c.y. with an anticipated closure date of 2042 (CalRecycle 2018c).

Solid waste would largely be generated by short-term construction activities associated with the proposed project. Project construction would result in minor quantities of construction debris such as concrete, wiring, metal, packaging and other materials. Any solid waste generated by the project would be disposed of at a licensed off-site landfill or at a recycling facility, as appropriate.

Due to the nature of the proposed land use, project operation would generate minimal quantities of solid waste, generally from workers on-site performing routine maintenance. The project proposes construction of an O&M building that would serve to store spare parts and vehicles and to accommodate full- and part-time staff associated with the project. Therefore, minimal amounts of solid waste may be generated by staff occupying the site and/or from periodic maintenance activities. All solid waste would be collected by workers on a daily basis, or as otherwise needed, and transported to a licensed off-site landfill or recycling facility for disposal.

Additionally, the project components, including the solar panels and tracking systems, would be decommissioned in the future and disposed of. The solar panels would generally consist of silicon, glass and a metal frame. Tracking systems (not including the motors and control systems) typically consist of aluminum and concrete. These materials can be recycled. Additionally, concrete from deconstruction would be recycled. Several industrial recycling facilities are located within San Bernardino and Riverside counties within proximity to the project site that would be able to accommodate deconstructed, recyclable wastes from the decommissioning activities. Metal, scrap equipment and parts that do not have free-flowing oil would be sent for salvage. All decommissioning activities would comply with federal, state and local standards and all regulations that exist when the project is decommissioned, including the requirements of San Bernardino County Development Code Section 84.29.060.

Construction, operation and decommissioning activities for the project are not anticipated to result in impacts related to landfill capacity. With project conformance to applicable federal, state and local solid waste reduction and recycling measures, the project is not anticipated to result in a significant impact on solid waste disposal capacity. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant impact.

COMPLY WITH FEDERAL, STATE AND LOCAL STATUTES AND REGULATIONS FOR SOLID WASTE

Impact 3.13-7	The project would comply with federal, state, and local statutes and regulations related to solid waste. Impacts would be less than significant.
----------------------	---

Refer to Impact 3.13-5, above. The project would generate solid waste during construction and operation activities, thus requiring consideration of waste reduction and recycling measures. The 1989 California Integrated Waste Management Act (AB 939) requires that specific waste diversion goals be achieved for all California cities and counties, including an overall reduction in solid waste produced by 50 percent by the year 2000. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the proposed design. Additionally, California Assembly Bill 341 (2011) established a state goal to reduce, recycle or compost no less than 75 percent of waste generated by the year 2020.

Generation of solid waste would generally be limited to the construction phase (e.g., minor quantities of construction debris). Solid waste produced during construction would be properly disposed of in accordance with applicable statutes and regulations. Similarly, any waste generated during future decommissioning of the solar and energy storage project components

would be required to be properly managed and disposed of in a licensed, off-site landfill or recycled.

Minimal amounts of solid waste may be generated by staff occupying the site and/or from periodic maintenance activities. All solid waste would be collected by workers on a daily basis, or as otherwise needed, and transported to a licensed off-site landfill or recycling facility for disposal.

Construction and operational activities for the proposed project would occur in compliance with applicable federal, state and local statutes and regulations related to solid waste. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant impact.

CUMULATIVE IMPACTS

Impact 3.13-8	The project would not result in cumulative impacts related to utilities and service systems. Impacts would be less than significant.
----------------------	---

Cumulative projects that would have the potential to be considered in a cumulative context with the projects' incremental contribution, and that are included in the analysis of cumulative impacts relative to utilities and services, are identified in **Table 3.0-1** in Section 3.0, Introduction to Environmental Analysis, of this EIR.

It is not anticipated that the cumulative projects identified in **Table 3.0-1** would result in impacts relative to utilities or service systems. All current, planned or future discretionary projects within the County's jurisdiction would be required to demonstrate the availability of adequate water, wastewater treatment and/or solid waste disposal services prior to the issuance of permits and/or commencement of construction activities, or to identify adequate mitigation measures to ensure that new development does not adversely affect the County's ability to provide such services.

In particular, as discussed under Impact 3.13-4, groundwater supplies would be adequate to serve construction and operational demands of the proposed project. According to the WSA, the project, when considered with current and anticipated future development within the subbasin, would not adversely affect groundwater availability in the immediate future or over the long-term, due to existing and anticipated groundwater supplies and ongoing regulation and management of the subbasin by the MWA (Tetra Tech, 2018a; see **Appendix I-3**).

Based on the findings of the WSA, there is sufficient groundwater supply available for the project during normal, single dry and multiple dry water years during a 20-year projection. A sufficient water supply would be available to meet the projected water demand associated with the proposed project, in addition to existing and planned future uses within the subbasin (Tetra Tech 2018a).

Additionally, the project would replace a more water-intensive land use with a less water-intensive land use. While the WSA assumed conservatively that the reduction in water usage at the project site due to the conversion of agricultural land uses may be transferred to other areas within the subarea, thereby decreasing local water usage, the proposed project would require only a limited amount of water as compared to the overall size of the subbasin, thereby having a minimal contribution to anticipated future increase on groundwater demands (Tetra Tech 2018a).

As with the proposed project, the cumulative projects considered would be required to conform with federal, state and local regulations pertaining to solid waste disposal and recycling. As indicated, area landfills (those serving the project site and others operated by the County within the region) have adequate capacity well into the future to accommodate area growth and solid waste disposal needs. As such, the project, in combination with other cumulative projects, would not contribute to a significant cumulative impact relative to solid waste disposal.

As discussed above, all utilities and services have been determined available and adequate to serve the proposed solar PV facility. As such, the project, considered in combination with other cumulative projects identified, would result in a less than significant cumulative impact on utilities and service systems.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less than significant.

This page is intentionally blank.

Section 3.14

Effects Found Not to Be Significant

California Public Resources Code Section 21003(f) states, “It is the policy of the state that...all persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment.” This policy is reflected in California Environmental Quality Act (CEQA) Guidelines Section 15126.2(a), which states that “an EIR [environmental impact report] shall identify and focus on the significant environmental impacts of the proposed project,” and Section 15143, which states that “the EIR shall focus on the significant effects on the environment.” State CEQA Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.

This section is based on the Notice of Preparation (NOP) dated March 26, 2018 (see **Appendix A** of this EIR). The NOP was prepared consistent with the State CEQA Guidelines to identify the potentially significant effects of the proposed project and was circulated for public review between March 26, 2018, and April 26, 2018. Comments received during public scoping were considered in the process of identifying issue areas that should receive attention in the EIR.

In the course of evaluation, certain impacts were found not to be significant (no impact) or to be less than significant because the characteristics of the proposed project would not create such impacts. This section briefly describes such effects, based on the NOP. A number of individual impacts found to be less than significant are addressed in the various EIR sections (Sections 3.1 through 3.13) to provide a more comprehensive discussion as to why impacts are less than significant, in order to better inform decision-makers and the general public.

MINERAL RESOURCES

- a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

Most mining activities are focused in the County’s Desert Planning Area, in which the proposed project site is located. According to the US Geological Survey (USGS) (2018), a site recorded in 1991 by the name of Oro Treasure and New Year (Record ID 10140797), located at Minneola Road and Silver Valley Road and contiguous to the proposed project area, was considered a Prospect or Occurrence site. However, according to the USGS, this site is not a mine and/or an

active mine. The USGS identification information of the site indicates that the Prospect or Occurrence site is not of significant economic importance. For these reasons, loss of availability of mineral resources that would be of value to the region and the residents of the state would not occur. No impact would occur.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Refer to response a), above. No portion of the project site is delineated as a locally important mineral resource recovery site in the County General Plan. Therefore, the project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. No impact would occur.

POPULATION AND HOUSING

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

It is anticipated that the project would create a small number of highly specialized job positions such as a plant manager, maintenance manager, solar technicians, and environmental specialists. Employment rates in San Bernardino County suggest that an approximately 1.3 percent change was occurring as of 2015 and will continue from 2015 to 2040, or approximately 299,000 new jobs will be created in the region (SCAG 2016). As previously mentioned, the proposed project would create a small number of highly specialized jobs, which would not significantly alter the Southern California Association of Governments' (SCAG) housing projections for unincorporated San Bernardino County. Further, SCAG (2016) projected an increase in the number of household units in the unincorporated county, from 94,200 units in 2012 to 11,300 in 2040. In the event that homes are necessary to house project employees, it is anticipated that housing would be available in Barstow or adjacent communities, based on SCAG's projected growth. It is anticipated that most workers would commute to the site from nearby communities such as Barstow, with some traveling from more distant areas such as Victorville, Hesperia, and San Bernardino. Construction would generally occur during daylight hours, though exceptions may arise due to need for nighttime work. Workers would reach the site using existing roads.

Additionally, the project does not propose the development of residential uses that would require the construction of new homes, businesses, or infrastructure (e.g., provision of new water or wastewater services). The proposed project would enable generated electricity to be delivered to the grid to serve existing electrical demands; it is not anticipated to spur new growth in areas that would not have otherwise been developed. Additionally, the project would result in

local infrastructure improvements in the form of access roads but would not impede existing access routes or facilitate new access to lands that were previously inaccessible, thereby allowing for future development.

Lastly, the Daggett Solar Power Facility would not by itself induce growth because it would be a replacement for the Coolwater Generating Station. Power generated by the project would be supplied to existing customers and would service existing demand. Development of the project would not remove any impediments that currently inhibit growth. Obstacles to population growth in the region surrounding the project site are primarily due to the feasibility of development, economic constraints, permitting, and other development restrictions and regulations promulgated by local agencies. The project would not modify land use or zoning designations to allow for more residential growth and therefore would not foster growth, remove direct growth constraints, or add a direct stimulus to growth. Therefore, the proposed project would not directly or indirectly induce substantial population growth. Impacts would be less than significant.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

The proposed project site is undeveloped and although there are very few residences on the site, they belong to land owners participating in the project. Therefore, the proposed project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No impact would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

As discussed in responses a) and b) above, the project would not require the removal of any existing housing or residents which are not affiliated with the project property, as the affected lands are undeveloped and no residential uses are present on-site who are not participating landowners in the project. Therefore, there would be no potential displacement of substantial numbers of people, necessitating the construction of replacement housing. No impact would occur.

PUBLIC SERVICES

- a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services?*

FIRE PROTECTION

Fire protection services for the project area are provided by the Daggett Fire Department. The department's fire station is approximately 1.5 miles to the west of the project site at 33702 Second Street in Daggett. Additionally, the Barstow Fire Protection District station is approximately 12 miles west of the project site at 861 Barstow Road in Barstow and would be available to back up the Daggett Fire Department if necessary. The project would be designed and operated in compliance with applicable federal, state, and local worker safety and fire protection codes and regulations to minimize the potential for occurrence of fire. The project would not result in development that would generate new population in the area which would potentially increase demand for fire protection, as no residential uses are proposed. Project construction activities would be short term and due to the nature of the proposed improvements, would not substantially increase the risk of fire to occur or the need for fire protection services. Over the long term, project operation and maintenance could introduce potential ignition sources such as transformers, capacitors, electric transmission lines (including the gen-tie line), substations, maintenance vehicles, and gas- or electric-powered machinery used for maintenance of the facilities. Additionally, the proposed inverters and solar panels may represent a potential ignition source; however, the potential for fire risk for these components is considered low. All battery components for the proposed energy storage component would be installed on concrete pads and contained within an enclosure to minimize the potential for sparks or ignition to occur. Further, all such enclosures would be equipped with a fire suppression system.

The project would be designed and constructed in conformance with San Bernardino County Fire Department requirements (e.g., as conditions of approval). Additionally, the project applicant would be required to pay Public Safety Services Impact Fees in conformance with San Bernardino County Development Code Section 84.29.040(d) for solar facilities to ensure the project would not adversely affect the provision of fire protection services in the area.

Therefore, the proposed solar power facility project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which

could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for fire protection services. Impacts would be less than significant.

POLICE PROTECTION

The project site is served by the San Bernardino County Sheriff's Department. The nearest sheriff's station is in Barstow, approximately 12 miles west of the project site. The project would not result in development which would generate new population that could potentially increase demand for police protection, as no residential uses are proposed. Due to the nature of the proposed land use, project construction and/or operation activities would not substantially increase demand for police protection services in the area. The facility would be secured with chain-link fencing with 1 foot of barbed wire at the top along the perimeter of the site. Access gates would be provided at each site entry point. Substation sites and/or battery storage sites may be separately fenced. Controlled security lighting would be installed, and the site would be monitored remotely. Manual, timed, and motion-sensor lights would be installed at equipment pads and substations for maintenance and security purposes. Remote-controlled cameras and other security measures would also be installed. No other type of lighting is planned. Additionally, the applicant would be required to pay Public Safety Services Impact Fees to ensure the project does not adversely affect police protection services in the area.

With implementation of such measures, the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services. Impacts would be less than significant.

SCHOOLS

Schools in the project vicinity include the following: Alternative Education (grades K–12), 33525 Ponnay, Daggett; Silver Valley High School (grades 9–12), 35484 Daggett-Yermo Road, Yermo; Yermo School (grades TK–8), 38280 Gleason Street, Yermo; and Newberry Elementary School (grades TK–4), 33713 Newberry Road in Newberry Springs. All these schools are located within a 5- to 6-mile radius of the perimeter of the project site.

The need for permanent housing for project employees would not be necessary. It is not anticipated that construction workers would permanently relocate to the local area with their families. Rather, they would be sourced from surrounding communities. Additionally, due to the number of schools in the project vicinity and the nature of the proposed project, it is not

anticipated that population growth would be generated in the area, and no new school-aged children would trigger an increased demand for school services.

Therefore, the proposed project would not result in a substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for schools. No impact would occur.

