

Draft Environmental Impact Report

SCH# 2017071020

Volume 1

Chapters 1 through 10

RB INYOKERN SOLAR PROJECT by R&L Capital, Inc. (PP16109)

Conditional Use Permit 23, Map #47;
Conditional Use Permit 27, Map #47; and
Inyokern Specific Plan Amendment 4, Map #47



Kern County
Planning and Natural Resources Department
Bakersfield, California

July 2020

Lorelei H. Oviatt, AICP, Director
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
Fax: (661) 862-8601 TTY Relay 1-800-735-2929
Email: planning@co.kern.ca.us
Web Address: <http://pcd.kerndsa.com/>



**PLANNING AND NATURAL
RESOURCES DEPARTMENT**

Planning
Community Development
Administrative Operations

July 2, 2020

File: CUP 23, Map #47; CUP 27, Map # 47; and
SPA 4, Map #47 (Circulation); S.D. #1

ADDRESSEE LIST (See Distribution List)

Re: Draft Environmental Impact Report for the RB Inyokern Solar Project by R&L Capital, Inc. (SCH #2017071020)

Dear Interested Party:

Kern County has prepared a Draft Environmental Impact Report (Draft EIR) for the above-noted land use applications to allow for the construction and operation of a solar photovoltaic power generating facility and associated facilities that would generate a combined total of approximately 26.6 megawatts (MW) of renewable electrical energy located on approximately 166.5 acres of privately-owned land in unincorporated Kern County.

The project is located in the eastern high desert region of Kern County in the unincorporated community of Inyokern. The proposed project is located along United States Highway 395 (US 395) to the east and Brown Road to the west. Phase 1 is located north of Inyokern Road (State Route 178 [SR 178]), between Brown Road and US 395. Phase 2 is directly north and adjacent to Phase 1. The project site would be directly accessed by SR 178 to Brown Road. A wastewater treatment plant is located adjacent on the northeastern portion of the project site. The Inyokern Airport is located west of the project site. An existing 4.2 acre borrow pit is located on the southeast corner of the Phase 1 portion of the site, which was originally used to build a roadway overpass. The pit is fenced around its perimeter and would not be developed or disturbed during project construction activities and is not included as part of the project site footprint. The proposed solar facility can be found within Sections 19 and 20, Township 26 South, Range 39 East, Mount Diablo Base and Meridian (MDB&M).

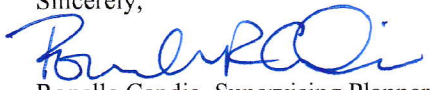
The project proponents are requesting: **(a)** Two (2) Conditional Use Permits (CUP), to allow for the construction and operation of a 26.6 MW solar photovoltaic electrical generating facility and battery energy storage (Section 19.38.030.G) in an M-2 Zone District (CUP 23, Map #47 and CUP 27, Map #47); and **(b)** Amendment to the Circulation Element of the Inyokern Specific Plan to remove a portion of the designated future secondary collector from Brown Road to the southern boundary of the project site (Specific Plan Amendment 4, Map #47). The project's permanent facilities would include the solar modules, energy storage systems, operations and maintenance building, switchyards, electrical collector system and inverters, gen-tie lines, telecommunication facilities and meteorological station, security fencing, and access roads.

The Kern County Planning and Natural Resources Department, as Lead Agency, has determined that preparation of an Environmental Impact Report would be appropriate for the referenced project. Enclosed is a copy of the Draft EIR.

If we have not received a reply from you by **August 17, 2020, at 5:00 P.M.**, we will assume that you have no comments regarding this Draft EIR.

Should you have any questions regarding this project, please do not hesitate to contact me at (661) 862-8997 or via email at CandiaR@kerncounty.com.

Sincerely,


Ronelle Candia, Supervising Planner
Advanced Planning Division

SPA #4; CUP #23 & #27, Map #47
WO #PP16109
(EIR 02-17 - RB Inyokern Solar)
I:\Planning\WORKGRPS\WP\LABELS\er02-17rrc.ec.doc
Sc 06/19/20

City of Arvin
P.O. Box 548
Arvin, CA 93203

Bakersfield City Planning Dept
1715 Chester Avenue
Bakersfield, CA 93301

Bakersfield City Public Works Dept
1501 Truxtun Avenue
Bakersfield, CA 93301

California City Planning Dept
21000 Hacienda Blvd.
California City, CA 93515

Delano City Planning Dept
P.O. Box 3010
Delano, CA 93216

City of Maricopa
P.O. Box 548
Maricopa, CA 93252

City of McFarland
401 West Kern Avenue
McFarland, CA 93250

City of Ridgecrest
100 West California Avenue
Ridgecrest, CA 93555

City of Shafter
336 Pacific Avenue
Shafter, CA 93263

City of Taft
Planning & Building
209 East Kern Street
Taft, CA 93268

City of Tehachapi
Attn: John Schlosser
115 South Robinson Street
Tehachapi, CA 93561-1722

City of Wasco
764 E Street
Wasco, CA 93280

Inyo County Planning Dept
P.O. Drawer "L"
Independence, CA 93526

Kings County Planning Agency
1400 West Lacey Blvd, Bldg 6
Hanford, CA 93230

Los Angeles Co Reg Planning Dept
320 West Temple Street
Los Angeles, CA 90012

San Bernardino Co Planning Dept
385 North Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415-0182

San Luis Obispo Co Planning Dept
Planning and Building
976 Osos Street
San Luis Obispo, CA 93408

Santa Barbara Co Resource Mgt Dept
123 East Anapamu Street
Santa Barbara, CA 93101

Tulare County Planning & Dev Dept
5961 South Mooney Boulevard
Visalia, CA 93291

Ventura County RMA Planning Div
800 South Victoria Avenue, L1740
Ventura, CA 93009-1740

U.S. Bureau of Land Management
Ridgecrest Field Office
300 South Richmond Road
Ridgecrest, CA 93555

China Lake Naval Weapons Center
Tim Fox, RLA - Comm Plans & Liaison
429 E Bowen, Building 981
Mail Stop 4001
China Lake, CA 93555

Edwards AFB, Mission Sustainability
Liaison
412 TW, Bldg 2750, Ste 117-14
195 East Popson Avenue
Edwards AFB, CA 93524

Federal Aviation Administration
Western Reg Office/
777 South Aviation Boulevard
Suite 150
El Segundo, CA 90245

Federal Communications Comm
18000 Studebaker Road, #660
Cerritos, CA 90701

U.S. Fish & Wildlife Service
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, CA 92262

Eastern Kern Resource Cons Dist
300 South Richmond Road
Ridgecrest, CA 93555-4436

Environmental Protection Agency
Region IX Office
75 Hawthorn Street
San Francisco, CA 94105

U.S. Dept of Agriculture/NRCS
5080 California Avenue, Ste 150
Bakersfield, CA 93309-0711

U.S. Army Corps of Engineers
P.O. Box 997
Lake Isabella, CA 93240

U.S. Army Corps of Engineers
Regulatory Division
1325 "J" Street, #1350
Sacramento, CA 95814-2920

State Air Resources Board
Stationary Resource Division
P.O. Box 2815
Sacramento, CA 95812

So. San Joaquin Valley Arch Info Ctr
California State University of Bkfd
9001 Stockdale Highway
Bakersfield, CA 93311

Caltrans/Dist 6
Planning/Land Bank Bldg.
P.O. Box 12616
Fresno, CA 93778

Caltrans/Dist 9
Planning Department
500 South Main Street
Bishop, CA 93514

Caltrans/
Division of Aeronautics, MS #40
P.O. Box 942873
Sacramento, CA 94273-0001

State Clearinghouse
Office of Planning and Research
1400 - 10th Street, Room 222
Sacramento, CA 95814

State Dept of Conservation
Director's Office
801 "K" Street, MS 24-01
Sacramento, CA 95814-3528

State Dept of Conservation
Geologic Energy Management Division
4800 Stockdale Highway, Ste 108
Bakersfield, CA 93309

California State University
Bakersfield - Library
9001 Stockdale Highway
Bakersfield, CA 93309

California Energy Commission
James W. Reed, Jr.
1516 Ninth Street
Mail Stop 17
Sacramento, CA 95814

California Fish & Wildlife
1234 East Shaw Avenue
Fresno, CA 93710

California Highway Patrol
Planning & Analysis Division
P.O. Box 942898
Sacramento, CA 94298-0001

Public Utilities Comm Energy Div
505 Van Ness Avenue
San Francisco, CA 94102

California Regional Water Quality
Control Board/Lahontan Region
15095 Amargosa Road - Bld 2, Suite 210
Victorville, CA 92392

State Lands Commission
100 Howe Avenue, Ste 100-South
Sacramento, CA 95825-8202

State Dept of Water Resources
San Joaquin Dist.
3374 East Shields Avenue, Room A-7
Fresno, CA 93726