PARKS

Refer to the response in the Schools subsection, above. As previously stated, project construction may result in a temporary increase in construction workers in the area; however, construction workers would not be anticipated to permanently relocate locally and would likely be sourced from other areas of San Bernardino County. Further, although the proposed facilities would be manned, the project site would be minimally staffed, with highly specialized staff on-site. The small number of permanent jobs created by the project is not anticipated to generate sufficient population growth to increase demand for park facilities or other recreational services in the area.

Therefore, the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for any park services. No impact would occur.

OTHER PUBLIC FACILITIES

The project is not anticipated to increase the population in the area. If it does occur, any increase in population would be negligible. It is not anticipated that area demand on other public facilities (e.g., libraries or parks) would be created. Therefore, the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for any other public facilities. No impact would occur.

RECREATION

- a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

Refer to the responses in the Parks and Other Public Facilities subsections, above. No residential uses are proposed. Consequently, population growth is not anticipated and an increase in the use of existing neighborhood and regional parks and or other recreational facilities is not anticipated.

During the construction phase, a temporary increase in construction workers in the area may occur; however, it is anticipated that construction workers would be sourced from surrounding communities in relative proximity to the project site. Therefore, the project would not substantially increase the use of local or regional recreational parks or facilities such that substantial physical deterioration would occur or be accelerated. No impact would occur.

- b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Please refer to response a), above. The project would result in the construction of a solar power facility and would not include any type of residential development that would require recreational facilities. Therefore, the proposed project would not result in development of recreational facilities that might have an adverse physical effect on the environment. No impact would occur.

This page is intentionally blank.

Section 4.0

Alternatives to the Proposed Project

INTRODUCTION

Section 15126.6(a) of the CEQA Guidelines requires that an EIR describe a range of reasonable alternatives to the project, or a range of reasonable alternatives to the location of the project, that could feasibly attain the basic objectives of the project. An EIR does not need to consider every conceivable alternative project, but it does have to consider a range of potentially feasible alternatives that will facilitate informed decision-making and public participation.

According to CEQA Guidelines Section 15126.6(a), the discussion of alternatives must include several different issues. The discussion of alternatives must focus on alternatives to the project, or to the project location, which will avoid or substantially reduce any significant effects of the project, even if the alternatives would be costlier or hinder to some degree the attainment of the project objectives. The “No Project” alternative must also be evaluated. The “No Project” analysis must discuss the existing conditions and what would reasonably be expected to occur in the foreseeable future if the proposed project was not approved. The range of alternatives required is governed by a “rule of reason.” Therefore, the EIR must only evaluate those alternatives necessary to permit a reasoned choice. The alternatives must be limited to only ones that would avoid or substantially lessen any of the significant effects of the proposed project.

Additionally, an EIR should not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative. The CEQA Guidelines also require an EIR to state why an alternative is being rejected. If the County ultimately rejects any or all alternatives, the rationale for rejection will be presented in the findings that are required before the County certifies the EIR and takes action on the proposed project. According to Section 15126.6(f)(1) of the CEQA Guidelines, among the factors that may be taken into account when addressing feasibility of alternatives are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, policy preferences, regulatory limitations, jurisdictional boundaries, and whether the applicant could reasonably acquire, control, or otherwise have access to the alternate site.

The project alternatives are evaluated to determine the extent to which they attain the basic project objectives, while significantly reducing or avoiding any significant effects of the proposed project. The proposed project objectives are outlined in the Project Objectives subsection, in Section 2.0, Project Description, of this EIR.

The objectives of the proposed project include the following:

1. Assist the State of California in achieving or exceeding its Renewables Portfolio Standard (RPS) and greenhouse gas (GHG) emissions reduction objectives by developing and constructing new California RPS-qualified solar power generation facilities producing approximately 650 MWs.
2. Produce and transmit electricity at a competitive cost.
3. Provide a new source of energy storage that assists the state in achieving or exceeding its energy storage mandates.
4. Use the existing interconnection at the Coolwater Substation that provides approximately 650 MW of capacity.
5. Utilize existing energy infrastructure to the extent possible by locating solar power generation facilities in close proximity to existing infrastructure, such as electrical transmission facilities.
6. Site solar power generation facilities in areas of San Bernardino County by 2020 that have the best solar resource to maximize energy production and the efficient use of land.
7. Develop a solar power generation facility in San Bernardino County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.

IMPACTS OF THE PROPOSED PROJECT

Pursuant to CEQA, alternatives were evaluated for whether they would avoid or substantially lessen any significant impacts of the proposed project. The evaluation considered whether the alternative would create significant environmental impacts potentially greater than those of the project as proposed. To evaluate the impacts that could be avoided or substantially lessened through an alternative, the County first identified the potentially significant impacts of the proposed project. The following resource topics were evaluated further in this EIR (refer to Section 3.0, Introduction to Environmental Analysis):

- Aesthetics and Visual Resources
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural, Tribal Cultural, and Paleontological Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Transportation and Traffic
- Utilities and Service Systems

The environmental impact analysis revealed that with the implementation of mitigation measures, the proposed project would largely result in less than significant impacts. However, impacts to construction-phase air quality related to potential exceedance of plan and air quality standards would be significant and unavoidable. Additionally, impacts on hydrology and water quality would be significant and unavoidable due to potential conditions within the affected groundwater subbasin and indirect effects of development on groundwater supplies. A summary discussion of project impacts is presented in **Table 4-1**.

**Table 4-1:
Summary of Environmental Impacts of the Proposed Project**

Resource Topic	Environmental Impacts
Aesthetics and Visual Resources	<p>Less than significant impact on scenic resources; historic buildings within a state scenic highway; existing visual quality of project site and its surrounding lands; day or nighttime views in the areas due to glare and nighttime lighting; and no significant contribution to a cumulative aesthetic impact.</p> <p>No impact on scenic vistas.</p>
Agriculture and Forestry Resources	<p>Less than significant impact from conflict with existing zoning for agricultural use or Williamson Act contract; conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use; environmental changes resulting in conversion of farmland or forest land; and no significant contribution to a cumulative impact on Agriculture and Forestry Resources.</p> <p>No impact from conflict with existing zoning for forest land or timberland, and loss or conversion of forest land to non-forest use.</p>
Air Quality	<p>Significant and unavoidable impacts from conflict with applicable air quality management plan; contribution to an air quality exceedance during construction; and a significant contribution to cumulative air impacts during construction.</p> <p>Less than significant impact with mitigation from exposure of sensitive receptors to substantial pollutant concentrations.</p> <p>Less than significant impact from creation of objectionable odors.</p>
Biological Resources	<p>Less than significant impact with mitigation on candidate, sensitive, or special-status species and federally protected wetlands; riparian or other sensitive natural vegetation communities; movement of wildlife species or migratory wildlife corridors; and no significant contribution to cumulative biological impacts.</p> <p>Less than significant impact from conflict with local policy or ordinance protecting biological resources.</p> <p>No impact from conflict with an adopted conservation plan.</p>
Cultural, Tribal Cultural, and Paleontological Resources	<p>Less than significant impact with mitigation on historical resources, archaeological resources, unique paleontological resource and geologic feature; disturbance of human remains; tribal cultural resources; and no significant contribution to a cumulative cultural resources impact.</p>

Table 4-1, continued

Resource Topic	Environmental Impacts
Geology and Soils	Less than significant impact on adverse effects from rupture of an earthquake fault, strong seismic ground shaking, landslides, and seismic-related ground failure; substantial soil erosion or the loss of topsoil; being located on unstable or expansive soils; use of septic tanks or alternative wastewater disposal systems; and no significant contribution to a cumulative geology and soils impact.
Greenhouse Gas Emissions	Less than significant impact from generation of greenhouse gas emissions that may have a significant impact on the environment; conflict with an applicable plan, policy, or regulation for the purpose of reducing emissions; and no significant contribution to a cumulative greenhouse gas emissions impact.
Hazards and Hazardous Materials	<p>Less than significant impact with mitigation from creation of reasonably foreseeable spill and accident conditions involving the release of hazardous materials into the environment and located in an area covered by an airport land use plan and within 2 miles of public airport or public use airport.</p> <p>Less than significant impact from the routine transport, use, or disposal of hazardous materials; located on a site that is included on a list of hazardous materials sites; interfering with an adopted emergency plan or emergency evacuation plan; exposing people or structures to a significant risk involving wildfires; and disturbance on the use or routine transport of hazardous materials when combined with other related cumulative projects.</p> <p>No impact from hazardous emissions or handling of hazardous materials near an existing or proposed school.</p>
Hydrology and Water Quality	<p>Significant and unavoidable impacts from substantially depleting groundwater supplies or substantially interfering with groundwater recharge; and significant contribution to a cumulative hydrology and water quality impact (groundwater).</p> <p>Less than significant impact and no violation of water quality standards or waste discharge requirements; altering drainage patterns of the site to result in erosion, siltation, or flooding; increasing the rate or amount of surface runoff that would result in flooding on- or off-site; creating runoff water which would exceed stormwater drainage system capacity provide substantially additional sources of polluted runoff; substantially degrading water quality; and placing structure within a 100-year floodplain which would impede or redirect flows.</p> <p>No impact from exposure of people or structures to significant risk involving flooding; and inundation by seiche, tsunami, or mudflow.</p>
Land Use and Planning	<p>Less than significant impact with mitigation from conflicting with land use plans, policies, and regulations.</p> <p>Less than significant impact from physically dividing an established community; and creation of collectively significant impacts related land use and planning when combined with other projects.</p> <p>No impact from conflicts with any applicable habitat conservation plan or natural community conservation plan.</p>

Table 4-1, continued

Resource Topic	Environmental Impacts
Noise	<p>Less than significant impact with mitigation from exposure of people to noise levels in excess of local noise standards; creation of substantial permanent increase in ambient noise levels; creation of substantial temporary or periodic increase in ambient noise levels; and no significant contribution to a cumulative land use impact.</p> <p>Less than significant impact from exposure of persons to excessive vibration or noise levels; exposure of people residing or working in project area to excessive noise levels within 2 miles of a public airport and in the vicinity of a private airstrip; and significant short-term noise impacts to nearby sensitive noise receptors associated with the proposed project and other related cumulative projects.</p>
Transportation and Traffic	<p>Less than significant impact with mitigation from conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system; inadequate emergency access; change in air traffic patterns; and cumulative impacts on transportation and traffic.</p> <p>Less than significant impact from conflict with an applicable congestion management program; substantial increase in hazards due to design features or incompatible uses; and conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.</p>
Utilities and Service Systems	<p>Less than significant impacts from water supply availability.</p> <p>Less than significant impact on wastewater treatment requirements; water or wastewater treatment facilities; wastewater treatment capacity; landfill capacity; and compliance with statutes and regulations related to solid waste.</p>

ALTERNATIVES TO THE PROPOSED PROJECT

As noted previously, the CEQA Guidelines (Section 15126.6l(2)) require that the alternatives discussion include an analysis of the No Project Alternative. Pursuant to CEQA, the No Project Alternative refers to the analysis of existing conditions (i.e., implementation of current plans) and what would reasonably be expected to occur in the foreseeable future if the project was not approved. Potential environmental impacts associated with No Project Alternatives, and two project alternatives are compared below to assess impacts from the proposed project. These alternatives include: (1) No Project Alternative, (2) Reduced Footprint Alternative, and (3) Kramer Junction Alternative.

Table 4-2, Comparison of Alternatives and Environmental Considerations, summarizes the impact of each alternative on the environmental resources evaluated in the EIR when compared with the impact of the proposed project. Several criteria are considered for each resource topic and the conclusion considers the aggregate impact of each alternative relative to the impacts of the proposed project.

**Table 4-2:
Comparison of Alternatives and Environmental Considerations**

Topic	1: No Project Alternative	2: Reduced Footprint Alternative	3: Kramer Junction Alternative
Aesthetics and Visual Resources	<	<	>
Agriculture and Forestry Resources	<	<	<
Air Quality	<	<	>
Biological Resources	<	<	>
Cultural, Tribal Cultural, and Paleontological Resources	<	<	>
Geology and Soils	<	<	>
Greenhouse Gas Emissions	>	<	>
Hazards and Hazardous Materials	<	<	<
Hydrology and Water Quality	>	<	>
Land Use and Planning	<	<	>
Noise	<	<	<
Utilities and Service Systems	>	<	>
Transportation and Traffic	<	<	<
Attains Most Project Objectives	No	Yes	Yes

Table 4-3, Project Objectives Consistency Analysis, identifies objectives consistency for each of the proposed alternatives. Further discussion of objectives related to each alternative is provided following the impact analysis comparison below.

**Table 4-3:
Project Objectives Consistency Analysis**

Project Objective	1: No Project Alternative	2: Reduced Footprint Alternative	3: Kramer Junction Alternative
	Consistent	Consistent	Consistent
1. Assist the State of California in achieving or exceeding its Renewables Portfolio Standard (RPS) and greenhouse gas (GHG) emissions reduction objectives by developing and constructing new California RPS-qualified solar power generation facilities producing up to 650 MWs.	No	Less than project	Less than project
2. Produce and transmit electricity at a competitive cost.	No	Higher cost ¹	Higher cost ¹
3. Provide a new source of energy storage that assists the state in achieving or exceeding its energy storage mandates.	No	Yes	Yes
4. Use the existing interconnection at Coolwater Substation that provides 650 MW of capacity.	No	Yes but only 185 MW	No ²
5. Utilize existing energy infrastructure to the extent possible by locating solar power generation facilities in close proximity to existing infrastructure, such as electrical transmission facilities.	No	Yes	Yes
6. Site solar power generation facilities in areas of San Bernardino County by 2020 that have the best solar resource to maximize energy production and the efficient use of land.	No	Yes	No ³
7. Develop a solar power generation facility in San Bernardino County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.	No	Yes	No ⁴

Notes:

- Information about energy market pricing is not public information and future competitive pricing for solar and battery storage is speculative; therefore, it was assumed that Alternatives 2 and 3 could meet the objective.
- Alternative 3 would interconnect at the Kramer Substation rather than the Coolwater substation.
- Development on BLM lands in this area of San Bernardino County has been prohibited until 2021 at the earliest, pending the finalization of state and federal policy on Mohave ground squirrel population.
- Alternative 3 would be located on federal land and would not generate tax and fee revenue to the County.

ALTERNATIVE 1: NO PROJECT ALTERNATIVE

Description of Alternative

Under the No Project Alternative, the proposed solar energy and storage facility would not be constructed. The existing conditions in the project site would remain. The No Project Alternative does not achieve any of the basic project objectives.

Impact Comparison to the Proposed Project

Under the No Project Alternative, impacts associated with construction and operation of the solar energy and storage facility would be avoided.

Aesthetics and Visual Resources

Implementation of the No Project Alternative would not impact scenic resources, as the project site would remain in its current condition. Views of agricultural land, the Barstow-Daggett airport, various transportation and utility infrastructure, and residences would remain. No new sources of light and glare would be constructed. The No Project Alternative would have no aesthetic impacts. The No Project Alternative would avoid the proposed project's less than significant impacts on visual quality. The No Project Alternative would have no impact on scenic resource or visual quality.

Agriculture and Forestry Resources

The No Project Alternative would have no impact on agricultural and forestry resources. No designated farmland would be converted to nonagricultural use, and no environmental changes would occur from conversion of farmland. The No Project Alternative would avoid the proposed project's impacts on agricultural resources resulting from conversion of farmland.

Air Quality

The No Project Alternative would not require vehicle or equipment use. Dust emissions from the active and fallow agricultural areas would continue at the same rate as existing conditions. Criteria air pollutant emissions would not increase and the risk to sensitive receptors would remain the same as baseline conditions. Ambient air quality of the project site would not be affected by the No Project Alternative. The No Project Alternative would avoid the proposed project's significant and unavoidable impacts on air quality resulting from construction of the proposed solar and energy storage facility.

Biological Resources

The No Project Alternative would not require ground-disturbing activities and would not affect special-status plant and wildlife species that may occur within the project site. No impacts on biological resources would occur. The No Project Alternative would avoid the proposed project impacts on biological resources including special-status species and habitats that would result from construction of the proposed solar and energy storage facility.

Cultural, Tribal Cultural, and Paleontological Resources

The No Project Alternative would not involve ground-disturbing activities. The No Project Alternative would not impact archaeological, tribal, cultural, or paleontological resources or disturb human remains. The No Project Alternative would avoid potential proposed project impacts on cultural, tribal cultural, and paleontological resources resulting from potential

damage of buried archaeological, tribal cultural, and paleontological resources during construction of the solar and energy storage facility.

Geology and Soils

The No Project Alternative would not involve in the development of the project site and would not expose structures or property to adverse effects from rupture of an earthquake fault, strong seismic ground shaking, seismic-related ground failure, liquefaction, landslides, or expansive or unstable soil. The No Project Alternative would not involve ground-disturbing activities and soil erosion and topsoil loss would continue at the same rate as baseline conditions in active and fallow agricultural areas. No geologic, soils, or seismicity impacts would occur with the No Project Alternative. The No Project Alternative would avoid the proposed project's impacts from exposure to earthquake faults, strong seismic ground shaking, seismic-related ground failure, landslides, soil erosion or loss of topsoil, unstable geological conditions, and expansive or unstable soils because no development would occur in the project site.

Greenhouse Gas Emissions

The No Project Alternative would not require construction of a new solar energy and storage facility. The existing greenhouse gas emissions from agricultural activities and existing agricultural use of the project site would continue. The No Project Alternative would not implement a renewable energy project and would not help the State of California meet its for renewable energy generation targets to reduce greenhouse gas emissions. The No Project Alternative would avoid the proposed project's less than significant impacts from generation of greenhouse gas emissions during construction because no development would occur in the project site.

The No Project Alternative would not retire the existing agricultural operations and equipment use on the project site or produce renewable energy. The long-term emissions of the No Project Alternative are expected to be greater than the proposed project due to the continued agricultural operation and use of the project site.

Hazards and Hazardous Materials

The No Project Alternative would not involve transportation or use of hazardous materials for construction of a solar and energy storage facility and would not introduce large batteries containing flammable materials. The risk of wildfire would not increase because the existing vegetation and use of the project site would remain. There would be no impacts related the hazards and hazardous materials.

The No Project Alternative would not impact air traffic safety because the No Project Alternative would not introduce any new infrastructure in areas covered by an Airport Land Use Plan. No infrastructure would be erected under the No Project Alternative.

The No Project Alternative would avoid the proposed project's impacts from transport of hazardous materials and introduction of potentially flammable battery storage materials into the project site. The No Project Alternative would also avoid the introduction of structures into the airport safety zone at the Barstow-Daggett airport.

Hydrology and Water Quality

The No Project Alternative would not create new impervious surfaces or include any development at the project site. No ground-disturbing activities would occur, and erosion and runoff rates would be unchanged from baseline conditions. The No Project Alternative would involve continuation of agricultural operations at the project site. The continued agricultural operations would involve substantial use of groundwater. The seven landowners within the project have base annual production rights of 27,054 acre-feet of water per year, which is the highest annual production that would be feasible for the area (Tetra Tech 2018). The court-appointed water master for the basin also established Free Production Allowance of 35 percent of the base annual production to maintain a proper water balance. The Free Production Allowance for property owners on the project site is 7,682 acre-feet of water per year (*ibid*). The amount of water used for agricultural production on the site ranged from 8,338 to 10,781 acre-feet of water per year between 2014 and 2017. This extraction of groundwater would be expected to continue under the No Project Alternative. The continued use of groundwater for agricultural production in the project area would not significantly impact groundwater supplies because groundwater allocations in the project area have been adjudicated and groundwater use in the area is managed by a water master. Continued agricultural operations under the No Project Alternative would involve substantially more groundwater use than the proposed project. Additionally, the No Project Alternative would not necessarily avoid the project's contribution to significant and unavoidable impacts on hydrology and water quality (groundwater supply) due to potential future transfer or shift of the Free Production Allowance (FPA) of the current landowners within the subbasin (which they can do with or without the project) and the fact that the County cannot compel actions by the Watermaster to adjust FPA or take other actions to reach equilibrium in the Baja Subarea.

The No Project Alternative would avoid the proposed project's less than significant impacts on water quality, altering drainage patterns of the site, increasing the rate of or amount of surface runoff, and placing structure within a 100-year floodplain. The No Project Alternative would not retire the existing agricultural operations and associated use of substantial groundwater resources and the long-term water use could be up to 8,802 acre-feet of water per year. The No Project Alternative would result in greater water resource impacts than the proposed project due to the continued use of substantial groundwater resources and the scarcity of water in the region.

Land Use and Planning

The No Project Alternative would not conflict with the San Bernardino County General Plan, County ordinances, or other applicable land use plans, policies, or regulations. No impacts related to land use would occur. The No Project Alternative would avoid the proposed project's impacts from conflict with land use plans, policies, and regulations, and dividing an established community.

Noise

No construction or operation of a solar and energy storage facility would occur under the No Project Alternative and ambient noise levels on the project site would remain the same as existing conditions. The No Project Alternative would not conflict with local noise standards or result in changes to the ambient noise levels either temporarily, periodically, or permanently. The No Project Alternative would avoid the proposed project's impacts from exposure of people to noise levels in excess of local noise standards and creation of substantial permanent and temporary increase in ambient noise levels.

Utilities and Service Systems

No new services would be required for the No Project Alternative. The existing agricultural use and associated groundwater withdrawals would continue on-site. The No Project Alternative would have no effect on water or wastewater treatment, stormwater drainage, or landfill capacity. The continued use of groundwater for agricultural production on-site would prohibit the use of groundwater resources for other applications in the region. Therefore, the No Project Alternative would have greater impacts on utilities and service systems than the proposed project due to the continued water demand from agricultural production on-site, whereas the proposed project would substantially reduce the on-site water demand.

Transportation and Traffic

No construction would occur with the implementation of the No Project Alternative. The No Project Alternative would not introduce new traffic to the area. The existing agricultural use and vehicle traffic would remain on the project site. No new access roads, solar facilities, or gen-tie lines would be constructed and the existing transportation and traffic conditions, including air traffic patterns, in the area would remain. The No Project Alternative would avoid all proposed project impacts from generation of traffic and creation of new access roads.

Alternative 1 Summary and Feasibility

Implementation of Alternative 1, the No Project Alternative, would avoid the environmental impacts of the proposed project because no solar energy and storage facility would be constructed. The baseline environmental conditions on the project site would remain under the No Project Alternative. The No Project Alternative would not retire the existing agricultural

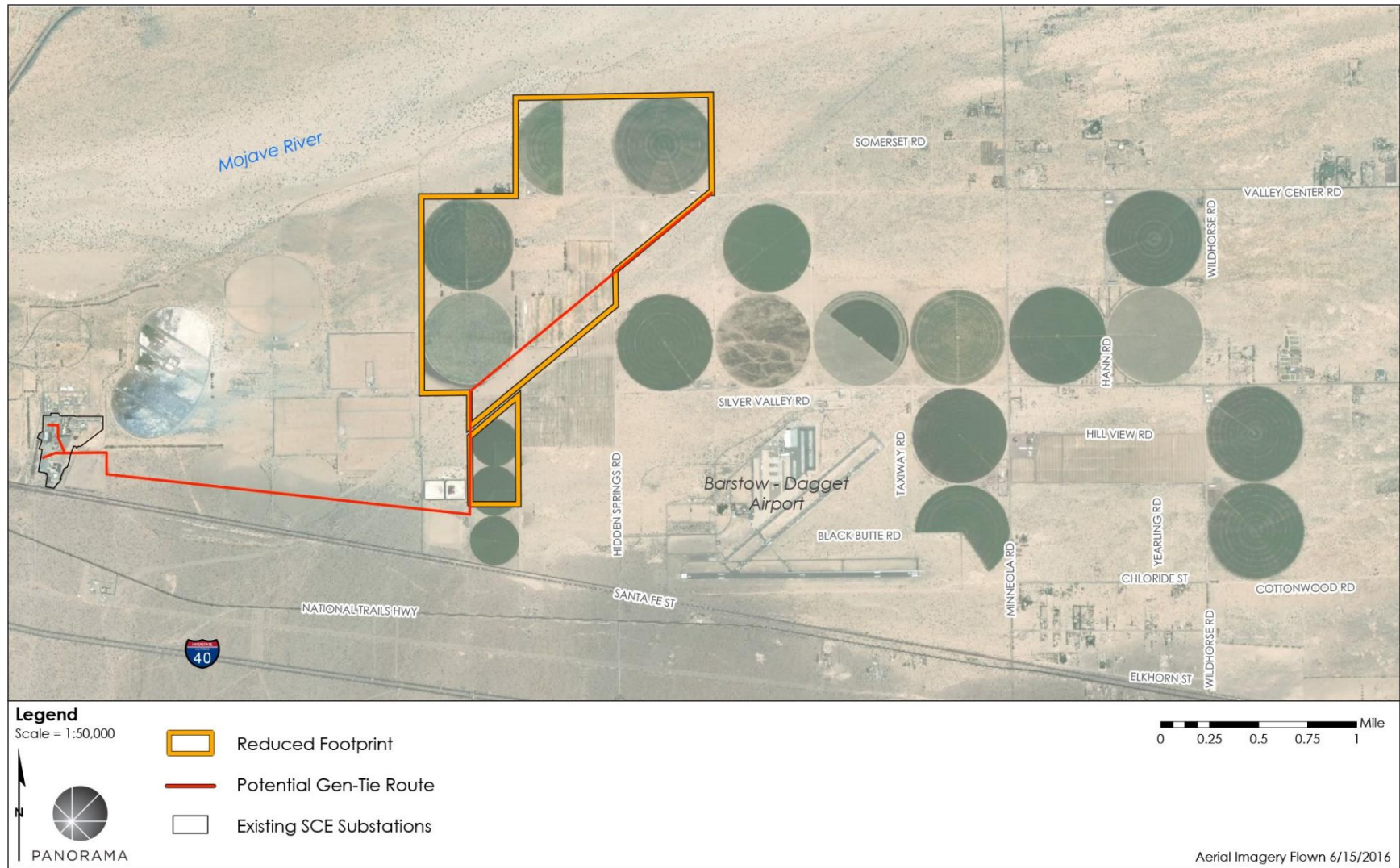
operations on the site, which would continue to use groundwater resources and produce greenhouse gas emissions from agricultural equipment use. The No Project Alternative would have fewer impacts on most environmental resources as compared to the proposed project because no construction would occur, and land use patterns of the site would remain. The No Project Alternative would have greater impacts on water resources (groundwater) and greenhouse gases due to continued agricultural operation on the site under the No Project Alternative. The No Project Alternative would not meet any of the basic project objectives.

ALTERNATIVE 2: REDUCED FOOTPRINT ALTERNATIVE

Description of Alternative

Alternative 2, the Reduced Footprint Alternative, would substantially reduce the footprint of the solar energy and storage facility to reduce significant air quality impacts to a less than significant level. The Alternative 2 solar facility would encompass approximately 1,015 acres, approximately 29 % of the 3,500 acres required for the proposed project. Alternative 2 would produce up to 185 MW of energy. Alternative 2 construction would occur over 13.5 months for Phase 1 (57.5 MW), 13.5 months for Phase 2 (57.5 MW) and 19 months for Phase 3 (70 MW). The phases and stages within each phase would not overlap. An average of 85 workers would be on site during each stage of construction, depending on the activities.

A conceptual layout and reduced footprint for the Alternative 2 solar energy and storage facility is provided on **Exhibit 4-1Exhibi, Reduced Footprint Alternative (Concept)**.

Exhibit 4-1: Reduced Footprint Alternative (Concept)

This page is intentionally blank.