Kern County
Agriculture Department

Kern County Airports Department

Kern County Administrative Officer

Kern County Public Works Department/
Building & Development/Floodplain

Kern County Public Works Department/
Building & Development/Survey

Kern County
Env Health Services Department

Kern County Fire Dept
David Witt, Fire Chief

Kern County Fire Dept
Michael Nicholas, Fire Captain

Kern County Library/Beale
Local History Room

Kern County Library/Beale
Andie Sullivan

Kern County Library
Ridgecrest Branch
131 East Las Flores
Ridgecrest, CA 93555

Kern County Parks & Recreation

Kern County Sheriff's Dept Administration	Kern County Public Works Department/ Building & Development/Development Review	Kern County Public Works Department/Operations & Maintenance/Regulatory Monitoring & Reporting
Kern County Public Works Department/ Building & Development/Code Compliance	Inyokern Municipal Advisory Council 1429 Broadway Avenue P.O. Box 1418 Inyokern, CA 93527	Mojave Town Council Bill Deaver, President P.O. Box 1113 Mojave, CA 93502-1113
Sierra Sands Unified School Dist 113 Felspar Ridgecrest, CA 93555	Kern County Superintendent of Schools Attention School District Facility Services 1300 - 17th Street Bakersfield, CA 93301	KernCOG 1401 19th Street - Suite 300 Bakersfield, CA 93301
Local Agency Formation Comm/LAFCO 5300 Lennox Avenue, Suite 303 Bakersfield, CA 93309	Indian Wells Valley Water Dist P.O. Box 1329 Ridgecrest, CA 93556	Kern County Water Agency P.O. Box 58 Bakersfield, CA 93302-0058
Kern County Parks & Recreation	East Kern Air Pollution Control District	Inyokern Airport P.O. Box 634 Inyokern, CA 93527
Adams, Broadwell, Joseph & Cardozo Attention: Janet M. Laurain 601 Gateway Boulevard, Suite 1000 South San Francisco, CA 94080	Kern Audubon Society Attn: Frank Bedard, Chairman 4124 Chardonnay Drive Bakersfield, CA 93306	Los Angeles Audubon 926 Citrus Avenue Los Angeles, CA 90036-4929
Center on Race, Poverty & the Environment Attn: Marissa Alexander 1999 Harrison Street – Suite 650 San Francisco, CA 94612	Center on Race, Poverty & the Environmental/ CA Rural Legal Assistance Foundation 1012 Jefferson Street Delano, CA 93215	Defenders of Wildlife/ Kim Delfino, California Dir 980 - 9th Street, Suite 1730 Sacramento, CA 95814
Native American Heritage Council of Kern County Attn: Gene Albitre 3401 Aslin Street Bakersfield, CA 93312	Pacific Gas & Electric Co Land Projects 650 "O" Street, First Floor Fresno, CA 93760-0001	Sierra Club/Kern Kaweah Chapter P.O. Box 3357 Bakersfield, CA 93385
Southern California Edison 2244 Walnut Grove, Ave, GO-1 Quad 2C Rosemead, CA 91770	Verizon California, Inc. Attention Engineering Department 520 South China Lake Boulevard Ridgecrest, CA 93555	Chumash Council of Bakersfield 2421 "O" Street Bakersfield, CA 93301-2441
David Laughing Horse Robinson P.O. Box 20849 Bakersfield, CA 93390	Kern Valley Indian Council Attn: Robert Robinson, Chairperson P.O. Box 401 Weldon, CA 93283	Kern Valley Indian Council Historic Preservation Office P.O. Box 401 Weldon, CA 93283

Santa Rosa Rancheria
Ruben Barrios, Chairperson
P.O. Box 8
Lemoore, CA 93245

Tejon Indian Tribe
Kathy Morgan, Chairperson
1731 Hasti-acres Drive, Suite 108
Bakersfield, CA 93309

Kitanemuk & Yowlumne Tejon Indians
Chairperson
115 Radio Street
Bakersfield, CA 93305

Tubatulabals of Kern County
Attn: Robert Gomez, Chairperson
P.O. Box 226
Lake Isabella, CA 93240

Tule River Indian Tribe
Neal Peyron, Chairperson
P.O. Box 589
Porterville, CA 93258

San Fernando Band of Mission Indians
Attn: John Valenzuela, Chairperson
P.O. Box 221838
Newhall, CA 91322

Matthew Gorman
The Gorman Law Firm
1346 E. Walnut Street, Suite 220
Pasadena, CA 91106

Matthew Gorman
The Gorman Law Firm
1346 E. Walnut Street, Suite 220
Pasadena, CA 91106

Carol Vaughn
509 West Ward
Ridgecrest, CA 93555

Indian Wells Water
Management Committee
P.O. Box 1329
Ridgecrest, CA 93556

Joyce LoBasso
P.O. Box 6003
Bakersfield, CA 93386

Leadership Counsel for Justice &
Accountability
1527 - 19th Street, Suite 212
Bakersfield, CA 93301

LIUNA
Attn: Danny Zaragoza
2201 "H" Street
Bakersfield, CA 93301

Mojave Foundation
Attn: Todd Quelet
16922 Airport Boulevard
Mojave, CA 93501

National Public Lands News
941 E. Ridgecrest Blvd
Inyokern, CA 93555

Pleistocene Foundation
2362 Lumill Street
Ridgecrest, CA 93555

Raymond Kelso/
Pleistocene Foundation
2362 Lumill Street
Ridgecrest, CA 93555

Indian Wells Valley Airport Dist
P.O. Box 634
Inyokern, CA 93527

Inyokern Airport
P.O. Box 634
Inyokern, CA 93527

Inyokern Community Serv Dist
P.O. Box 1418
Inyokern, CA 93527

Indian Wells Valley Groundwater
Authority
500 West Ridgecrest Boulevard
Ridgecrest, CA 93555

Southern California Edison
Planning Dept.
510 S. China Lake Blvd.
Ridgecrest, CA 93555

U.S. Air Force
Attn: David Bell/AFCEC CZPW
Western Regional/Leg Branch
510 Hickman Ave., Bld 250-A
Travis AFB, CA 94535-2729

U.S. Army
Attn: Philip Crosbie, Chief
Strategic Plans, S3, NTC
P.O. Box 10172
Fort Irwin, CA 92310

U.S. Army
Attn: Tim Kilgannon, Region 9
Coordinator
Office of Strategic Integration
721 - 19th Street, Room 427
Denver, CO 80202

U.S. Navy
Attn: Steve Chung
Regional Community & Liaison Officer
1220 Pacific Highway
San Diego, CA 92132-5190

U.S. Marine Corps
Attn: Patrick Christman
Western Regional Environmental Officer
Building 1164/Box 555246
Camp Pendleton, CA 92055-5246

Congentrix Sunshine, LLC
Rick Neff
9405 Arrowpoint Blvd
Charlotte, NC 28273

Terra-Gen
Randy Hoyle, Sr. Vice Pres
11512 El Camino Real, Suite 370
San Diego, CA 92130

Renewal Resources Group
Holding Company
Rupal Patel
113 South La Brea Avenue, 3rd Floor
Los Angeles, CA 90036

Wind Stream, LLC
Albert Davies
1275 - 4th Street, No. 107
Santa Rosa, CA 95404

Fotowatio Renewable Ventures
Sean Kiernan
44 Montgomery Street, Suite 2200
San Francisco, CA 94104

EDP Renewables Company
53 SW Yamhill Street
Portland, OR 97204

PG&E
Steven Ng, Manager
Renewal Dev, T&D Intercon
77 Beal Street, Room 5361
San Francisco, CA 94105

Darren Kelly, Sr. Business Mgr
Terra-Gen Power, LLC
1095 Avenue of the Americas, 25th Floor,
Ste A
New York, NY 10036-6797

Bill Barnes, Dir of Asset Mgt
AES Midwest Wind Gen
P.O. Box 2190
Palm Springs, CA 92263-2190

Recurrent Energy
Seth Israel
300 California Street, 8th Floor
San Francisco, CA 92109

Wayne Mayes, Dir Tech Serv
Iberdrola Renewables
1125 NW Couch St, Ste 700, 7th Fl
Portland, OR 97209

Michael Strickler, Sr Project Mgr
Iberdrola Renewables
1125 NW Couch St, Ste 700, 7th Fl
Portland, OR 97209

Beyond Coal Campaign/Sierra Club
Sarah K. Friedman
1417 Calumet Avenue
Los Angeles, CA 90026

Tehachapi Area Assoc of Realtors
Carol Lawhon, Assoc Exe, IOM
803 Tucker Road
Tehachapi, CA 93561

Kelly Group
Kate Kelly
P.O. Box 868
Winters, CA 95694

David Walsh
22941 Banducci Road
Tehachapi, CA 93561

Robert Burgett
9261 - 60th Street, West
Mojave, CA 93501

Structure Cast
Larry Turpin, Sales Mgr
8261 McCutchen Road
Bakersfield, CA 93311

**DRAFT ENVIRONMENTAL IMPACT REPORT
NOTICE OF AVAILABILITY FOR PUBLIC REVIEW**

This is to advise that the Kern County Planning and Natural Resources Department has prepared an Environmental Impact Report (EIR) for the project identified below. As mandated by State law, the minimum public review period for this document is 45 days. The document and documents referenced in the Draft EIR are available for review at the Planning Natural Resources Department, 2700 "M" Street, Suite 100, Bakersfield, CA 93301 or on the Departmental website (<https://kernplanning.com/environmental-doc/rb-inyokern-solar-project/>).

A public hearing has been scheduled with the Kern County Planning Commission to receive comments on the document on: **September 10, 2020**, at 7:00 p.m. or soon thereafter, Chambers of the Board of Supervisors, First Floor, Kern County Administrative Center, 1115 Truxtun Avenue, Bakersfield, California.

The comment period for this document closes on **August 17, 2020**. Testimony at future public hearings may be limited to those issues raised during the public review period either orally or submitted in writing by 5:00 p.m. the day the comment period closes.

Project Title: RB Inyokern Solar Project by R&L Capital, LLC (PP16109); Conditional Use Permit No. 23, Map 47; Conditional Use Permit No. 27, Map 47; and Inyokern Specific Plan Amendment No. 4, Map 47 (Circulation).