Impact Comparison to the Proposed Project

Aesthetics and Visual Resources

Alternative 2 would avoid solar development on approximately 2,485 acres of land within the project site. The impact on views from scenic highways, including Route 66 and I-40 would be reduced with implementation of Alternative 2 because the solar facility footprint would be substantially reduced, which would reduce the extent and duration of views of the solar and energy storage facilities from scenic highways. The alternative would also reduce the change in visual quality from nearby public roads because the extent of land conversion would be substantially minimized and the use of public roads with views of the solar facility would be reduced.

Alternative 2 would reduce the number of solar panels and new sources of lighting that would be introduced to the project site due to the 71% reduction in the project footprint. Light and glare impacts under Alternative 2 would be reduced compared to the proposed project. Implementation of Alternative 2 would reduce aesthetic impacts on scenic highways, visual quality, and light and glare. Alternative 2 would have less impact on aesthetics than the proposed project.

Agriculture and Forestry Resources

Alternative 2 would reduce the conversion of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland due to the substantial reduction in the Alternative 2 footprint. Alternative 2 would have no impact on forestry resources. Alternative 2 would result in substantially less impact on agricultural resources compared to the proposed project because less designated farmland would be converted to nonagricultural use.

Air Quality

Alternative 2 would reduce the intensity of construction and associated construction equipment emissions and the fugitive dust due to a 2,485-acre reduction in the area of ground disturbance. The reduced overall footprint of the project would substantially reduce the fugitive dust generated during construction of the project. **Table 4-4, Alternative 2 Mitigated Construction Emissions by Stage (Pounds per Day)**, lists the mitigated construction emissions for each stage of Alternative 2 construction after implementation of the dust control mitigation measures included for the proposed project. Alternative 2 construction emissions would not exceed MDAQMD thresholds for all pollutants and Alternative 2 impacts would be less than significant with mitigation.

**Table 4-4:
Alternative 2 Mitigated Construction Emissions by Stage (Pounds per Day)**

Construction Stage	CO	ROGs	NO _x	SO _x	PM ₁₀	PM _{2.5}
Stage 1	28.0	8.8	134.6	0.3	79.5	19.4
Stage 2	20.1	3.1	54.2	0.1	2.4	2.4
Stage 3	4.4	0.8	15.6	0.0	0.6	0.5
Peak Day	28.0	8.8	134.6	0.3	79.5	19.4
MDAQMD Threshold	548	137	137	137	82	65
Exceedance?	No	No	No	No	No	No

Source: HDR 2019

Alternative 2 would reduce the proposed project's significant and unavoidable impacts on air quality construction emissions to a less than significant level. Alternative 2 would have less air quality impacts than the proposed project.

Biological Resources

The area of disturbance for Alternative 2 would be approximately 2,485 acres less than the proposed project. Alternative 2 would have less impact on biological resources than the proposed project because Alternative 2 would involve less ground disturbance, which would reduce the potential for impacts on other special-status species and their habitats including the Mojave fringe-toed lizard, desert tortoise, burrowing owl, desert kit fox, America badger, and special-status and migratory birds.

Cultural, Tribal Cultural, and Paleontological Resources

Alternative 2 would avoid development and associated ground-disturbing activities on 2,485 acres of the project site. The reduced area of ground disturbance would reduce the potential for potential discovery and damage of significant archaeological, paleontological, and tribal cultural resources. Alternative 2 would have less potential impact on cultural, tribal cultural, and paleontological resources than the proposed project.

Geology and Soils

Alternative 2 would be located within the project site on the same geologic and soil units as the proposed project. The area of Alternative 2 ground disturbance would be 1,015 acres and 71% less than the proposed project. Alternative 2 would reduce impacts from loss of top soil due to the reduction in the project footprint. Geology and soil impacts associated with the implementation of Alternative 2 would be less than the proposed project.

Greenhouse Gas Emissions

Alternative 2 would reduce the construction activity level by phasing the construction and reducing the project footprint by approximately 71%. Alternative 2 GHG emissions would reduce by a similar amount in conjunction with the reduced footprint. Alternative 2 would produce 185 MW of renewable energy, which would be less than the 650 MW of renewable energy produced by the proposed project. The reduced production of renewable energy would mean that the State of California would need to produce and procure renewable energy in other places to meet the renewable energy targets in SB 100. Alternative 2 construction would have less GHG emissions and impact on GHG than the proposed project.

Hazards and Hazardous Materials

Alternative 2 would involve use of the same hazardous materials as the proposed project (e.g., fuels, asphalt, lubricants, toxic solvents, pesticides, and herbicides); however, the substantial reduction in the Alternative 2 footprint would reduce areas where these materials would be transported and stored by avoiding development on approximately 2,485 acres. The reduced energy storage infrastructure would reduce the potential for ignition of an industrial fire on the project site. The proposed project includes solar panel installation in areas east and west of runway 826 and northeast of runway 422 in Barstow-Daggett Airport. Alternative 2 would remove solar development and gen-tie lines from areas within the Barstow-Daggett Airport Safety Area 1, and therefore, project review would not be required by the Federal Aviation Administration (FAA).

Hydrology and Water Quality

Alternative 2 would avoid ground-disturbing activities on approximately 2,485 acres of land. The reduced ground disturbance would reduce the potential for increased sedimentation and runoff during storm events. Alternative 2 would reduce the amount of required stormwater detention facilities. Alternative 2 would require less water for dust control during construction and operation due to the reduction in the total number of acres that would be disturbed during construction.

However, Alternative 2 would not necessarily avoid the project's contribution to significant and unavoidable impacts on hydrology and water quality (groundwater supply) due to potential future transfer or shift of the FPA of the current landowners within the subbasin and the fact that the County cannot compel actions by the Watermaster to adjust FPA or take other actions to reach equilibrium in the Baja Subarea.

Overall, Alternative 2 would have less impact on hydrology and water quality than the proposed project.

Land Use and Planning

Alternative 2 is located within the same land use and zoning designation as the proposed project in which solar development is allowed. Alternative 2 would create additional separation between residential areas and the solar facility. Alternative 2 would also avoid introduction of solar infrastructure and gen-tie lines within the Barstow-Daggett Airport Safety Area 1, which would reduce the potential for conflicts with the Airport Land Use Plan. Alternative 2 would have less land use impact than the proposed project.

Noise

Construction equipment used for Alternative 2 would be similar to the proposed project. Alternative 2 would increase residential setbacks and create additional separation between residential areas and construction activities. Since noise attenuates with distance, Alternative 2 would reduce peak construction and operational noise levels at the nearest receptor due to the increased setback from residences. Alternative 2 noise impacts would be less than the proposed project.

Utilities and Service Systems

Alternative 2 would produce less wastewater and require less water during construction and operation due to the reduction in the project footprint and associated reduction in water use and runoff generated during construction and operation. Alternative 2 would also produce less waste relative to the reduction in the project footprint. Overall, Alternative 2 impacts on utilities and service systems would be less than the proposed project.

Transportation and Traffic

With Alternative 2, the intensity of construction and the daily workforce would remain the same; however, overall construction would be shorter in duration. Additionally, Alternative 2 would also avoid development in the Barstow-Daggett Airport Safety Area 1, although project facilities are not prohibited from this Area when issued a Determination of No Hazard from the FAA.

Alternative 2 Summary and Feasibility

Overall, implementation of Alternative 2 would result in reduced impacts on aesthetics, agricultural resources, air quality, biological resources, cultural, tribal cultural, and paleontological resources, geology and soils, greenhouse gases, hydrology and water quality, hazards and hazardous materials, land use, noise, transportation and traffic, and utilities when compared to the proposed project. Alternative 2 attains some project objectives (refer to **Table 4-3**) and is potentially feasible.

ALTERNATIVE 3: KRAMER JUNCTION SOLAR SITE ALTERNATIVE

Description of Alternative

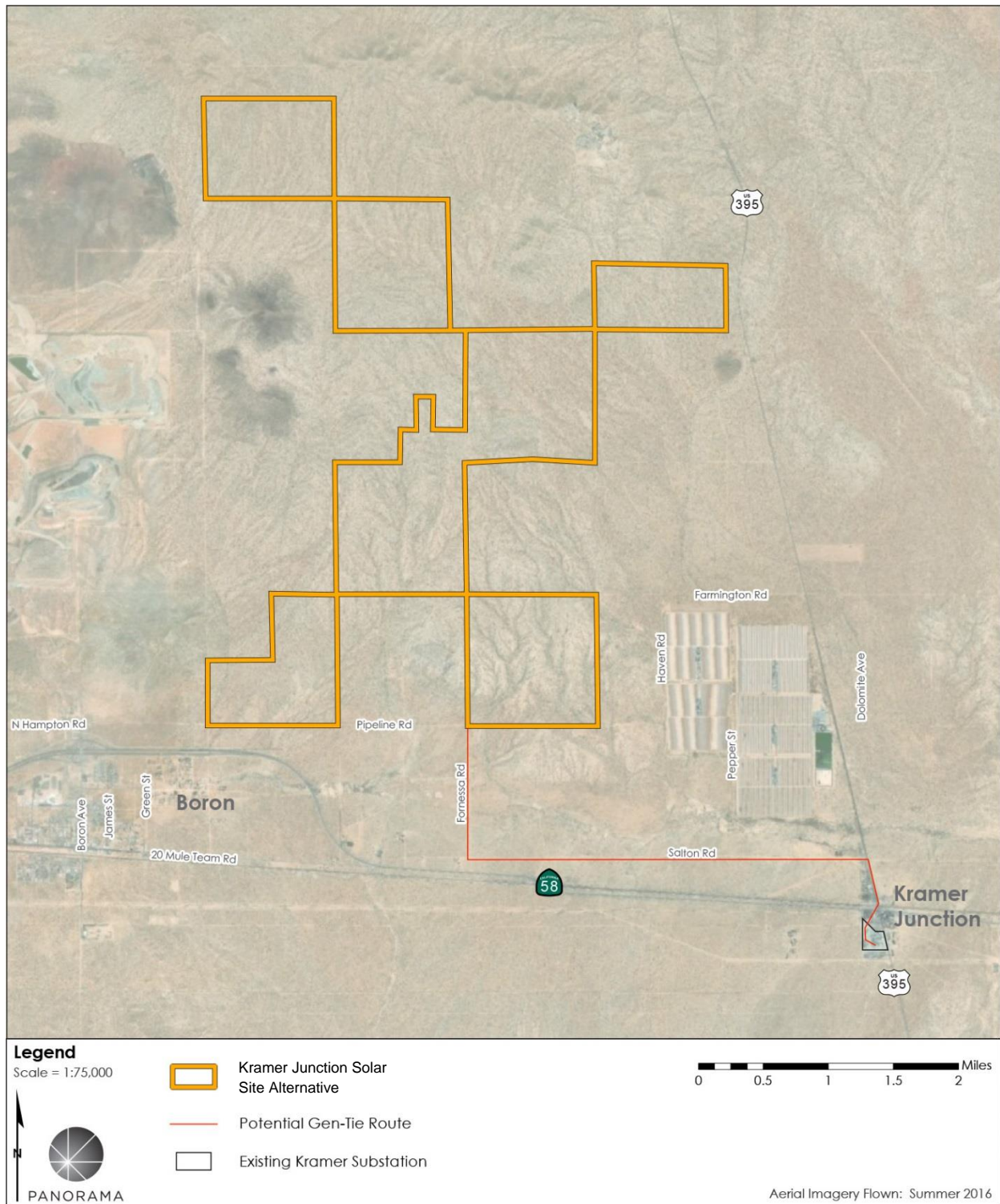
Alternative 3, the Kramer Junction Solar Site Alternative, would include 650 MW of electric generation capacity through the use of solar PV panels, battery storage, on-site substations, and a gen-tie line. Given the land area, Alternative 3 could have a similar generation capacity as the proposed project. The Alternative 3 site includes approximately 3,913 acres on BLM administered land, located west of the Interstate 395 highway (I-395) and north of U.S. Route 58, just north of the community of Boron as shown on **Exhibit 4-2, Kramer Junction Solar Site Alternative**. The northern two-thirds of the Alternative 3 site is designated as a Development Focus Area (DFA) in the Desert Renewable Energy Conservation Plan (DRECP) and the remainder of the site is undesignated in the DRECP.

The DRECP requires CDFW to develop a county-wide conservation strategy that addresses Mohave ground squirrel, prior to developing land in DFA-designated areas. The time it would take to development the conservation strategy would likely delay any solar development in the area, however; the Alternative 3 site is considered a feasible location for solar development because it is an allowable use under the DRECP. Although the Alternative 3 solar site covers approximately 3,913 acres, the actual area of development would be similar to the proposed project (approximately 3,500 acres).

The anticipated route of the Alternative 3 gen-tie is shown on **Exhibit 4-2** but has not been fully determined at this time. It is assumed that the gen-tie line would require an approximately 5-mile long gen-tie line and associated right-of-way. The point of interconnection would be at the Kramer Substation. Upgrades to the Kramer Substation may be required to allow for the interconnection. Depending on the final location of the gen-tie, existing rights-of-way may be required for the entirety, or a portion, of the gen-tie line.

An off-site alternative was recommended by the public to reduce impacts on the Daggett community. Alternative 3 would locate the proposed solar facility farther from residences than the proposed project and would avoid potential land use and air traffic safety impacts associated with location of a solar facility in proximity to an airport.

This page is intentionally blank.

Exhibit 4-2: Kramer Junction Solar Site Alternative

This page is intentionally blank.

Impact Comparison to the Proposed Project**Aesthetics and Visual Resources**

Alternative 3 would include development of the solar facility within an undisturbed desert area, covered in a network of desert washes. There is an existing solar facility directly east and adjacent to the Alternative 3 site, and an existing boron mine directly west and adjacent to the Alternative 3 site. The visual quality of the Alternative 3 site and surrounding area is considered low to moderate, given the existing encroachments east and west of the Alternative 3 site.

A transmission corridor containing a high voltage transmission line, a sub-transmission line, gas pipeline, fiber optic cable, and distribution lines, runs parallel to the west side of I-395. An existing solar facility is located between I-395 and the Alternative 3 site. Construction at the Alternative 3 solar site would result in changes in existing views from I-395 and U.S. Route 58. U.S. Route 58 is an eligible state scenic highway. Existing views towards of the Alternative 3 site from the U.S. Route 58 are currently dominated by undeveloped desert landscape with scrub shrub vegetation and mountains in the background.

The project would replace views of the open desert with views of a solar facility. The gen-tie line for Alternative 3 would be approximately 5-miles long and would parallel U.S. Route 58. The gen-tie line and solar facility would not substantially obstruct or interrupt views of the surrounding landscape; however, the level of contrast to the existing undisturbed landscape would be moderate to moderately high in areas where the solar facility is close to U.S. Route 58. The resulting impact on visual quality would potentially be significant and unavoidable.

Alternative 3 would introduce similar new sources of lighting and glare to the Alternative 3 site as the proposed project. All lighting would be installed in accordance with County standard for nighttime lighting. The gen-tie line would be constructed with metallic components, which could introduce new sources of glare to the project site. No residences are located near the Alternative 3 site and solar panels would not direct glare towards the adjacent highways due to the angle of the solar panels relative to the highways. Impacts from light and glare would be less than significant.

Alternative 3 has greater impacts on aesthetics than the proposed project due to the introduction of industrial elements into a more undisturbed visual landscape near an eligible scenic highway. Implementation of this alternative would result in a potentially significant and unavoidable impact.

Agriculture and Forestry Resources

Alternative 3 would not involve development within designated farmland and would not convert farmland to nonagricultural use. Alternative 3 would have no impact on farmland. Alternative 3 would avoid all proposed project impacts on agricultural resources.

Air Quality

Alternative 3 would involve the use of construction equipment and vehicles that would result in temporary construction emissions. The alternative would not result in extended exposure of residences to criteria air pollutants or toxic air contaminants, as there are no residences in the vicinity of the Alternative 3 site. This alternative is located within a dry desert area with a network of washes. The Alternative 3 site is more topographically diverse than the project site. Alternative 3 would require more grading for site development to even out the grade for solar panel installation. The additional grading would result in greater potential for generation of fugitive dust (PM₁₀ and PM_{2.5}) during construction and over the project life. The additional grading would also require increased diesel-powered equipment activity, which would result in greater NO_x emissions. Alternative 3 would exceed MDAQMD thresholds for NO_x, PM₁₀, and PM_{2.5}, even with mitigation incorporated, and the impact would be significant and unavoidable.

Alternative 3 would use the same types of construction equipment as the proposed project. The alternative would result in increased air quality emissions from fugitive dust due to the substantial grading that would be required on the site. Alternative 3 would avoid exposure of sensitive receptors to criteria air pollutants or toxic air contaminants because there are no sensitive receptors adjacent to the site. The nearest sensitive receptors are approximately 0.3 miles southwest of the Alternative 3 site, in Boron. Alternative 3 would have a greater impact on air quality than the proposed project because Alternative 3 would result in increased significant and unavoidable emissions of criteria air pollutants.

Biological Resources

Alternative 3 would have the potential to affect special-status wildlife and plant species, including direct impacts on habitat for desert tortoise, burrowing owl, special-status birds and bats, desert kit fox, and Mohave ground squirrel. Two BLM special-status plant species, desert cymopterus (*Cymopterus deserticola*) and Barstow woolly sunflower, (*Eriophyllum mohavense*), have the potential to occur on the Alternative 3 site.

Alternative 3 impacts on special-status species, habitat, and plants would be significant. Alternative 3 is located in proximity to known populations of Mohave ground squirrel and would result in substantial loss of Mohave ground squirrel habitat and impacts on desert wash habitat.

Alternative 3 would result in greater impacts on special-status species, habitat and plants than the proposed project. Mitigation measures identified for the proposed project could be implemented to reduce some biological resource impacts; however, additional mitigation measure would be required to address potential impacts on Mohave ground squirrel and desert washes. Alternative 3 would result in greater impacts on biological resources than the proposed project.

Cultural, Tribal Cultural, and Paleontological Resources

Alternative 3 would include ground-disturbing activities on undeveloped desert terrain. Ground-disturbing construction activities have the potential to uncover buried archeological, tribal cultural, or paleontological resources or human remains and result in a significant impact. Implementation of the mitigation measures identified for the proposed project would reduce potential impacts to a less than significant level. The potential for disturbing archaeological, tribal, or paleontological resources on the Alternative 3 site would be greater than the potential at the project site because a large portion of the project site has been subject to active agricultural activities including tilling, which disturbs the ground surface and the potential to encounter significant cultural resources is therefore reduced. Implementation of Alternative 3 would result in greater potential impacts on cultural resources than the proposed project due to the undeveloped nature of the Alternative 3 site.

Geology and Soils

Implementation of Alternative 3 would include development of the solar facility within an area of desert washes with uneven terrain. Additional grading would be required for site preparation. Alternative 3 grading would have the potential to cause soil erosion and loss of topsoil. Soils at the Alternative 3 site consist of sandy loam and the depth to groundwater would be substantial due to the desert environment. The Alternative 3 site soil conditions are not subject to liquefaction, landslides, or collapse.

Alternative 3 would require more grading than the proposed project due to presence of slopes and desert washes. Geology and soil impacts associated with the implementation of Alternative 3 would be greater than the proposed project.

Greenhouse Gas Emissions

Alternative 3 construction would involve off-road construction equipment and vehicles that would result in construction GHG emissions, which would be short-term and temporary. GHG emissions associated with operations and maintenance of Alternative 3 would not exceed the GHG significance threshold of 3,000 MT CO₂e per year. Impacts associated with greenhouse gas emissions would be less than significant.

The Alternative 3 site is more topographically diverse than the project site and would require more vegetation removal and grading for site development to even out the grade for solar panel installation. The additional grading would result in greater use of off-road construction equipment, which would result in greater GHG emissions. Greenhouse gas impacts associated with the implementation of Alternative 3 would be greater than the proposed project.

Hazards and Hazardous Materials

Alternative 3 would involve use of the same hazardous materials as the proposed project (e.g., fuels, asphalt, lubricants, toxic solvents, pesticides, and herbicides). Project construction activities would occur in accordance with all applicable standards for handling and transport of hazardous materials set forth by the County of San Bernardino and state and federal health and safety requirements. The substation and solar facility are not located on sites that are included on a list of hazardous materials sites, as determined through review of the EnviroStor and GeoTracker databases.

There are two LUST cleanup sites located on the east side of Kramer Substation, but no development would occur at those locations. Alternative 3 would increase the potential for occurrence of wildfires in the project site above existing conditions and would introduce energy storage infrastructure containing highly flammable materials to a vegetated desert landscape. Impacts related to hazards and hazardous materials would be potentially significant and would likely require mitigation.

Alternative 3 would not include development in the vicinity of the Barstow-Daggett Airport and would avoid the potential air traffic safety hazards and conflicts. The Boron Airstrip, a private airstrip, is located approximately 0.70 mile south of the Alternative 3 project site. The Alternative 3 facilities would not be expected to create a hazard to air traffic due to the distance between the project and the Boron Airstrip similar to that with the proposed project when issued a Determination of No Hazard from the FAA.

Alternative 3 would require use of the same hazardous materials as the proposed project and would have the same less than significant impact related to the potential for wildfires. Alternative 3 would avoid air traffic safety hazards because Alternative 3 is not located in proximity to an airport. Alternative 3 would have less potential for hazard impacts than the proposed project.

Hydrology and Water Quality

Alternative 3 is located in an area crossed by a network of desert washes. Grading and earthwork in the Alternative 3 area would result in increased risk of erosion and associated water quality impacts. Alternative 3 could also require redirecting streams due to grading within the desert washes. Preparation of a project-specific Storm Water Pollution Prevention Plan (SWPPP) would minimize construction-related water quality impacts from erosion; however, impacts on stream flows could be significant due to grading within desert washes.

Construction of the Alternative 3 solar facility would require use of water for dust suppression. The Alternative 3 site does not contain any groundwater wells and does not have any existing groundwater use. The use of groundwater for dust control could have a significant impact on groundwater supplies. Although the site is located near an existing mine, but there are no known

sources of contamination on the site and Alternative 3 is not expected to create a new source of contaminated water.

Alternative 3 would not necessarily avoid the project's contribution to significant and unavoidable impacts on hydrology and water quality (groundwater supply) due to potential future transfer or shift of the FPA of the current landowners within the subbasin and the fact that the County cannot compel actions by the Watermaster to adjust FPA or take other actions to reach equilibrium in the Baja Subarea

The presence of Alternative 3 within an area of desert washes would increase the likelihood of flooding and substantial damage to the facility during flooding. Additional engineering would be required to avoid flood damage. The engineering solutions could result in other impacts on the environment, such as increased air quality and greenhouse gas emissions. Alternative 3 would result in greater hydrology and water quality impacts than the proposed project due to the location of the solar facility within an area of desert washes.

Land Use and Planning

Alternative 3 is located entirely within land under the jurisdiction of the BLM. The northern two-thirds of Alternative 3 is designed as a Development Focus Area within the BLM DRECP LUPA. The remainder of the Alternative 3 site is undesignated in the DRECP. DRECP Policies DFA-BIO-IFS-4 and 5 prohibit development in the Alternative 3 area until a county-wide conservation strategy has been developed by CDFW that addresses the Mohave Ground Squirrel population. Once the strategy is developed, the BLM would be required to review and determine if this area should remain as a DFA. No proposals for development will be considered by the BLM until a determination has been made.

The Alternative 3 solar and energy storage site is located outside the jurisdiction of the County. The nearest transmission interconnection would be Kameron Substation, and the gen-tie from the project solar site to the substation line may cross areas designated as RL-5 (rural living, 5-acre minimum), RL (rural living), and CR (rural commercial) by the General Plan. These zoning designations allow for the development of renewable energy generation facilities with County approval of a Conditional Use Permit (CUP).

Alternative 3 would have greater land use impacts than the proposed project due to siting of the project on BLM land where a portion of the site is not covered by a DFA and a county-wide conservation strategy needs to be adopted prior to any solar facility being allowed in the area.

Noise

Alternative 3 would involve short-term construction noise and long-term operational noise. The closest sensitive receptors are located approximately 0.30 mile southwest of the Alternative 3

site. The impact from noise generation during construction and operation would be less than significant due to the distance between the project facilities and the nearest sensitive receptor.

Construction at the Alternative 3 solar site would have a lesser noise impact than the proposed project solar site because there are no sensitive receptors immediately adjacent to the alternative solar site that would be exposed to construction and operational noise.

Utilities and Service Systems

Alternative 3 would require use of similar sanitary facilities as the proposed project and would not significantly affect water quality standards. Alternative 3 could require greater use of water supplies than the proposed project due to the increased grading and compaction that would likely be required at the site to level the surface undulations within the washes. Operational water demand for panel washing would be the same as the proposed project. The Alternative 3 area does not contain on site wells and there may not be adequate supplies of water to support construction and operation in the Alternative 3 area.

Alternative 3 has the potential for significant impacts on water supplies because there are no existing entitlements of water for the area. Further, Alternative 3 would not necessarily avoid the project's contribution to significant and unavoidable impacts on groundwater supply due to potential future transfer or shift of the FPA of the current landowners within the subbasin and the fact that the County cannot compel actions by the Watermaster to adjust FPA or take other actions to reach equilibrium in the Baja Subarea. Alternative 3 would have greater impacts on services and utilities than the proposed project due to increased construction water demand and the potential for inadequate water supply.

Transportation and Traffic

The number of vehicle trips associated with construction and operation of Alternative 3 would be similar to the proposed project, and impacts would be less than significant with implementation of mitigation measure TRA-1, which required a Construction Traffic Control Plan. Transmission structures would be constructed consistent with FAA requirements and would have no impact on air traffic patterns because no public use airports are located in proximity to the Alternative 3 site. Any new access roads constructed for Alternative 3 would be designed to achieve County standards and would not increase hazards due to a design feature. No closures to U.S. 58 or I-395 would occur that may affect emergency access in the vicinity of the project. Alternative 3 impacts on transportation and traffic would be less than significant.

Alternative 3 would have less impacts on transportation and traffic due to the lower volume of traffic on local roads in proximity to the Alternative 3 site. Alternative 3 would also avoid impacts on air traffic because no public use airports are located in proximity to Alternative 3.

Alternative 3 Summary and Feasibility

Implementation of Alternative 3 would result in reduced impacts on agricultural resources, hazards, noise, and transportation and traffic. Implementation of Alternative 3 would result in greater impacts on aesthetics, air quality, biological resources, geology and soils, greenhouse gas emissions, hydrology and water quality, and land use than the proposed project.

Alternative 3 is located wholly on BLM-administered land and would require a BLM right-of-way grant for development, in addition to a CUP from the County for development of an overhead gen-tie line. Obtaining BLM approval would require CDFW to develop a conservation strategy for Mohave ground squirrel, which would substantially increase the cost and length of time required for permitting the project. Alternative 3 would meet some of the project objectives and is considered potentially feasible because it is located within DRECP land use areas that are suitable for solar development.

ALTERNATIVES CONSIDERED BUT REJECTED

The discussion below summarizes the alternatives that were considered but ultimately rejected because they do not meet basic project objectives. These alternatives were suggested during scoping or were considered by the County during the alternatives development process.

Distributed Generation Alternative

Distributed generation refers to the installation of small-scale solar energy facilities at individual locations at or near the point of consumption (e.g., use of solar PV panels on a business or home to generate electricity for on-site consumption). The generating capacity of a distributed generation source is significantly smaller than that of centrally located utility-scale energy generation sources and can range from generation at a single residence to larger installations for commercial or multi-unit housing applications. Distributed generation systems typically generate less than 10 MW. The distributed generation alternative would require at least 65 separate renewable energy projects at 10 MW each to provide a level of energy generation comparable to the proposed project. Finding 65 or more separate sites for development of solar power is not feasible due to the time, expense, and site control requirements associated with selecting such a large number of locations.