Project Location: The project is located in the eastern high desert region of Kern County in the unincorporated community of Inyokern. The proposed project is located along United States Highway 395 (US 395) to the east and Brown Road to the west. Phase 1 is located north of Inyokern Road (State Route 178 [SR 178]), between Brown Road and US 395. Phase 2 is directly north and adjacent to Phase 1. The project site would be directly accessed by SR 178 to Brown Road. A wastewater treatment plant is located adjacent on the northeastern portion of the project site. The Inyokern Airport is located west of the project site. An existing 4.2 acre borrow pit is located on the southeast corner of the Phase 1 portion of the site, which was originally used to build a roadway overpass. The pit is fenced around its perimeter and would not be developed or disturbed during project construction activities and is not included as part of the project site footprint. The proposed solar facility can be found within Sections 19 and 20, Township 26 South, Range 39 East, Mount Diablo Base and Meridian (MDB&M).

Project Description: The project proponents are requesting: **(a)** Two (2) Conditional Use Permits (CUP), to allow for the construction and operation of a 26.6 MW solar photovoltaic electrical generating facility and battery energy storage on approximately 166.5 acres of land (Section 19.38.030.G) in an M-2 Zone District (CUP 23, Map #47 and CUP 27, Map #47); and **(b)** Amendment to the Circulation Element of the Inyokern Specific Plan to remove a portion of the designated future secondary collector from Brown Road to the southern boundary of the project site (Specific Plan Amendment 4, Map #47). The project's permanent facilities would include the solar modules, energy storage systems, operations and maintenance building, switchyards, electrical collector system and inverters, gen-tie lines, telecommunication facilities and meteorological station, security fencing, and access roads.

Anticipated Significant Impacts on Environment: Aesthetics, Air Quality, Biological Resources, Hydrology, Noise, Utilities and Service Systems, and Wildfire

Document can be viewed online at: <https://kernplanning.com/environmental-doc/rb-inyokern-solar-project/>

For further information, please contact Ronelle Candia, Supervising Planner, at (661) 862-8997 or candiar@kerncounty.com.

LORELEI H. OVIATT, AICP, Director
Planning and Natural Resources Department

To be published once only on next available date and as soon as possible

The Bakersfield Californian
Daily Independent
The News Review

RRC (6/20/2020)

cc: County Clerk (2) (with fee)
Environmental Status Board
Sierra Club/Kern Kaweah Chapter
LiUNA
Lozeau Drury, LLP

California Native Plant Society/Kern Chapter
Kern County Archaeological Society
Native American Heritage Pres. Council/Kern County
Center on Race, Poverty and Environment (2)
Supervisory District No. 1

SPA #4; CUP #23 & 27, Map #47
(EIR 02-17 - RB Inyokern Solar)
WO PP16109
I:\Planning\WORKGRPS\WP\LABELS\eir
02-17rrc.noa.docx
Sc 06/19/20

352 086 09 00 9
CLODT MARY ANN LIV TR
P O BOX 1090
INYOKERN CA 93527

352 086 04 00 4
CLODT RICHARD L & GERARDELL L
FAMILY TRUST
P O BOX 999
INYOKERN CA 93527

352 502 01 00 8
DYE PATRICIA ANN TRUST
8033 DUNBARTON AV
LOS ANGELES CA 90045

084 040 02 00 0
EL SOLANA MOBILE HOME & RV
PARK LLC
9220 CLARO DE LUNA DR
BAKERSFIELD CA 93314-8553

352 502 08 00 9
HALCOMB RALPH E & PAULINE L
PO BOX 612
INYOKERN CA 93527-0612

352 502 11 00 7
HEPPE BEN & ANGELA L
1925 BLACKBIRD ST
INYOKERN CA 93527-2800

352 085 14 00 6
INDIAN WELLS VALLEY AIRPORT DS
110 MAHAN ST
RIDGECREST CA 93555

352 085 12 00 0
INYOKERN COMMUNITY SERV DIST
P O BOX 1418
INYOKERN CA 93527

352 085 03 00 4 **DUP**
INYOKERN SANITATION DIST
ADDRESS UNKNOWN

352 502 06 00 3
OLSEN BRENDA K
13288 TAWYA RD
APPLE VALLEY CA 92308-6161

084 010 43 00 0 **DUP**
R & L CAPITAL INC
PO BOX 907
TRONA CA 93592-0907

352 085 05 00 0 **SITE**
R&L CAPITAL INC
PO BOX 907
TRONA CA 93592-0907

352 086 08 00 6 **SITE/DUP**
R&L CAPITAL INC
P O BOX 907
TRONA CA 93562

352 086 08 00 6 **SITE/DUP**
R&L CAPITAL INC
P O BOX 907
TRONA CA 93562

084 040 03 00 3
SARKOVICH TESS VICTORIA
1026 N CLIFFORD ST
RIDGECREST CA 93555-7968

084 010 42 00 7
SIMMONS RODNEY J
2262 NW WILARK DR
SALEM OR 97304-1849

084 010 10 00 4
STATE OF CALIFORNIA
P O BOX 847
BISHOP CA 93514

352 502 07 00 6
TURBETT DENNIS K & JENNIFER J
1948 ORIOLE ST
INYOKERN CA 93527-2806

352 085 07 00 6
U S A
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CA 94102

352 085 08 00 9
U S A
650 CAPITOL MALL
SACRAMENTO CA 95814-4708

084 021 18 00 8
UNION PACIFIC R/R CO
1400 DOUGLAS ST # 1640
OMAHA NE 68179-1610

352 085 09 00 2
UNION PACIFIC R/R CO
1400 DOUGLAS ST # 1610
OMAHA NE 68179-1610

352 502 02 00 1
WITHERS BESS
3024 TREESDALE DR
LAS VEGAS NV 89134-7407

352 085 04 00 7 **DUP**
CLODT MARY ANN
P O BOX 1090
INYOKERN CA 93527

352 501 04 00 0
RODARTE LARRY J & KAREN B
1956 CAMBRIDGE WY
SANTA MARIA CA 93454

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613

For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2017071020

Project Title: RB Inyokern Solar Project by R&L Capital, Inc.

Lead Agency: Kern County Planning Department

Contact Person: Ronelle Candia

Mailing Address: 2700 "M" Street Suite 100

Phone: (661) 862-8997

City: Bakersfield

Zip: 93301-2323

County: Kern

Project Location: County: Kern City/Nearest Community: Inyokern

Cross Streets: United States Highway 395 (US 395) and State Route 178 (SR 178) and Brown Road. Zip Code: 93527

Lat. / Long.: 35 39'30.20573" N / 117 48'40.50472" W

Total Acres: 166.5

Assessor's Parcel No.: Multiple

Section: 19 & 20 Twp.: 26S

Range: 39E

Base: MDB&M

Within 2 Miles:

State Hwy #: SR 178

Waterways: N/A

Airports: Inyokern Airport

Railways: _____

Schools: _____ High School

Document Type:

CEQA: ☐ NOP
☐ Early Cons
☐ Neg Dec
☐ Mit Neg Dec

☒ Draft EIR
☐ Supplement/Subsequent EIR
(Prior SCH No.) _____
Other _____

NEPA: ☐ NOI
☐ EA
☐ Draft EIS
☐ FONSI

Other: ☐ Joint Document
☐ Final Document
☐ Other _____

Local Action Type:

☐ General Plan Update
☐ General Plan Amendment
☐ General Plan Element
☐ Community Plan

☒ Specific Plan
☐ Master Plan
☐ Planned Unit Development
☐ Site Plan

☐ Rezone
☐ Prezone
☒ Use Permit
☐ Land Division (Subdivision, etc.)

☐ Annexation
☐ Redevelopment
☐ Coastal Permit
☐ Other _____

Development Type:

☐ Residential: Units _____ Acres _____
☐ Office: Sq.ft. _____ Acres _____ Employees _____
☐ Commercial: Sq.ft. _____ Acres _____ Employees _____
☐ Industrial: Sq.ft. _____ Acres _____ Employees _____
☐ Educational _____
☐ Recreational _____

☐ Water Facilities: Type _____ MGD _____
☐ Transportation: Type _____
☐ Mining: Mineral _____
☒ Power: Type Solar MW 26.6
☐ Waste Treatment: Type _____ MGD _____
☐ Hazardous Waste: Type _____
☒ Other: Energy Storage

Project Issues Discussed in Document:

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☐ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☒ Economic/Jobs
☐ Other _____

☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Minerals
☒ Noise
☐ Population/Housing Balance
☒ Public Services/Facilities

☐ Recreation/Parks
☐ Schools/Universities
☒ Septic Systems
☐ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation

☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Wildlife
☐ Growth Inducing
☒ Land Use
☒ Cumulative Effects

Present Land Use/Zoning/General Plan Designation:

Undeveloped Land, Zoning: M-2 (Medium Industrial); *Inyokern Specific Plan: 7.2/2.5* (Service Industrial/Flood Hazard).

Project Description: *See Attached.*

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X".

If you have already sent your document to the agency please denote that with an "S".