In order to be a viable alternative to the project, the applicant would need to own or control a sufficient amount of land to accommodate 650 MW of capacity. The applicant, however, does not currently own or control any other such sites or land in San Bernardino County. Therefore, this alternative would not meet the project objectives, it was eliminated from further consideration in this EIR.

Off-Site Alternative: North of I-15

The purpose of the Off-Site Alternative is to locate the proposed solar facility farther from neighboring residences than the proposed project. Relocation of the project to a location north of I-15 was suggested by the public during the scoping process for the EIR.

The land north of I-15 is predominantly owned by the BLM and a portion of that land is within an Area of Critical Environmental Concern (ACEC). The BLM has designated ACECs in areas with highly sensitive environmental resources. None of the land to the north of I-15 has been identified as Development Focus Area (DFA) under the Desert Renewable Energy Conservation Plan (DRECP), but BLM land use plan. The BLM will not allow solar development outside of DFAs. Development of solar facility on BLM land outside of a DFA, including the area north of I-15, would be infeasible. Relocation of the proposed project to an ACEC would also result in greater environmental impacts because the environmental resources in the project site are less sensitive due to the existing development and use of the project site.

This alternative would conflict with the DRECP generating potential environmental impacts on sensitive resources in the area. The Off-Site Alternative: North of I-15 was rejected from further consideration due to regulatory infeasibility.

Other Alternative Project Sites

During the scoping process of the EIR, the public requested considering other alternative sites for the project. The applicant considered several alternative sites for the project but rejected due to infeasibility of developing the project at the site under the current legal and regulatory framework or because the alternative sites would have greater environmental and land use impacts than the proposed project site.

Land to the north of I-15 and south of I-40 are predominantly owned by the BLM, in an ACEC area, and is not designated for renewable energy development. Locating the project in these alternative sites would conflict with the DRECP generating potential environmental impacts on sensitive resources in the area. These alternative sites were eliminated from further consideration.

Land to the west of Daggett is either owned by the military or developed with a higher density of residential use. It would be infeasible to obtain a sufficient amount of land from the military to accommodate 650 MW of capacity; therefore, alternative sites west of Daggett were eliminated from further consideration. Land to the east of Daggett is located closer to the residential areas of Newberry Springs.

Alternative Technology: Concentrating Solar Photovoltaic

The Concentrated Solar Power Alternative would utilize concentrated solar power (CSP) as an alternative technology to the PV technology used for the proposed project. A CSP facility would encompass approximately 4,000 acres, compared to the approximately 3,500 acres for the proposed project. All other project components including the on-site substations, battery storage, and gen-tie line would remain the same as with the proposed project.

The purpose of this alternative is to provide an alternative technology than the PV technology proposed for the project. This alternative was ultimately rejected as it would require 500 more acres to construct the solar facility than the proposed project and would result in greater environmental impacts due to the increased project development footprint and increased water use.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified; that is, an alternative that would result in the fewest or least significant environmental impacts. If the No Project Alternative is the environmentally superior alternative, State CEQA Guidelines Section 15126.6(e)(2) requires that another alternative that could feasibly attain most of the project's basic objectives be chosen as the environmentally superior alternative.

The No Project Alternative is the environmentally superior alternative. However, in accordance with CEQA Guidelines Section 15126.6(e)(2), a secondary alternative must be chosen since the No Project Alternative is environmentally superior. Therefore, Alternative 2, the Reduced Footprint Alternative, is the environmentally superior alternative. Alternative 2 reduces impacts associated with the proposed project due to the avoidance of significant air quality impacts, reduced impact on sensitive biological resources, and reduced impact on residents due to residential setbacks. Alternative 2 would not result in any increase in environmental impacts. Alternative 2 also attains most or all of the basic project objectives, however it would not allow for the project to achieve its key goal of utilizing the existing interconnection capacity at the Coolwater Substations to provide approximately 650 MW of renewable energy leveraging the use of existing electrical transmission infrastructure.

This page is intentionally blank.

Section 5.0

Other CEQA Considerations

This section addresses those topics requiring evaluation under California Environmental Quality Act (CEQA) Guidelines Section 15126, which requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the EIR must also identify: (1) the growth-inducing impacts of the proposed project; (2) significant environmental effects of the proposed project; (3) significant irreversible environmental changes that would result from implementation of the proposed project; and (4) energy conservation. Each of these topics is discussed below.

GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss a project's potential to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The CEQA Guidelines also indicate that it must not be assumed that growth in any area is necessarily beneficial, detrimental or of little significance to the environment. This section analyzes such potential growth-inducing impacts, based on criteria suggested in the CEQA Guidelines.

In general terms, a project may foster spatial, economic, or population growth in a geographic area if it meets any one of the following criteria:

- Removes an impediment to growth (e.g., establish an essential public service or provide new access to an area).
- Fosters economic expansion or growth (e.g., change revenue base, expand employment, etc.).
- Fosters population growth (e.g., construct additional housing), either directly or indirectly.
- Establishes a precedent-setting action (e.g., an innovation, a change in zoning, or a general plan amendment approval).
- Develops or encroaches on an isolated or adjacent area of open space (distinct from an infill type of project).

Should a project meet any one of the above-listed criteria, it may be considered growth inducing. The potential growth-inducing impacts of the proposed project are evaluated against these five criteria in this section.

CEQA Guidelines Section 15126.2(d) requires that an EIR discuss the ways a project could be growth inducing and to “discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.” However, the CEQA Guidelines do not require that an EIR predict (or speculate), specifically where such growth would occur, in what form it would occur, or when it would occur. The answers to such questions require speculation, which CEQA discourages (see CEQA Guidelines Section 15145).

REMOVAL OF A BARRIER TO GROWTH

Several types of projects can induce population growth by removing obstacles that prevent growth. An example of this type of project would be the expansion of a wastewater treatment plant, which would accommodate additional sewer connections within a service area and therefore would allow future construction and growth.

The project applicant proposes to construct and operate the Daggett Solar Power Facility on approximately 3,500 acres to produce approximately 650 megawatts (MW) of renewable energy and include up to 450 MW of battery storage capacity to replace the non-operating Coolwater Generating Station, a 626 MW natural gas-fired power plant. The project would use existing electrical transmission infrastructure to deliver renewable energy to the electric grid.

Development of the project would not remove any impediments that currently inhibit growth. Obstacles to population growth in the region surrounding the project site are primarily due to the feasibility of development, demand and economic constraints, General Plans and zoning and other development restrictions and regulations promulgated by local agencies. The project would not modify land use or zoning designations and therefore would not foster growth, remove direct growth constraints or add a direct stimulus to growth.

ECONOMIC GROWTH

The proposed project would be considered growth inducing if growth resulted from direct and indirect employment needed to construct, operate and maintain the proposed project and/or if growth resulted from the additional electrical power that would be generated by the proposed project. Construction would be performed by independent contractors hired by the developer for the Daggett Solar Power Facility. In general, construction workers would be hired from the

local labor pool or nearby urban areas. If contract workers are employed, they would not cause growth in the area due to the short-term and temporary nature of their employment.

The project would include an operations and maintenance building that would be staffed with full- and part-time employees such as a plant manager, maintenance manager, solar technicians and environmental specialists. In addition, operations would be monitored remotely via a supervisory control and data acquisition (SCADA) system. Operation of the project would not result in an increase in employment that would require the construction of new housing.

POPULATION GROWTH

CEQA requires the consideration of potential direct and indirect growth-inducing impacts of a proposed project. Implementation of the proposed project would not induce the construction of new homes that would result in direct residential growth.

In some cases, direct population growth can be created through the introduction of new businesses. However, direct population growth associated with the proposed project is not forecast to occur because the community has a need for employment and most of the jobs created are forecast to be filled by County residents.

In California, new energy facilities are responsive to growth due to state and federal regulations and do not in and of themselves induce growth.

Therefore, the project would not substantially induce population growth.

ESTABLISHMENT OF A PRECEDENT-SETTING ACTION

The project applicant seeks six separate Conditional Use Permits (CUPs) to construct a renewable energy generation facility. Approval of the CUPs would not be considered precedent-setting actions (defined as any act, decision, or case that serves as a guide or justification for subsequent situations), as other renewable energy facilities have received approval of CUPs and have operated in the immediate vicinity and within the region, and several other similar projects are currently in the planning and environmental review stage seeking similar approvals. Therefore, approval of the project would not set precedent.

ENCROACHMENT ON OPEN SPACE

The project site totals approximately 3,500 acres. The project area consists of a mix of industrial sites, disturbed land associated with residential and agricultural uses, and lightly disturbed desert scrub areas. Agricultural areas consist of active and fallow agricultural fields and orchards with

disturbed saltbush scrub, ornamental tamarisk windrows, and ruderal vegetation adjacent to the fields.

The County General Plan (2007) designates the project site with the following land uses: Regional Industrial (IR), Rural Living (RL and RL-5), Resource Conservation (RC), and Agricultural (AG). Of these land uses, 74 percent of the project site is designated as RC. The RC designation is intended to provide open space and recreational activities, single-family homes on very large parcels, and similar compatible uses. Although the designation is intended to provide open space and recreational activities, it is not considered open space. Therefore, the project would not result in the loss of open space. Additionally, with the issuance of CUPs, the project would be consistent with the County's Development Code. Because the project would be consistent with the Development Code, it would also be consistent with the General Plan land use designation.

SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires that an EIR discuss any significant impacts associated with the project.

Chapter 3, Environmental Analysis, of this EIR describes the potential environmental impacts of the proposed project and recommends mitigation measures to reduce impacts to a less than significant level, where feasible. The Executive Summary includes **Table ES-1**, which summarizes the impacts, mitigation measures, and levels of significance before and after mitigation.

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. The environmental effects of the proposed project on various aspects of the environment are discussed in detail in Chapter 3. Based on the analysis within this EIR, significant and unavoidable impacts would be limited to impacts on air quality during the project construction phase.

The project is located in a nonattainment area for multiple pollutants and construction would exceed air quality thresholds for PM₁₀ and PM_{2.5}. In addition, the project is not consistent with the Western Mojave Desert Air Quality Management Plan and construction of the project would delay attainment of Mojave Desert Air Quality Management District (MDAQMD) air quality goals. The project will result in a temporary cumulatively considerable increase in nonattainment pollutants, adversely impacting air quality.

Furthermore, impacts to groundwater supplies are considered significant and unavoidable given unknown future water pumping scenarios involving potential water rights transfer from the west to the east side of the Calico-Newberry Fault, which divides the Lower Mojave Valley Subbasin. If 100 percent of the production rights were exercised or transferred to the easterly basin, an

additional 7,657 AFY could be pumped (7,682 minus 25 for the project), which may result in a further 0.9 feet per year decline in the easterly subbasin water level. Although unlikely due to economic disincentives, impacts are conservatively assumed to be significant and unavoidable because the County could not compel any actions by the Watermaster to adjust Free Production Allowance (FPA) or take other actions to address declining groundwater levels east of the Calico Fault.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines Section 15126.2(c) requires an EIR to discuss the significant irreversible environmental changes that would result from implementation of a proposed project. Examples include a project's primary or secondary impacts that would generally commit future generations to similar uses (e.g., highway improvements at the access point), use nonrenewable resources during the initial and continued phases of the project (because a large commitment of such resources make removal or nonuse thereafter unlikely), and/or result in irreversible damage from any potential environmental accidents associated with the project.

The proposed project would not result in an unusually high demand for nonrenewable resources. The project would be a clean, renewable energy source. It would implement many state and local goals and policies directed at moving away from a reliance on fossil fuels and encouraging renewable energy. After the usable/permitted life of the project is over, the facility would be decommissioned and restored to its pre-development condition. A Closure, Revegetation, and Rehabilitation Plan will be prepared, all aboveground structures will be removed, and most of project materials will be recycled or sold as scrap. Shrubs and other plants will be revegetated by re-seeding following decommissioning.

ENERGY CONSERVATION

In 1975, largely in response to the oil crisis of the 1970s, the California legislature adopted Assembly Bill (AB) 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and—perhaps most importantly—promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the California Natural Resources Agency created Appendix F of the CEQA Guidelines.

ENVIRONMENTAL SETTING

Southern California Edison (SCE) provides electrical services in San Bernardino County through State-regulated public utility contracts. Over the past 15 years, electricity generation in the state has undergone a transition. Historically, California relied heavily on oil- and gas-fired plants to generate electricity. Spurred by regulatory measures and tax incentives, the state's electrical system has become more reliant on renewable energy sources, including cogeneration, wind energy, solar energy, geothermal energy, biomass conversion, transformation plants, and small hydroelectric plants. Unlike petroleum production, generation of electricity is usually not tied to the location of the fuel source and can be delivered over great distances via the electrical grid. The generating capacity of a unit of electricity is expressed in megawatts (MW). One megawatt provides enough energy to power 1,000 average California homes per day. Net generation refers to the gross amount of energy produced by a unit, minus the amount of energy the unit consumes. Generation is typically measured in megawatt-hours (MWh), kilowatt-hours (kWh), or gigawatt-hours (GWh).

REGULATORY FRAMEWORK

STATE

Title 20 and Title 24, California Code of Regulations

New buildings constructed in California must comply with the standards contained in Title 20, Public Utilities and Energy, and Title 24, Building Standards Code, of the California Code of Regulations. These efficiency standards apply to new construction of both residential and nonresidential buildings, and they regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in Title 24 guidelines.

California Green Building Standards Code

In 2009, the California Building Standards Commission's California Green Building Standards Code (known as CALGreen) went into effect. This code is the country's first statewide green building standards code. Originally a voluntary standard, aspects of CALGreen became mandatory in the 2010 code, instituting mandatory minimum environmental performance standards for all ground-up new construction of commercial and low-rise residential buildings, State-owned buildings, schools, and hospitals. A supplement to CALGreen was released on July 1, 2018, to amend the previous 2016 update.