<input checked="" type="checkbox"/> S Air Resources Board	<input type="checkbox"/> Office of Emergency Services
<input type="checkbox"/> Boating & Waterways, Department of	<input checked="" type="checkbox"/> S Office of Historic Preservation
<input checked="" type="checkbox"/> S California Highway Patrol	<input type="checkbox"/> Office of Public School Construction
<input checked="" type="checkbox"/> X CalFire	<input type="checkbox"/> Parks & Recreation
<input checked="" type="checkbox"/> S Caltrans District # <u>6 & 9</u>	<input type="checkbox"/> Pesticide Regulation, Department of
<input checked="" type="checkbox"/> S Caltrans Division of Aeronautics	<input checked="" type="checkbox"/> S Public Utilities Commission
<input type="checkbox"/> Caltrans Planning (Headquarters)	<input checked="" type="checkbox"/> S Regional WQCB # <u>Lahontan</u>
<input type="checkbox"/> Central Valley Flood Protection Board	<input type="checkbox"/> Resources Agency
<input type="checkbox"/> Coachella Valley Mountains Conservancy	<input type="checkbox"/> S.F. Bay Conservation & Development Commission
<input type="checkbox"/> Coastal Commission	<input type="checkbox"/> San Gabriel & Lower L.A. Rivers and Mtns Conservancy
<input type="checkbox"/> Colorado River Board	<input type="checkbox"/> San Joaquin River Conservancy
<input checked="" type="checkbox"/> S Conservation, Department of	<input type="checkbox"/> Santa Monica Mountains Conservancy
<input type="checkbox"/> Corrections, Department of	<input type="checkbox"/> State Lands Commission
<input type="checkbox"/> Delta Protection Commission	<input type="checkbox"/> SWRCB: Clean Water Grants
<input type="checkbox"/> Education, Department of	<input type="checkbox"/> SWRCB: Water Quality
<input checked="" type="checkbox"/> S Energy Commission	<input type="checkbox"/> SWRCB: Water Rights
<input checked="" type="checkbox"/> S Fish & Game Region # <u>Fresno</u>	<input type="checkbox"/> Tahoe Regional Planning Agency
<input type="checkbox"/> Food & Agriculture, Department of	<input checked="" type="checkbox"/> X Toxic Substances Control, Department of
<input type="checkbox"/> General Services, Department of	<input type="checkbox"/> Water Resources, Department of
<input type="checkbox"/> Health Services, Department of	
<input type="checkbox"/> Housing & Community Development	<input type="checkbox"/> Other _____
<input checked="" type="checkbox"/> S Integrated Waste Management Board	<input type="checkbox"/> Other _____
<input checked="" type="checkbox"/> X Native American Heritage Commission	

Local Public Review Period (to be filled in by lead agency)

Starting Date July 2, 2020 Ending Date August 17, 2020

Lead Agency (Complete if applicable):

Consulting Firm: _____	Applicant: _____
Address: _____	Address: _____
City/State/Zip: _____	City/State/Zip: _____
Contact: _____	Phone _____
Phone: _____	

Signature of Lead Agency Representative: _____ /s/ _____ Date: 7/2/2020
Ronelle Candia, Supervising Planner

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Project Description: RB Inyokern Solar Project, by R&L Capital, Inc. (project proponent), is requesting the land use entitlements necessary to facilitate the construction and operation of a solar photovoltaic power generating facility and associated facilities that would generate a combined total of approximately 26.6 megawatts (MW) of renewable electrical energy on approximately 166.5 acres of privately-owned land in unincorporated Kern County. Implementation of the project as proposed would include: **a)** Two (2) Conditional Use Permits (CUP), to allow for the construction and operation of a 26.6 MW solar photovoltaic electrical generating facility and battery energy storage (Section 19.38.030.G) in an M-2 Zone District (CUP 23, Map # 47 and CUP 27, Map # 47); and **b)** Amendment to the Circulation Element of the Inyokern Specific Plan to remove a portion of the designated future secondary collector from Brown Road to the southern boundary of the project site (Specific Plan Amendment 4, Map #47). The project's permanent facilities would include the solar modules, energy storage systems, operations and maintenance building, switchyards, electrical collector system and inverters, gennie lines, telecommunication facilities and meteorological station, security fencing, and access roads.

Draft Environmental Impact Report

SCH# 2017071020

Volume 1

Chapters 1 through 10

RB INYOKERN SOLAR PROJECT by R&L Capital, Inc. (PP16109)

Conditional Use Permit 23, Map #47;
Conditional Use Permit 27, Map #47; and
Inyokern Specific Plan Amendment 4, Map #47



Kern County
Planning and Natural Resources Department
Bakersfield, California

July 2020

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- E Cultural Resources
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- G Geology and Soils and Paleontological Resources
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Chapter 1

Executive Summary

1.1 Introduction

The RB Inyokern Solar Project (project), proposed by R&L Capital, Inc. (project proponent/operator), would develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate a combined 26.6 megawatts (MW) of renewable electrical energy and/or energy storage capacity. The project site includes two separate phases: Phase 1 (a 20 MW solar facility) and Phase 2 (a 6.6 MW solar facility). Phasing is dependent upon market conditions. The proposed project would interconnect to an existing Southern California Edison (SCE) 33-kilovolt (kV) electrical distribution line to an existing SCE Inyokern Substation approximately 0.5 miles to the east. The distribution line is located within an existing transmission corridor alongside of the project site. A Lot Line Adjustment (LLA 48-19) has been approved, but not yet recorded, to exclude portions of Assessor Parcel Number (APN) 352-085-13 from the Project. In addition, the project proposes to remove a portion of the designated future secondary collector from Brown Road to the southern boundary of the project site.

The project proponent/operator is requesting one Conditional Use Permit (CUPs) from Kern County to authorize the construction and operation of the 20 MW Phase 1 solar PV electrical generating facility on approximately 124.5 acres (CUP 23, Map 47) and the construction and operation of the 6.6 MW Phase 2 solar PV electrical generating facility on approximately 41.93 acres (CUP 27, Map 47). The project proponent/operator is also requesting California Environmental Quality Act (CEQA) review for the project.

Table 1-1, *Project Assessor Parcel Numbers (APNs) – RB Inyokern Phase 1*, and **Table 1-2**, *Project Assessor Parcel Numbers (APNs) – RB Inyokern Phase 2*, both identify the Assessor Parcel Numbers (APN) for the proposed project site.

TABLE 1-1: PROJECT ASSESSOR PARCEL NUMBERS – RB INYOKERN PHASE 1			
APN	Acres (approx.)	Zoning	Inyokern Specific Plan
352-085-05	26.59	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-085-06	3.50	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-086-08*	8.45*	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-01	2.82	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-02	2.89	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-03	2.85	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-05	5.02	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-06	11.99	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-07	13.20	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-09	33.32	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-10	13.84	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
Total	124.56		

TABLE 1-2: PROJECT ASSESSOR PARCEL NUMBERS – RB INYOKERN PHASE 2

APN	Acres (approx.)	Zoning	Inyokern Specific Plan
352-086-08*	35.17*	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-05	6.76	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
Total	41.93		

* With recordation of LLA 48-19

This Draft Environmental Impact Report (EIR) has been prepared by Kern County as the Lead Agency under CEQA. The Draft EIR provides information about the environmental setting and impacts of the project and alternatives. It informs the public about the project and its impacts and provides information to meet the needs of local, State, and federal permitting agencies that are required to consider the project. The EIR will be used by Kern County to determine whether to approve the requested CUPs (CUP 23, Map 47 and CUP 27, Map 47) required for the project.

This Executive Summary summarizes the requirements of the *CEQA Guidelines*; provides an overview of the project and alternatives; identifies the purpose of this EIR; outlines the potential impacts of the project and the recommended mitigation measures; and discloses areas of controversy and issues to be resolved.

1.2 Project Summary

The proposed project would develop a solar PV energy-generating facility with battery energy storage on 166.5 acres of privately owned land. As shown in Figure 3-1, *Project Site Vicinity*, and Figure 3-2, *Project Site*, in Chapter 3, *Project Description*, of this EIR, the project is located in the eastern high desert region of Kern County in the unincorporated community of Inyokern. The project would generate a total of 26.6 MW of renewable electrical energy for delivery to the Statewide grid. The proposed project would interconnect to an existing Southern California Edison (SCE) 33 kV electrical distribution line to an existing SCE Inyokern Substation approximately 0.5 miles to the east.

Table 1-3, *Project Statistics*, provides an overview of the capacity, acreage, location, land uses and approvals for both project phases.

TABLE 1-3: PROJECT STATISTICS

Capacity	Approximate Gross Acres	Section, Township/Range	General Plan/ Specific Plan Land Use	County Discretionary Approvals
Phase 1: 20 MW	124.56	East portion of Section 19 and west portion of Section 20, T 26 South, R 39 East	7.2/2.5 (Service Industrial)	CUP
Phase 2: 6.6 MW	41.93	Northeast portion of Section 30 and northwest portion of Section 29, T 26 South, R 39 East	7.2/2.5 (Service Industrial)	CUP

1.2.1 Discretionary Entitlements Required

The Kern County Planning and Natural Resources Department, the lead agency for the project, has discretionary authority over the proposed project. To implement this project, the project operator would need to obtain, at a minimum, the permits/approvals listed below. Additionally, the EIR, once certified, will be used to satisfy the CEQA requirements for the approvals detailed below. In addition to those listed below, other additional permits or approvals from responsible agencies may be required for the project.