Assembly Bill 1575, Warren-Alquist Energy Resources Conservation and Development Act

The Warren-Alquist Act gives statutory authority to the CEC as California's principal energy policy and planning organization. The CEC regulates energy resources by encouraging and coordinating research into energy supply and demand problems to reduce the rate of growth of energy consumption.

Senate Bill X1-2

Senate Bill (SB) X1-2 (2011) expands California's Renewables Portfolio Standard (RPS) by establishing a goal that 33 percent of the total electricity sold to retail customers in California come from renewable sources by December 31, 2020. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 MW or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current and that meets other specified requirements with respect to its location. In addition to the retail sellers covered by SB 107, SB X1-2 adds local publicly owned electric utilities to the RPS. The statute also requires that the governing boards of local publicly owned electric utilities establish the same targets, and the governing boards would be responsible for ensuring compliance with these targets. The California Public Utilities Commission is responsible for enforcement of the RPS for retail sellers, while the California Energy Commission and the California Air Resources Board enforce the requirements for local publicly owned electric utilities.

CEQA Guidelines Appendix F

Appendix F of the CEQA Guidelines outlines the information that should be included in an EIR regarding energy conservation where considered applicable or relevant. This appendix includes a list of energy impact possibilities and potential conservation measures, as well as the goal of wise and efficient use of energy during project development and operations.

LOCAL

San Bernardino County General Plan

The County's General Plan Conservation Element includes the following goals and policies related to energy conservation:

GOAL CO 8	The County will minimize energy consumption and promote safe energy extraction, uses and systems to benefit local regional and global environmental goals.
------------------	--

<i>Policy CO 8.1</i>	Maximize the beneficial effects and minimize the adverse effects associated with the siting of major energy facilities. The County will site energy facilities equitably in order to minimize net energy use and consumption of natural resources and avoid inappropriately burdening certain communities. Energy planning should conserve energy and reduce peak load demands, reduce natural resource consumption, minimize environmental impacts, and treat local communities fairly in providing energy efficiency programs and locating energy facilities.
<i>Policy CO 8.2</i>	Conserve energy and minimize peak load demands through the efficient production, distribution and use of energy.
<i>Policy CO 8.3</i>	Assist in efforts to develop alternative energy technologies that have minimum adverse effect on the environment and explore and promote newer opportunities for the use of alternative energy sources.
GOAL D/CO 2	Encourage utilization of renewable energy resources.

IMPACT ANALYSIS AND MITIGATION MEASURES

THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

A project would result in a significant impact if:

- Construction or operation of the project would result in the wasteful, unnecessary, or inefficient use of energy resources.

CEQA Guidelines Appendix F requires an analysis of short-term operations (i.e., construction) and long-term operations. Long-term operational energy use and consumption associated with the project includes fuel consumption by vehicles, electricity and natural gas consumption by employees, and energy consumption related to water delivery.

PROJECT IMPACTS AND MITIGATION

ENERGY WASTE

Impact 5.0-1	The project would not result in the wasteful, unnecessary, or inefficient use of energy resources. Impacts would be less than significant.
---------------------	---

ENERGY GENERATION

The proposed project would have a beneficial impact on energy resources by providing up to 650 MW of renewable energy and furthering California's RPS goals of achieving 33 percent renewable energy by 2020 and 50 percent by 2030. The power generated would be added to the state's electricity grid, with the intent that it would allow an overall reduction in use of fossil-fueled power plants and their greenhouse gas (GHG) emissions.

ENERGY USAGE

In order to ensure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. According to CEQA Guidelines Appendix F, the goal of conserving energy implies the wise and efficient use of energy, including 1 decreasing overall per capita energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. The proposed project would help achieve this goal because it would develop a renewable source of power, helping to offset the use of nonrenewable resources and contribute to an overall reduction in the amount of nonrenewable resources currently used to generate electricity.

Resources that would be consumed as a result of project implementation include water, electricity, and fossil fuels during construction and operation. Additionally, construction would require the manufacture of new materials. Some of these materials would not be recyclable at the end of the proposed project's lifetime, and the energy required for their production would also reduce the amount of available natural resources. However, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources.

No increases in inefficiencies or unnecessary energy consumption are expected to occur as a direct or indirect consequence of the proposed project.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 5.0-2	The proposed project, combined with other related cumulative projects would not develop land use patterns that cause wasteful, inefficient, and unnecessary consumption of energy, nor would it construct new or retrofitted buildings that would have excessive energy requirements for daily operation. Impacts would be less than significant.
---------------------	--

Each cumulative project would require separate discretionary approval and CEQA assessment, which would address potential energy consumption impacts and identify necessary mitigation measures, where appropriate. All projects would be required to adhere to federal, state, and local requirements for energy efficiency, including the Title 24 standards. In addition, the project would be evaluated against the County's GHG screening thresholds for compliance with San Bernardino County's GHG reduction plan.

As noted above, the proposed project would not result in significant energy consumption impacts and would not be considered inefficient, wasteful, or unnecessary. The proposed project would have a beneficial impact on energy resources by providing 650 MW of renewable energy and furthering California's Renewables Portfolio Standard. Thus, the proposed project and identified cumulative projects are not anticipated to result in a significant cumulative impact.

Mitigation Measures: None required.

Level of Significance: Less than significant.

PREPARERS

ENVIRONMENTAL IMPACT REPORT

COUNTY OF SAN BERNARDINO

Terri RahhalPlanning Director
Tom NievesContract Planner
Heidi DuronSupervising Planner

MICHAEL BAKER INTERNATIONAL

EIR Consultant to the County

Bob Stark, AICPProject Manager/Principal in Charge
Nicole Marotz, AICP, LEED APSenior Environmental Planner
Thomas MillingtonBiologist
Alex PohlmanAssociate Environmental Planner
Garett PetersonAssociate Environmental Planner
Hilary EllisGraphics and Word Processing
Zachary PekinGIS/Graphics
Suzanne WirthTechnical Editor

PANORAMA ENVIRONMENTAL

EIR Consultant to the County

Susanne HeimDirector

REFERENCES

SECTION 2.0, PROJECT DESCRIPTION

HDR. 2018. *Project Description: Daggett Solar Power Facility*. February 23.

SECTION 3.1, AESTHETICS AND VISUAL RESOURCES

BLM (Bureau of Land Management). 1986. *Manual H-8410-1 – Visual Resource Inventory*.

- . 2008. *Standard Environmental Color Chart CC-001*. June.
- Caltrans (California Department of Transportation). 2008. *Landscape Architecture Program Scenic Highway Guidelines*.
- . 2016a. *2016 Traffic Volumes on California State Highways*. Accessed July 11, 2018. http://www.dot.ca.gov/trafficops/census/docs/2016_aadt_volumes.pdf.
- . 2016b. *California Scenic Highway Mapping System, San Bernardino County*.
- County of San Bernardino. 2007. *County of San Bernardino 2007 General Plan*.
- . 2017. *County Roads Maintenance System*. Digital map service provided via ArcGIS Online. December.
- . 2018. *Daggett Community Plan/Action Guide*. <http://countywideplan.com/daggett/>.
- Esri. 2018. *Aerial Imagery Service Layer*.
- Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. 2017. *World Imagery*. September 10.
- HDR. 2017. "KOP Locations for the Coolwater Solar Project." *Visual Impact Assessment for the Coolwater Solar Project*.
- . 2018. Memorandum: "Administrative Draft Addendum to Visual Impact Analysis – Key Observation Point 6."
- Shields, Mark. 2010. *PV Systems: Low Levels of Glare and Reflectance vs. Surrounding Environment*.
- Sullivan, Robert, and Jennifer Abplanalp. 2013. *Utility-Scale Solar Energy Facility Visual Impact Characterization and Mitigation Study Project Report*. Environmental Science Division, Argonne National Laboratory.
- Tele Atlas North American, Inc. 2018. *U.S. and Canada Detailed Streets GIS dataset*. ESRI Data & Maps: StreetMap.
- Tetra Tech, Inc. 2018. *Daggett Solar Power Facility Project Traffic Assessment and Trip Generation*.
- USGS (US Geological Survey). 2016a. *National Hydrography Dataset Waterbodies GIS dataset*.
- . 2016b. *National Hydrography Dataset*. NHD_H_California_GDB.

- . 2016c. Protected Areas Database of the United States (PAD-US). USGS National GAP Analysis Program, May 5.

SECTION 3.2, AGRICULTURE AND FORESTRY RESOURCES

California Department of Conservation. 1997. *California Agricultural Land Evaluation and Site Assessment Instruction Manual*.

https://www.conservation.ca.gov/dlrp/Pages/qh_lesa.aspx. Accessed November 2018.

- . 2016a. Division of Land Resource Protection. San Bernardino County Williamson Act [map] FY 2015/2016. Accessed July 2018.

ftp://ftp.consrv.ca.gov/pub/dlrp/wa/SanBernardino_no_15_16_WA.pdf.

- . 2016b. California Important Farmland [map]. Accessed July 2018.

ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/sbd16_no.pdf.

County of San Bernardino. 2007a. *County of San Bernardino 2006 General Plan Program. Final Environmental Impact Report and Appendices*.

- . 2007b. *County of San Bernardino 2007 General Plan*.

- . 2017a. *Draft Daggett Community Plan*. Accessed July 2018.

http://countywideplan.com/wp-content/uploads/2017/10/Daggett-Foundation-Plan_FINAL.pdf.

- . 2017b. *County of San Bernardino General Plan Renewable Energy and Conservation Element*.

- . 2018 (amended). *San Bernardino County Code, Title 8, Development Code, Chapter 82.01, Land Use Plan, Land Use Zoning Districts, and Overlays*. Adopted 2007.

Accessed December 2018.

<http://www.sbcounty.gov/Uploads/lus/DevelopmentCode/DCWebsite.pdf>.

HDR Engineering. 2018. Project Description: Daggett Solar Power Facility.

Tetra Tech. 2018. *Land Evaluation and Site Assessment (LESA) Technical Memorandum*.

SECTION 3.3, AIR QUALITY

California Department of Public Health. 2018. *Epidemiologic Summary of Coccidioidomycosis in California, 2017*. Accessed July 2018.

- <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2017.pdf>.
- CARB (California Air Resources Board). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. <https://www.arb.ca.gov/ch/handbook.pdf>.
- . 2017. “Western Mojave Desert Air Quality Management Plans.” Accessed July 2018. <https://www.arb.ca.gov/planning/sip/planarea/mojavesedsip.htm>.
- County of San Bernardino. 2007. *County of San Bernardino 2007 General Plan*.
- HDR. 2019. *Air Quality Technical Report, Daggett Solar Power Facility*.
- Office of Environmental Health Hazard Assessment. 2018. *Air Toxics Hot Spots Program Guidance Manual*. Accessed July 2018. <https://oehha.ca.gov/air/crnrr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0>.
- Tetra Tech, Inc. 2018a. *Dust Control and Mitigation Measures of Daggett Solar Power Facility Project Technical Memorandum*.
- . 2018b. *Technical Memorandum – Barstow-Daggett Airport Safety and Compatibility*.

SECTION 3.4, BIOLOGICAL RESOURCES

- BLM (Bureau of Land Management). 2006. *West Mojave Plan*.
- BLM and DOE (Bureau of Land Management and US Department of Energy). 2012. *Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States*, DOE/EIS-0403.
- CDFW (California Department of Fish and Wildlife). 2010. *Swainson’s Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California*.
- . n.d. Bird Species Accounts_ http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/.
- County of San Bernardino. 2007. *County of San Bernardino 2007 General Plan*.
- Dudek. 2014. “Swainson’s Hawk (*Buteo swainsoni*).” Desert Renewable Energy Conservation Plan. <https://www.drecp.org/whatisdrecp/species/>.
- Greif, Stefan and Siemers, Björn M. 2010. *Innate Recognition of Water Bodies in Echolocating Bats*. National Center of Biotechnology Information. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3060641/>

- Harrison, C., H. Lloyd, and C. Field. 2017. *Evidence Review of the Impact of Solar Farms on Birds, Bats and General Ecology (NEER012)*. York, England: Natural England.
<http://publications.naturalengland.org.uk/publication/6384664523046912>.
- HDR. 2018a. *Administrative Draft Biological Resources Technical Report, Daggett Solar Power Facility*.
- . 2018b. *Administrative Draft Biological Resources 2018 Spring/Summer Survey Report, Daggett Solar Power Facility*.
- . 2018c. *Administrative Draft Jurisdictional Delineation Report, Daggett Solar Power Facility*.
- . 2018d. *Administrative Draft Special-Status Plant Species Survey Report, Daggett Solar Power Facility*.
- . 2018e. *Administrative Draft 2018 Desert Tortoise Pre-Project Survey Report, Daggett Solar Power Facility*.
- Kagan, R. A., T. C. Viner, P. W. Trail, and E. O. Espinoza. 2014. *Avian Mortality at Solar Energy Facilities in Southern California: A Preliminary Analysis*. US Fish and Wildlife Service, National Fish and Wildlife Forensics Laboratory.
- Lovich, J. E., and J. R. Ennen. 2011. "Wildlife Conservation and Solar Energy Development in the Desert Southwest, United States." *BioScience* 61 (12): 982–992.
- McCrary, M. D., R. L. McKernan, R. W. Schreiber, W. D. Wagner, and T. C. Sciarrotta. 1986. "Avian Mortality at a Solar Energy Power Plant." *Journal of Field Ornithology* 57 (2): 135–141.
- Muhs, D. R., R. L. Reynolds, J. Been, and G. Skipp. 2003. Eolian Sand Transport Pathways in the Southwestern United States: Importance of the Colorado River and Local Sources. *Quaternary International* 104:3–18.
- Russo, Danilo, Cistrone, Luca, and Jones, Gareth. 2012. *Sensory Ecology of Water Detection by Bats: A Field Experiment*. PLOS ONE.
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0048144>.
- USDA (US Department of Agriculture). 1937. *Soil Survey of the Barstow Area, California*. Bureau of Chemistry and Soils.
- . 1986. *Soil Survey of San Bernardino County California. Mojave River Area*. USDA Soil Conservation Service.