Kern County

- Consideration and certification of Final EIR
- Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
- Approval of proposed Mitigation Measures Monitoring Program
- Approval by the Kern County Board of Supervisors for proposed conditional use permits for the project site
- Approval by the Kern County Board of Supervisors for the proposed Circulation Amendment to the Inyokern Specific Plan
- Kern County construction, grading, building and encroachment permits

Other Responsible Agency Entitlements

- U.S. Fish and Wildlife Service Habitat Conservation Plan (if required)
- California Department of Fish and Wildlife (CDFW) Incidental Take Permit and Habitat Conservation Plan (if required)
- California State Water Resources Control Board – National Pollutant Discharge Elimination System Construction General Permit (if required)
- California Department of Transportation Right-of-Way Encroachment Permit, and Permit for Transport of Oversized Loads
- Eastern Kern County Air Pollution Control District Authority to Construct/Permit to Operate/Fugitive Dust Control Plan

1.3 Relationship of the Project to Other Solar Projects

The project is being developed independently of other approved or proposed solar projects in the County. If approved, the RB Inyokern Solar Project, which includes Phase 1 and 2 facilities, would be subject to their own use permits, conditions of approval, interconnection agreements, and PPAs. Kern County understands that the RB Inyokern Solar Project facilities would be built and operated independently of any other solar project, and, if approved, would not depend on any other solar project for economic viability. The proposed project would involve constructing 150 feet of a new gen-tie line that would connect with an existing SCE 33 kV electrical distribution line, enabling energy delivery to the existing Southern California Edison Inyokern Substation located approximately 0.5 miles to the east of the project site.

1.4 Purpose and Use of the EIR

An EIR is a public informational document used in the planning and decision-making process. This project-level EIR will analyze the environmental impacts of the proposed project. The Kern County Planning Commission and the Board of Supervisors will consider the information in this EIR, including the public comments and staff response to those comments, during the public hearing process. As a legislative action, the final decision is made by the Kern County Board of Supervisors, which may approve, conditionally approve, or deny the project. The purpose of an EIR is to identify:

- The significant potential impacts 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; and
- Reasonable and feasible alternatives to the project that would eliminate any significant adverse environmental impacts or reduce the impacts to a less-than-significant level.

An EIR also discloses growth-inducing impacts; impacts found not to be significant; and significant cumulative impacts of past, present, and reasonably anticipated future projects. CEQA requires preparation of an EIR that reflects the independent judgment of the lead agency regarding the impacts, the level of significance of the impacts both before and after mitigation, and mitigation measures proposed to reduce the impacts. A draft EIR is circulated to responsible agencies, trustee agencies with resources affected by the project, and interested agencies and individuals. The purposes of public and agency review of a draft EIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting counterproposals. Reviewers of a draft EIR are requested to focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment, and ways in which the significant impacts of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate significant environmental effects.

This EIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 45-day formal review period in accordance with *CEQA Guidelines* Section 15087. The EIR process, including means by which members of the public can comment on the EIR, is discussed further in Chapter 2, *Introduction*.

1.5 Project Overview

1.5.1 Project Objectives

The project has the following objectives, as identified by the project applicant:

- Minimize the network upgrade costs borne to the consumer by locating the project on a transmission line that does not require major upgrades to accommodate the new facility;
- Maximize the use of existing transmission infrastructure;
- Ensure a short distance of the point of interconnection to minimize the cost on the generator interconnection tie-line and reduce environmental impacts;

- Develop a site to maximize renewable energy production and economic viability through the installation of up to 26.6 MW of solar PV panels and/or energy storage facilities on of private lands with excellent solar resources (an average insolation value of 6 kilowatt-hours per square meter per day (kWh/m²/day) or greater);
- Ensure that the project can be constructed in a technologically feasible manner and operated in a manner that allows electricity to be provided at a competitive price;
- Locate the facility on land that is zoned for industrial use with no agricultural value, or soil quality conducive to agriculture;
- Support California’s efforts to reduce greenhouse gas (GHG) emissions consistent with the timeline established in 2006 under California Assembly Bill 32, the Global Warming Solutions Act of 2006, which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least the 1990 emissions level by 2020. This timeline was updated in 2016 under Senate Bill 32, which requires that statewide GHG emissions are reduced to at least 40 percent below the statewide GHG emissions limit by 2030; and
- Support California’s aggressive RPS Program consistent with the timeline established by Senate Bill 100 (De León, also known as the “California Renewables Portfolio Standard Program: emissions of greenhouse gases”) as approved by the California legislature and signed by Governor Brown in September 2018, which increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045.

1.5.2 Regional Setting

The project is located in the eastern high desert region of Kern County in the unincorporated community of Inyokern, approximately 9.4 miles south of Inyo County and 9.3 miles west of San Bernardino County. The project site is approximately 5.5 miles west of the City of Ridgecrest, 3 miles east of the community of Indian Wells, and 8 miles west of the China Lake Naval Air Weapons Station. Land uses in the project area are both industrial and residential, as well as some open space. Topography in the project area is relatively flat. The project area is primarily accessible by SR 178 (West Inyokern Road) onto to Brown Road. US 395, located adjacent to the project site on the northeast, is an access control restriction; hence, no project site access is proposed from this route. Another major north–south roadway in the region is State Route 14 (SR 14), a four-lane highway located approximately 3.2 miles east of the project. Emergency access to both facilities is provided off of Brown Road.

1.5.3 Surrounding Land Uses and Project Site Conditions

The project site is located on undeveloped privately owned land in the community of Inyokern. The project site is relatively flat and has an elevation that ranges from approximately 2,300 to 2,400 feet (700 to 730 meters) above mean sea level (amsl). Existing development in the project vicinity includes a wastewater treatment plant, the Inyokern Airport, single family residences, and undeveloped, open space. Forest, parkland, and preserve areas in the vicinity of the project site include the Sequoia and Kings Canyon National Parks located approximately 20 miles northwest. The project site is not located within the boundaries of an adopted Habitat Conservation Plan. The nearest residence is a small rural residential tract approximately 0.30 miles east of SR 395 and 500 feet southwest of the project site. The community of Inyokern is located to the southwest of the project site and includes various single-family residences. Scattered residences are also located east of the project site. The China Lake Naval Air Weapons Station,

located approximately 8 miles east of the project site, has an existing utility scale solar facility. An expanded list of existing, approved, and pending projects in the vicinity of the project site is provided in Table 3-5, *Cumulative Projects List*, in Chapter 3, *Project Description*, of this EIR.

The project would develop 166.5 acres of property, consisting of private undeveloped land. The project site is not designated by the California Department of Conservation (DOC) as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The DOC designates the project site as grazing land, non-agricultural and natural vegetation, and vacant or disturbed lands. No lands within the project site are subject to a Williamson Act Land Use contract.

As shown in Figure 3-4, *Flood Zones*, in Chapter 3, *Project Description*, of this EIR, the project site is located within Flood Zone A (100-year flood zone) as defined on the Flood Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA). This indicates the site has a 1 percent potential of annual flooding. There are no identified State-designated Alquist-Priolo Earthquake Fault Zones on the project site. The nearest active fault is the Little Lake Fault, which is located approximately 7 miles northeast of the project site. According to the Kern County ALUCP, the project site is located within Zones B1 and C of the Inyokern Airport influence area.

The project would be served by the Kern County Sheriff's Office for law enforcement and public safety. The closest sheriff station is the Ridgecrest Substation, located approximately 7.4 miles southeast of the project site, at 128 East Coso Avenue in the City of Ridgecrest. The Kern County Fire Department (KCFD) provides fire protection and emergency medical and rescue services for the project area. The closest KCFD fire station is Station #73, located approximately 0.6 miles west of the project site at 6919 Monache Mountain Avenue in the community of Inyokern. The closest school to the project site is Inyokern Elementary School, located approximately 0.22 miles southwest of the project site. The closest hospital to the project site is the Ridgecrest Regional Hospital in the City of Ridgecrest, approximately 7 miles to the east.

Table 1-4, *Project Site and Surrounding Land Uses*, summarizes the existing land uses, map code designations, and zoning classifications on the project site and surrounding area. Figure 3-6, *Existing General Plan and Inyokern Specific Plan Designations*, and Figure 3-7, *Existing Zoning*, in Chapter 3, *Project Description*, of this EIR, show the land use designations and the existing zoning of the project site and its surrounding area.

TABLE 1-4: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use	Existing Land Use Designations	Existing Zoning Classifications
Project Site	Undeveloped, Partially Disturbed Land	<i>Inyokern Specific Plan:</i> 7.2/2.5 (Service Industrial/Flood Hazard)	M-2 (Medium Industrial)
North	Largely Undeveloped, Industrial, Wastewater Treatment Plant	<i>Inyokern Specific Plan:</i> 7.3/2.5 (Heavy Industrial/Flood Hazard) 5.5 (Residential – 1 Dwelling Unit/Net Acre Maximum) 5.6 (Residential – Minimum 2.5 Gross Acres/Unit) 5.7 (Residential – 5.0 Gross Acres/Dwelling Unit Maximum) 5.8 (Residential – 20+ Gross Acres/DU Maximum) 7.1 (Light Industrial)	M-2 (Medium Industrial) E (2 ½) RS MH (Estate 2.5 Acres – Residential Suburban – Mobile Home Combining) E (5) RS MH (Estate 5 Acres – Residential Suburban – Mobile Home Combining)
South	Undeveloped land	<i>Inyokern Specific Plan:</i> 1.1/2.5 (State or Federal Land/Flood Hazard)	M-2 (Medium Industrial) M-2 PD (Medium Industrial-Precise Development Plan) OS (Open Space)
East	Roadway, undeveloped, Scattered residences	5.7 (Residential – Minimum 2.5 Gross Acres/Unit); 5.8 (Residential – 5 Gross Acres/Unit) 5.5/2.5 (Residential – 1 Dwelling Unit/Net Acre Maximum/Flood Hazard) 5.8/2.5 (Residential – 20+ Gross Acres/DU Maximum/Flood Hazard) 5.8 (Residential – 20+ Gross Acres/DU Maximum) 5.5 (Residential – 1 Dwelling Unit/Net Acre Maximum) 1.1 (State or Federal Land)	A-1 MH (Limited Agriculture – Mobile Home Combining) OS (Open Space) E (1) RS MH (Estate 1 Acre – Residential Suburban – Mobile Home Combining) E (2½) RS MH (Estate 2.5 Acres – Residential Suburban – Mobile Home Combining) E (10) RS MH (Estate 10 Acres – Residential Suburban – Mobile Home Combining) E (20) RS MH (Estate 20 Acres – Residential Suburban – Mobile Home Combining)
West	Roadway, Inyokern Airport	7.2/2.5 (Service Industrial/Flood Hazard) 3.3 (Other Facilities) 1.1/2.5 1.1/2.5 (State or Federal Land/Flood Hazard) 5.6/2.5 (Residential – Minimum 2.5 Gross Acres/Unit/Flood Hazard) 5.2/2.5 (Residential – 16 Dwelling Units/Net Acre Maximum/Flood Hazard) 6.2 (General Commercial) 6.2/2.5 (General Commercial/Flood Hazard)	M-1 PD H (Light Industrial, Airport Approach Height Combining, Precise Development Combining) OS (Open Space)

1.5.4 Project Characteristics

Power generated by the proposed project would be transferred directly to SCE's Inyokern 33 kV electrical distribution line, which connects to the existing SCE Inyokern Substation approximately 0.5 miles east of the project site. The solar facility would utilize PV technology and consist of solar arrays mounted on either fixed or tracking structures mounted to vertical posts. The solar facility would operate year-round and would generate electricity during the daylight hours when electricity demand is at its peak.

The proposed project consists of two separate sites that comprise a combined 166.5-acre project site (see Figure 3-2, Project Site). These two sites may be combined and constructed at the same time as a single, 26.6 MW AC solar facility, or alternatively, could be developed as two independent solar facilities. Phase 1 would include 20 MW of renewable energy generating solar facilities and battery energy storage on approximately 124.56 acres, and Phase 2 would include 6.6 MW of renewable energy generating solar facilities and battery energy storage on approximately 41.93 acres.

The project's facilities would include the parts and equipment to generate solar power, convert and connect it to the grid, allow site access and report the needed meteorological and power telemetry to the required stakeholders.

The power conversion process starts with the modules and ends with the medium voltage (MV) protection equipment arranged in the following sequence. PV modules are mounted to either a fixed or tracking support structure. They are then grouped into series-strings in parallel, using a combiner box with fuses to protect each incoming wire. Several combiners lead to an inverter that converts direct current (DC) electricity to alternating current (AC) electricity. The inverters output to transformers to step the inverter voltage up to 34,500 volts. This MV is collected using buried or overhead wires and routed to the MV protection and metering equipment.

A typical solar facility and substation are shown in Figure 3-8, *Typical Solar PV Power Plant Facility*, and Figure 3-9, *Typical Substation*, respectively. A conceptual site plan for the project site during construction is shown in Figure 3-10, *Phase 1 Site Plan*, and Figure 3-11, *Phase 2 Site Plan*.

The combined project would include the following components.

- Solar PV generating facilities and solar modules;
- Energy storage systems (ESS);
- Operations and maintenance (O&M) building;
- Switchyards;
- An electrical collector system and inverters;
- One or two generation-tie (gen-tie) lines and an interconnection to the Statewide grid;
- Telecommunication facilities;
- An onsite meteorological station;
- Site access and security measures; and
- Potential SCE offsite upgrades.

The components listed above are described in more detail below.

Solar PV Generating Facilities and Solar Modules

The proposed project would utilize system blocks to convert solar energy directly to electrical power for export to the electrical grid. The proposed project would install PV modules that would be mounted on steel support posts that are pile driven into the ground and connected to inverters. The modules would be made of a thin film material or polycrystalline silicon material covering the glass panes, which would be dark in color, highly absorptive, and have minimum reflectivity. The modules would be manufactured at an offsite location and transported to the project site.

Solar modules for the proposed project will be a single axis tracker system. Depending on the modules used, the panels would measure between 4 and 7 feet in length, and the total height of the panel system measured from ground surface would be approximately 4 to 10 feet. The length of each row of panels would be approximately 300 feet and would be oriented in the east–west direction in the case of fixed-mounts being utilized, and oriented in the north–south direction in the case of single-axis trackers being utilized.

Solar Trackers

- Phase 1 would include:
 - Approximately 74,424 single-axis tracker panels
- Phase 2 would include:
 - Approximately 24,556 single-axis tracker panels

Access roads would be located throughout the project area. Spacing between each row would be approximately 8 to 22 feet. Single-axis tracking systems would employ a motor mechanism that would allow the arrays to track the path of the sun (from east to west) throughout the day. The motors would be installed after the horizontal cross-members described above are in place. In the morning, the panels would face the east. Throughout the day, the panels would slowly move to the upright position at noon and on to the west at sundown. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise. The project, as proposed, would be developed with traditional or second-generation technology.

A solar tracking mechanism is used to maximize the solar energy conversion efficiency by keeping the modules perpendicular to the sun's energy rays throughout the day. This completed assembly of PV modules mounted on a framework structure is called a "tracker" because it tracks the sun from east to west. Single-axis trackers would increase the efficiency of energy production from the arrays relative to a fixed tilt system. The exact tracker manufacturer and model would be determined in the final design. All trackers are intended to function identically in terms of following the motion of the sun.

Module layout and spacing is optimized to balance energy production versus peak capacity and would depend on the sun angles and shading caused by the horizon surrounding the project. The spacing between the rows of trackers is dependent on site-specific features and would be identified in the final design. The final configuration would allow for sufficient clearance for maintenance vehicles and panel access.

Energy Storage Systems

The proposed project may have up to two onsite ESS (one for each facility developed). Each ESS would be able to provide at least four hours of energy storage capacity for the electric grid. Each ESS would occupy approximately a 65-by-150-foot area within the project site and would consist of battery storage

modules placed in either multiple prefabricated enclosures or steel buildings near the onsite switchyard. The ESS would either be installed contemporaneously or after the installation of the PV facilities. The final location is dependent on final design and may require construction of a vault or other form of supporting foundation similar to other structures onsite.

The ESS would consist of battery banks housed in electrical enclosures and buried electrical conduit. The battery enclosures would have fire suppression equipment installed that automatically suppress thermal emergencies. Although the energy storage technology has not been determined at this time, it could include any commercially available battery technology, including but not limited to lithium ion, lead acid, sodium sulfur, and sodium or nickel hydride or any type of flow batteries. Battery systems are operationally silent and flywheel systems have a noise rating of 45 dBA. Power stored by the energy storage facility would be transferred by the existing Sawmill 33 kV electrical distribution line that connects to the existing SCE Inyokern Substation approximately 0.5 miles east of the project site.

Operation and Maintenance Buildings

The proposed project would include one unmanned O&M building. The O&M building would be a prefabricated commercial coach structure that measures up to 25 feet by 25 feet in area and 12 feet high. The O&M activities would not require permanent employees; therefore, no septic tanks or permanent toilets would be required, and no permanent water source is necessary. Water for day to day maintenance will be either from an onsite water well or trucked onto the site. The Inyokern Community Services District would provide water during construction and operation of the project. Electrical service to support the facility and equipment would be provided by SCE.

Switchyards

The proposed project would have a total of two switchyards (one on Phase 1 and one on Phase 2). Switchyards would include individual protection equipment that collects the electricity from all the inverter stations, combines it, and passes it through large breaker (often called a recloser) that protects the site from overcurrent events. Power measurement would be done using Potential and Current transducers that feed signals to a power meter. A customer switch would be included that can be used to show a visible disconnect from the grid. This switch may be pole mounted equipment at 25 feet separation or metal enclosed switch gear. In either case, the MV equipment would be surrounded by a fence to restrict access to all but qualified personnel.

Each switchyard would have two sets of gear: the gear the customer owns and controls and the gear the utility owns and controls. Included in the customer-owned gear are a recloser (or a large breaker) and the metering devices (such as potential transducers and current transducers) that send signals to a meter cabinet a short distance away. This meter cabinet then sends the information to the local Supervisory Control and Data Acquisition (SCADA) system to report offsite or store electricity locally. There is also customer owned-switch that provides a visible indication of grid disconnect should disconnection become necessary. The utility-owned gear includes a separate recloser that is pole-mounted as well as metering devices. Approximately 150 feet of 33 kV gen-tie line would be present onsite extending from the utility recloser to connect to the existing Sawmill 33 kV distribution circuit that leads to the SCE Inyokern Substation.

Electrical Collector System and Inverters

The DC-AC electrical collection system includes all cables and combiners that collect electricity from the panels, deliver it to the inverters, collect it from the inverters, and ultimately deliver it to the project switchyard. The collection system would likely be installed along internal access roads to collect power from the rows of modules and deliver it to the switching station. This collection system would likely be installed in subsurface trenches; in some areas of the site, part or all of the collection system may be housed in above-grade raceways mounted on supports approximately 24 to 36 inches above ground level. The collection system would be rated at between 1,000 and 2,000 volts DC until it reached the inverters and a 34.5 kV AC intermediate voltage system between the inverters and the project switching station.