- . 2012. 2012 Census of Agriculture, County Profile, San Bernardino County, California. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/County_Profiles/California/cp06071.pdf.
- . 2017. United States Department of Agriculture. 2017. Soil Survey Staff, Natural Resources Conservation Service. Web Soil Survey. Available online at <https://websoilsurvey.sc.egov.usda.gov/>.
- Walston, L. J., K. E. Rollins, K. E. LaGory, K. P. Smith, and S. A. Meyers. 2016. "A Preliminary Assessment of Avian Mortality at Utility-Scale Solar Energy Facilities in the United States." *Renewable Energy* 92: 405–414.
- Walston, L. J., K. E. Rollins, K. P. Smith, K. E. LaGory, K. Sinclair, C. Turchi, T. Wendelin, and H. Souder. 2015. *A Review of Avian Monitoring and Mitigation Information at Existing Utility-Scale Solar Facilities*. Argonne National Laboratory, Environmental Sciences Division. ANL/EVS-15/2.

SECTION 3.5, CULTURAL RESOURCES, TRIBAL CULTURAL, AND PALEONTOLOGICAL RESOURCES

- County of San Bernardino. 2007. *County of San Bernardino 2007 General Plan*.
- HDR. 2018. *Class III Cultural Resource Inventory, Daggett Solar Power Facility, San Bernardino County, California*.
- Tetra Tech, Inc. 2018. *Records Search and Overview of Potential Paleontological Resources Related to the Daggett Solar Power Facility Project, San Bernardino County, California*.

SECTION 3.6, GEOLOGY AND SOILS

- CGS (California Geologic Survey). 2018. Fault Activity Map of California. Accessed May 2018. <http://maps.conservation.ca.gov/cgs/fam/>.
- . 1995a. *State of California, Earthquake Fault Zones – Harvard Hill Quadrangle*. June 1.
- . 1995b. *State of California, Earthquake Fault Zones – Newberry Springs Quadrangle*. June 1.
- . 1988a. *State of California, Earthquake Fault Zones – Yermo Quadrangle*. March 1.
- . 1988b. *State of California, Earthquake Fault Zones – Minneola Quadrangle*. March 1.

County of San Bernardino. 2007. *County of San Bernardino 2007 General Plan*.

———. 2013. *San Bernardino County Emergency Operations Plan (EOP)*.

———. 2017. *San Bernardino County Multi-Jurisdictional Hazard Mitigation Plan*.

Kelly, Dominic. 2006. "Seismic Site Classification for Structural Engineers." *Structure Magazine*, December. www.structuremag.org/wp-content/uploads/2014/09/SF-SEISMIC-Dec06-p21-241.pdf.

SCEDC (Southern California Earthquake Data Center). "Significant Earthquakes and Faults." Accessed May 2018. <http://scedc.caltech.edu/significant/>.

Terracon Consultants, Inc. 2018. *Preliminary Geotechnical Engineering Report: Daggett Solar Facility Project, Hidden Springs Road and Power Line Road, Daggett, California*.

US Department of Agriculture. 2018. *Website for Official Soil Series Descriptions and Series Classifications*. Accessed July 2018. <https://soilseries.sc.egov.usda.gov/>

US Geological Survey. 2018. USGS website. Accessed May 2018. <http://www.usgs.gov/>.

SECTION 3.7, GREENHOUSE GAS EMISSIONS

American Farmland Trust. 2015. *A New Comparison of Greenhouse Gas Emissions from California Agricultural and Land Use*. Accessed July 2018. <https://www.farmlandinfo.org/sites/default/files/AFTCrop-UrbanGreenhouseGasReport-Feburary2015%20Edited%20May2015.pdf>.

County of San Bernardino. 2007. *County of San Bernardino 2007 General Plan*.

HDR. 2019. *Air Quality Technical Report, Daggett Solar Power Facility*.

MDAQMD (Mojave Desert Air Quality Management District). 2016. *California Environmental Quality Act and Federal Conformity Guidelines*. Accessed July 2018. <http://mdaqmd.ca.gov/home/showdocument?id=192>.

SECTION 3.8, HAZARDS AND HAZARDOUS MATERIALS

AirNav. 2018. Barstow-Daggett Airport. <http://www.airnav.com/airport/KDAG>. Accessed August 2018.

CalEPA (California Environmental Protection Agency). 2017. *The History of the California Environmental Protection Agency*. Accessed December 2017. <http://www.calepa.ca.gov/About/History01/#sthash.8MuHuqP0.dpuf>.

- Cal Fire (California Department of Forestry and Fire Protection). 2007. NW San Bernardino County, Draft Fire Hazard Severity Zones in LRA [map]. Accessed August 2018. http://frap.fire.ca.gov/webdata/maps/san_bernardino_nw/fhszl06_1_map.64.pdf.
- County of San Bernardino. 1992. *Airport Comprehensive Land Use Plan – Barstow-Daggett Airport*. <http://www.sbcounty.gov/Uploads/lus/Airports/BarstowDagget.pdf>.
- . 2007. *County of San Bernardino 2007 General Plan*.
- . 2011. *Multi-Jurisdictional Hazard Mitigation Plan Update*. <http://www.sbcounty.gov/Uploads/SBCFire/content/oes/pdf/Hazard-Mitigation-Plan.pdf>.
- . 2013. *San Bernardino County Emergency Operations Plan (EOP)*. http://cms.sbcounty.gov/portals/58/Documents/Emergency_Services/Emergency-Operations-Plan.pdf.
- DTSC (California Department of Toxic Substances Control). 2018a. Department website. Accessed August 2018. <http://www.dtsc.ca.gov/>.
- . 2018b. EnviroStor. Hazardous Waste and Substances Site List (Cortese). Accessed August 2018. https://www.envirostor.dtsc.ca.gov/public/search.asp?PAGE=6&CMD=search&ocieerp=&business_name=&main_street_number=&main_street_name=&city=&zip=&county=&branch=&status=ACT%2CBKLG%2CCOM%2CCOLUR&site_type=CSITES%2COPEN%2CFUDS%2CCLOSE&cleanup_type=&npl=&funding=&reporttype=CORTESE&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29&federal_superfund=&state_response=&voluntary_cleanup=&school_cleanup=&operating=&post_closure=&non_operating=&corrective_action=&tiered_permit=&evaluation=&spec_prog=&national_priority_list=&senate=&congress=&assembly=&critical_poll=&business_type=&case_type=&display_results=&school_district=&pub=&hwmp=False&permitted=&pc_permitted=&inspections=&complaints=&censustract=&cesdecile=&ORDERBY=county&prev=Prev+50.
- FMCSA (Federal Motor Carrier Safety Administration). 2018. National Hazardous Materials Route Registry. Accessed August 2018. <https://www.fmcsa.dot.gov/regulations/hazardous-materials/national-hazardous-materials-route-registry>.
- Terracon Consultants Inc. 2018. *Preliminary Geotechnical Engineering Report*.

Tetra Tech. 2018a. *Phase I Environmental Site Assessment, Daggett Solar Power Facility, San Bernardino County, California.*

———. 2018b. *Technical Memorandum Re Recommended Measures to Address RECs Identified in the Phase I ESA for the Daggett Solar Power Facility Project, San Bernardino County, California.*

———. 2019. *Barstow-Daggett Airport Safety and Compatibility Technical Memorandum.*

SECTION 3.9, HYDROLOGY AND WATER QUALITY

CGS (California Geological Survey). 2015. Landslide Reports and Maps. Accessed July 2018.
<http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps>.

Lahontan RWQCB (Regional Water Quality Control Board). 2016. *Water Quality Control Plan for the Lahontan Region.*

County of San Bernardino. 2007a. *County of San Bernardino 2007 General Plan.*

———. 2007b. *County of San Bernardino 2006 General Plan Program. Final Environmental Impact Report and Appendices.*

———. 2007c. Land Use Plan, General Plan Hazard Overlays. Accessed July 2018.
http://www.sbcounty.gov/Uploads/lus/HazMaps/EI09B_20100309.pdf and
<http://www.sbcounty.gov/Uploads/lus/HazMaps/EI10B.pdf>.

Joseph E. Bonadiman & Associates, Inc. 2018a. *Preliminary Hydrology Study & Flood Analysis.*

———. 2018b. *Addendum to Preliminary Hydrology Study & Hydraulics Report.*

SWRCB (State Water Resources Control Board). 2017. Final 2012 California Integrated Report (Clean Water Act Section 303(d) Map). Accessed July 2018.
https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml.

Tetra Tech. 2018. *Daggett Solar Power Facility - Water Supply Assessment.*

SECTION 3.10, LAND USE AND PLANNING

California Department of Conservation. 2016a. Division of Land Resource Protection. San Bernardino County Williamson Act [map] FY 2015/2016. Accessed July 2018.
ftp://ftp.consrv.ca.gov/pub/dlrp/wa/SanBernardino_no_15_16_WA.pdf.

———. 2016b. California Important Farmland [map]. Accessed July 2018.
ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/sbd16_no.pdf.

County of San Bernardino. 1992. Planning Department. *Airport Comprehensive Land Use Plan*. Accessed July 2018.
<http://www.sbcounty.gov/Uploads/lus/Airports/BarstowDagget.pdf>.

———. 2007. County of San Bernardino 2007 General Plan.

———. 2017. *Daggett Community Plan* (draft). Accessed July 2018.
http://countywideplan.com/wp-content/uploads/2017/10/Daggett-Foundation-Plan_FINAL.pdf.

Google Earth. 2018.

Google Maps. 2018.

HDR Engineering. 2018. Project Description: Daggett Solar Power Facility. February 23.

Tetra Tech. 2018a. Land Evaluation and Site Assessment (LESA) Technical Memorandum.

———. 2019. *Technical Memorandum - Barstow-Daggett Airport Safety and Compatibility*.

SECTION 3.11, NOISE

Caltrans (California Department of Transportation). 2013. *Technical Supplement to the Traffic Noise Analysis Protocol*. <http://www.dot.ca.gov/env/noise/docs/tens-sep2013.pdf>.

County of San Bernardino. 1992. *Airport Comprehensive Land Use Plan for the Barstow-Daggett Airport*.
<http://www.sbcounty.gov/Uploads/lus/Airports/BarstowDagget.pdf>.

———. 2007. *County of San Bernardino 2007 General Plan*.

FHWA (Federal Highway Administration). 2006. *Construction Noise Handbook*.
https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/.

FTA (Federal Transit Administration). 2006. *Transit Noise and Vibration Impact Assessment*.
dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf.

OPR (California Governor's Office of Planning and Research). 2017. *General Plan Guidelines*.
http://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf.

Tetra Tech, Inc. 2018. *Sound Survey and Analysis Report, Daggett Solar Power Facility, San Bernardino, California*.

SECTION 3.12, TRANSPORTATION AND TRAFFIC

Caltrans (California Department of Transportation). 2002. *Guide for the Preparation of Traffic Impact Studies*.

Capitol Airspace Group. 2018. *Daggett Solar Power Facility Obstruction Evaluation and Airspace Analysis*

County of San Bernardino. 1992. *Airport Comprehensive Land Use Plan for the Barstow-Daggett Airport*.

———. 2007. *County of San Bernardino 2007 General Plan*.

SANBAG (San Bernardino Associated Governments). 2016. *San Bernardino County Congestion Management Program*.

Tetra Tech, Inc. 2018a. *Daggett Solar Power Facility Project Traffic Assessment and Trip Generation*.

———. 2018b. *Barstow-Daggett Airport Safety and Compatibility Technical Memorandum*.

SECTION 3.13, UTILITIES AND SERVICE SYSTEMS

CalRecycle. 2018a. *SWIS Facility Detail - Barstow Sanitary Landfill (36-AA-0046)*. Accessed October 10, 2018. <https://www2.calrecycle.ca.gov/SWFacilities/Directory/36-AA-0046>.

———. 2018b. *SWIS Facility Detail - Victorville Sanitary Landfill (36-AA-0045)*. Accessed October 10, 2018. <https://www2.calrecycle.ca.gov/swfacilities/Directory/36-AA-0045>.

———. 2018c. *SWIS Facility Detail - California Street Landfill (36-AA-0017)*. Accessed October 10, 2018. <https://www2.calrecycle.ca.gov/SWFacilities/Directory/36-AA-0017/Detail/>.

EPA (US Environmental Protection Agency). 2012. Agency website. <http://www.epa.gov>.

California Regional Water Quality Control Board. 2016. *Water Quality Control Plan for the Lahontan Region*. Accessed November 22, 2018.

https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/docs/ch1_intro.pdf.

County of San Bernardino. 2007a. County of San Bernardino 2007 General Plan.

———. 2007b. County of San Bernardino 2007 General Plan Final EIR.

———. 2017. *Daggett Community Plan* (Draft). Accessed October 10, 2018.

http://Countywideplan.com/wp-content/uploads/2017/10/Daggett-Foundation-Plan_FINAL.pdf.

———. 2018. Department of Public Works - Waste Disposal Sites. Accessed November 22, 2018.

<http://cms.sbCounty.gov/dpw/SolidWasteManagement/WasteDisposalSites.aspx>.

Google Earth. 2018.

Tetra Tech. 2018a. *Daggett Solar Power Facility - Water Supply Assessment*.

———. 2018b. *Daggett Solar Power Facility - Water Related Environmental Impacts*.

SECTION 3.14, EFFECTS DETERMINED NOT TO BE SIGNIFICANT

SCAG (Southern California Association of Governments). 2016. *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy*.

USGS (US Geological Survey). 2018. Mineral Resource Data System – Oro Treasure and New Year. Accessed July 2018. https://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10140797.

SECTION 4.0, ALTERNATIVES TO THE PROPOSED PROJECT

HDR. 2019. *Air Quality Technical Report, Daggett Solar Power Facility*.

SECTION 5.0, OTHER CEQA CONSIDERATIONS

County of San Bernardino. 2007. *County of San Bernardino 2007 General Plan*.