The DC electricity produced by the solar panels is converted to three-phase AC by a series of inverters. AC is the type of electricity usable by the electric utility and is the form required to connect to the transmission system. The inverter pad equipment includes a transformer that steps up the electricity in its new form to an output voltage of 34.5 kV. This electricity is then transmitted via the medium voltage collection system to the switching station.

Generation-Tie Line(s) and Interconnection to the Statewide Grid

The project would construct one or two onsite 33 kV electrical gen-tie lines from the proposed project transformers to the existing 33 kV Sawmill circuit, which is located along the 20 MW facility's eastern boundary. As mentioned above, power generated by the proposed project would be transferred directly to SCE's Inyokern 33 kV line. Construction would include appropriate environmental monitoring.

Telecommunication Facilities

Onsite equipment communication would be conducted via a combination of options including a secured wireless mesh network, copper and fiber data cables both on equipment racks and underground.

Telecommunication equipment is needed to meet the communication requirements for interconnecting with the SCE and California Independent System Operator (CAISO) grid. Telecommunication equipment would allow the project site to collect information from onsite devices, communicate with offsite facilities and control the site. To provide for offsite bidirectional communication, a fiber optic cable or a T1 data line from local providers would be connected to the site with the appropriate allocations and security. This cable or data line may include both underground and overhead routing paths. The project's unmanned O&M buildings would house an automated field control system. The controls generally include a field supervisory controller in a central location and local microprocessor controllers connected to each tracker (if trackers are to be used). The field control system monitors solar insolation, wind velocity, and tracker performance and status, and communicates with all of the local microprocessor controllers. When the appropriate conditions exist, the field supervisory controller initiates the trackers' daily tracking of the sun, and at the end of the day stows the trackers in the solar array. The project would utilize local exchange carrier services to support remote monitoring requirements. The project would connect to telecommunication fiber optic lines owned and managed by existing service providers.

The project site's electricity would be controlled using a SCADA system comprised of onsite meters, relay control devices, communications gateways and control computers that limits the amount of energy the plant can export and to respond to external utility or owner commands that adjust power, power factor and other

grid required commands. This equipment would be located either in a metal enclosure or a small controls structure with the proper temperature and backup power equipment that is needed for operation. The SCADA system is critical to the CAISO and SCE utility interconnection, and for the proper operation and maintenance of the project, which utilizes propriety software, a fiber optic transmission system, a telephone, radio and/or microwave communications network, and other means of communication such as radio-links and phase loop communication systems that may be implemented to meet the requirements. The SCADA system functions as a remote start, stop, reset, and data aggregator for the facilities. The SCADA system would also control the onsite switchyard reclosers allowing for fully centralized operation of the project to meet all CAISO and utility interconnection requirements.

Onsite Meteorological Station

The project would include at least one onsite solar meteorological station located near the Phase 1 O&M building. The onsite solar meteorological station would consist of solar energy (irradiance) meters, as well as an air temperature sensor and wind anemometer. This equipment (specifically the wind anemometer) would have an estimated height of up to 15 feet.

Site Access and Security Measures

During operation, the project would be accessed from two separate entrances from Brown Road. An additional site access point for emergency vehicles would also be available to provided off of Brown Road. Access to Phase 2 would be directly from Phase 1; there would be no access to Phase 2 directly from Brown Road. To facilitate access for fire and work crews and equipment delivery, the site would have internal service roads typically composed of compacted rock. All road improvements would be completed per County code and regulations. Typical site access would be approximately 20 feet wide, accommodating a 56-foot turning radius in both directions. The rows of solar panels would be separated by access ways. Internal site circulation would include approximately 20-foot-wide perimeter roads consisting of crushed stone and approximately 16-foot-wide O&M roads among the solar arrays consisting of crushed stone or native soil.

Chain-link security fencing would be installed around the site perimeter and other areas requiring controlled access to restrict public access during construction and operations. The security fence would be between approximately 7 and 8 feet high. The fence posts would be set in concrete. Additional security may be provided through the use of closed circuit video surveillance cameras and intrusion systems. Signs would be installed to achieve appropriate safety and security as expected in a solar power facility. Proposed signage would include signs specifying high voltage danger, site under surveillance, caution electric shock, etc. Any signs as required by the National Electrical Code would also be installed.

The project's lighting system would provide operation and maintenance personnel with illumination for both normal and emergency conditions. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives. Lighting would be directed downward and shielded to focus illumination on the desired areas only and to avoid light spillage on adjacent properties. Light fixtures would be mounted at the entrance and each inverter station. Lighting would be no brighter than required to meet safety and security requirements, and lamp fixtures and lumens would be selected accordingly. All project lighting would be switched and without timer. All lighting at the proposed solar facilities would be designed to meet Kern County Zoning Ordinance Chapter 19.81, Outdoor Lighting "Dark Skies Ordinance," requirements.

Potential SCE Offsite Upgrades

To accommodate the project's interconnection, potential SCE and/or CAISO offsite upgrades are necessary. The proposed project would include upgrading the conductors, for less than 1 mile, of the existing Sawmill circuit, which runs along the northern and eastern boundaries of the project site and interconnects to the existing SCE Inyokern Substation.

Other potential network facility modifications necessary to support the development of the project may include but are not limited to replacement of the transformer bank at the existing Inyokern Substation, replacement of an existing transducer with a bidirectional transducer, and addition of remote terminal unit points for the transducer.

1.6 Environmental Impacts

CEQA Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons why any new and possibly significant effects of a project were determined not to be significant and were, therefore, not discussed in detail in the EIR. The County has engaged the public to participate in the scoping of the environmental document. The contents of this EIR were established based on an initial study/notice of preparation (IS/NOP) prepared in accordance with the *CEQA Guidelines*, as well as public and agency input that was received during the scoping process. Comments received on the IS/NOP are located in Appendix A of this EIR. Specific issues found to have no impact or less-than-significant impacts during preparation of the IS/NOP do not need to be addressed further in this EIR. Based on the findings of the IS/NOP and the results of scoping, a determination was made that this EIR must contain a comprehensive analysis of all environmental issues in *CEQA Guidelines* Appendix G except those previously identified within the IS/NOP, including population and housing and recreation.

1.6.1 Impacts Not Further Considered in this EIR

As discussed in the IS/NOP (located in Appendix A of this EIR), the project was determined to have no impact with regard to the following resource areas, which are therefore not analyzed in this EIR.

- Population and Housing
- Recreation

1.6.2 Impacts of the Project

Sections 4.1 through 4.18 in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, provide a detailed discussion of the environmental setting, impacts associated with the project, and mitigation measures designed to reduce significant impacts to less-than-significant levels, when feasible. The impacts, mitigation measures, and residual impacts for the project are summarized in **Table 1-9, Summary of Impacts, Mitigation Measures, and Levels of Significance**, located at the end of this chapter, and are discussed further below.

1.6.3 Less-than-Significant Impacts

Impacts related to the following resource areas are evaluated in this EIR for their potential significance:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Public Services
- Transportation and Traffic
- Tribal Culture Resources
- Utilities and Service Systems
- Wildfires

Table 1-5, *Summary of Project Impacts that are Less than Significant or Less than Significant with Mitigation*, presents those impacts of the project that were determined to be less than significant by themselves, or less than significant with implementation of mitigation measures. Less-than-significant cumulative impacts are also included in this table. Sections 4.1 through 4.18 of this EIR present detailed analysis of these impacts and describe the means by which the mitigation measures listed in Table 1-5 would reduce impacts to a less-than-significant level.

TABLE 1-5: SUMMARY OF PROJECT IMPACTS THAT ARE LESS THAN SIGNIFICANT OR LESS THAN SIGNIFICANT WITH MITIGATION

Impact	Mitigation Measures
Agriculture and Forest Resources (Project and Cumulative)	No mitigation required
Biological Resources (Project)	MM 4.4-1 through MM 4.4-14; MM 4.1-3 and MM 4.1-4
Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-4
Energy (Project and Cumulative)	MM 4.3-3 and MM 4.3-7
Geology and Soils (Project and Cumulative)	MM 4.7-1 through MM 4.7-7
Greenhouse Gas Emissions (Project and Cumulative)	No mitigation required
Hazards and Hazardous Materials (Project and Cumulative)	MM 4.9-1 through MM 4.9-3; MM 4.1-5; MM 4.1-6; MM 4.14-1; MM 4.17-1
Land Use and Planning (Project and Cumulative)	MM 4.11-1 through MM 4.11-3; MM 4.1-4 and MM 4.1-6
Mineral Resources (Project and Cumulative)	No mitigation required
Noise (Cumulative)	MM 4.13-1 through MM 4.13-4
Public Services (Project and Cumulative)	MM 4.14-1 and MM 4.14-2
Traffic and Transportation (Project and Cumulative)	MM 4.15-1
Tribal Cultural Resources (Project and Cumulative)	No mitigation required
Wildfire (Project)	MM 4.10-1; MM 4.14-1

1.6.4 Significant and Unavoidable Impacts

CEQA Guidelines Section 15126.2(b) requires that the EIR describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. Potential environmental effects of the project and proposed mitigation measures are discussed in detail in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR. Impacts for the following have been found to be significant and unavoidable at the project-level:

- Aesthetics
- Air Quality
- Hydrology and Water Quality
- Noise
- Utilities and Service Systems

According to *CEQA Guidelines* Section 15355, the term cumulative impacts “... refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” Individual effects that may contribute to a cumulative impact may be from a single project or a number of separate projects. Individually, the impacts of a project may be relatively minor, but when considered along with impacts of other closely related or nearby projects, including newly proposed projects, the effects could be cumulatively considerable. This EIR has considered the potential cumulative effects of the project along with other current and reasonably foreseeable projects. Impacts for the following have been found to be cumulatively considerable:

- Aesthetics
- Air Quality
- Biological Resources
- Hydrology and Water Quality
- Utilities and Service Systems
- Wildfire

Table 1-6, *Summary of Significant and Unavoidable Project-Level and Cumulative Impacts of the Solar Facility*, presents those impacts at the project -level and cumulatively. Sections 4.1, *Aesthetics*; 4.3, *Air Quality*; 4.4, *Biological Resources*; 4.10, *Hydrology and Water Quality*; 4.13, *Noise*; 4.17, *Utilities and Service Systems*; and 4.18, *Wildfire*, of this EIR present detailed analyses of these impacts and describe the means by which the mitigation measures listed in Table 1-6, would reduce the severity of impacts to the extent feasible.

TABLE 1-6: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND CUMULATIVE IMPACTS OF THE SOLAR FACILITY

Resources	Project Impacts	Cumulative Impacts
Aesthetics	Although implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3 would reduce the visual changes experienced at individual key observation point locations, there are no mitigation measures that would allow for the preservation of the existing visual character of the area; and the resultant visual impact is considered significant and unavoidable .	The project would have cumulatively significant and unavoidable aesthetic impacts after implementation of mitigation. Although implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3 would reduce the adverse visual changes experienced at individual key observation point locations, there are no mitigation measures that would allow for the preservation of the existing visual character of the area. The conversion of approximately 166.5 acres of currently undeveloped land to a solar energy production facility is considered a significant and unavoidable cumulative impact.
Air Quality	Even with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-12, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM _{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project level impacts.	Although implementation of Mitigation Measures MM 4.3-1 through MM 4.3-12 would reduce impacts to air quality, the proposed project would not result in a cumulatively considerable impact related to the incremental contribution to the Mojave Desert Air Basin Emissions Inventory. However, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM _{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable cumulative level impacts.
Biological Resources	There would be no significant and unavoidable project impacts.	As development increases within Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered with other past, present, and probable future projects, which encompass Indian Wells Valley in the western Mojave Desert, the project would have an incremental contribution to a cumulative loss of foraging and nesting habitat for other special-status species, even with the implementation of project-specific Mitigation Measures MM 4.4-1 through MM 4.4-14 and MM 4.1-44. This loss of foraging and nesting habitat for special-status species that may utilize habitat on the project site would result in a significant and unavoidable cumulative impact.

TABLE 1-6: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND CUMULATIVE IMPACTS OF THE SOLAR FACILITY

Resources	Project Impacts	Cumulative Impacts
Hydrology and Water Quality	The proposed project would depend on groundwater supplies for construction and operation. The proposed project has secured an agreement with Inyokern Community Services District, which obtains its water from the Indian Wells Valley Groundwater Basin. The Basin is currently in a critical condition of overdraft. Although implementation of Mitigation Measures MM 4.10-2 and MM 4.10-3 would require compliance with current restrictions on groundwater use within the final Groundwater Sustainability Plan and would require the project proponent to verify the water source for project construction and operation, the proposed use of groundwater supplies from a critically overdrafted groundwater basin would result in a significant and unavoidable cumulative impact.	The project itself would result in significant and unavoidable impacts to groundwater supplies given that the Indian Wells Valley Groundwater Basin is in a condition of critical overdraft. Other projects proposed in the Indian Wells Valley Groundwater Basin would likely also depend on the Indian Wells Valley Groundwater Basin for water supply. Although implementation of Mitigation Measures MM 4.7-3, MM 4.9-1, and MM 4.10-1 through MM 4.10-3 would be required, the use of overdrafted groundwater supplies by the proposed project as well as other projects would result in a significant and unavoidable cumulative impact.
Noise	It is anticipated that there would be times during the project's construction activities where the nearest sensitive receptors would be exposed to a perceptible change in noise levels of greater than 5 dBA, even with adherence to all applicable Kern County noise requirements and implementation of Mitigation Measures MM 4.13-1 through MM 4.13-3. Therefore, the project would result in perceptible temporary increases in noise levels during construction and this impact would be considered significant and unavoidable .	There would be no significant and unavoidable cumulative-level impacts.
Utilities and Service Systems	The Indian Wells Valley Groundwater Basin, within which the Inyokern Community Service District is located, is in a critical condition of overdraft. Even with the implementation of Mitigation Measure MM 4.10 2 requiring the project proponent to verify the water source for operation and construction prior to the issuance of building and/or grading permits and Mitigation Measure MM 4.10-3 requiring the project proponent to comply with any restrictions that result from the final Groundwater Sustainability Plan, significant impacts from construction and operation of a new onsite water supply well would remain significant and unavoidable .	The Indian Wells Valley Groundwater Basin is in a critical condition of overdraft. Plans to address this overdraft condition are still underway, but pumping may be restricted in the future. Although the project has an agreement with Inyokern Community Services District for water supply, the proposed project's use of this water could preclude other projects from obtaining a water supply from water purveyors that depend on the Indian Wells Valley Groundwater Basin for water supply, including the Inyokern Community Services District. Although implementation of Mitigation Measures MM 4.7-3, MM 4.10-1 through MM 4.10-3, and MM 4.17-1 would be required, affecting available local water purveyor supply would result in a significant and unavoidable cumulative impact.

TABLE 1-6: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND CUMULATIVE IMPACTS OF THE SOLAR FACILITY

Resources	Project Impacts	Cumulative Impacts
Wildfire	There would be no significant and unavoidable project impacts.	Despite implementation of Mitigation Measures MM 4.10-1 and MM 4.14-1, given the location in a rural area, the project and related projects have the potential to result in a cumulative impact related to the following: an adopted emergency response plan or emergency evacuation plan; exposure of project occupants to pollutant concentrations from a wildfire; installation or maintenance of associated infrastructure; and exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage change. Thus, would result in a significant and unavoidable cumulative impact.

1.6.5 Irreversible Impacts

CEQA Guidelines Section 15126.2(c) defines an irreversible impact as an impact that uses nonrenewable resources during the initial and continued phases of the project. Irreversible impacts can also result from damage caused by environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to ensure that such consumption is justified.

Build-out of the project would commit nonrenewable resources during project construction. During project operations, oil, gas, and other fossil fuels and nonrenewable resources would be consumed, primarily in the form of transportation fuel for project employees. Therefore, an irreversible commitment of nonrenewable resources would occur as a result of long-term project operations. However, assuming that those commitments occur in accordance with the adopted goals, policies, and implementation measures of the Kern County General Plan and the Inyokern Specific Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan and the Inyokern Specific Plan ensure that any irreversible environmental changes associated with those commitments will be minimized.

1.6.6 Growth Inducement

The Kern County General Plan recognizes that certain forms of growth are beneficial, both economically and socially. *CEQA Guidelines* Section 15126.2(d) provides the following guidance on growth-inducing impacts:

A project is identified as growth-inducing if it “would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.”

Growth inducement can be a result of new development that requires an increase in employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the project would not induce substantial growth. There is no onsite workforce for the project. It is anticipated that the construction workforce would commute to the sites each day from local communities, and the majority would likely come from the existing labor pool as construction workers

travel from site to site as needed. Construction staff not drawn from the local labor pool would stay in any of the local hotels in Inyokern, Ridgecrest or other local communities.

Although the project would contribute to the energy supply, which supports growth, the development of power infrastructure is a response to increased market demand. It does not induce new growth. Kern County planning documents already permit and anticipate a certain level of growth in the area of the project and in the State as a whole, along with attendant growth in energy demand. It is this anticipated growth that drives energy-production projects, not vice versa. The project would supply energy to accommodate and support existing demand and projected growth, but it would not foster any new growth. Therefore, any link between the project and growth in Kern County would be speculative.

In *Kerncrest Audubon Society v. Los Angeles Department of Water and Power*, the analysis of growth-inducing effects contained in the EIR for the Pine Tree Wind Development Project was challenged. Plaintiffs argued that the discussion was too cursory to provide adequate information about how additional electricity generated by the project would sustain further growth in the Los Angeles area. The court held that the additional electricity that the project would produce was intended to meet the current forecast of growth in the Los Angeles area. As such, the wind development project would not cause growth, and so it was not reasonable to require a detailed analysis of growth-inducing impacts. In addition, EIRs for similar energy projects have contained similarly detailed analyses of growth-inducing impacts. Their conclusions that increasing the energy supply would not create growth has been upheld, because: (1) the additional energy would be used to ease the burdens of meeting existing energy demands within and beyond the area of the project; (2) the energy would be used to support already-projected growth; or (3) the factors affecting growth are so multifarious that any potential connection between additional energy production and growth would necessarily be too speculative and tenuous to merit extensive analysis. Thus, as has been upheld in the courts, this level of analysis provided in this EIR is adequate to inform the public and decision makers of the growth-inducing impacts of the project.

1.7 Alternatives to the Project

CEQA Guidelines Section 15126.6 states that an EIR must address “a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” Based on the significant environmental impacts of the proposed project, the aforementioned objectives established for the proposed project and the feasibility of the alternatives considered, a range of alternatives is analyzed below and discussed in detail in Chapter 6, *Alternatives*, of this EIR.

1.7.1 Alternatives Considered and Rejected

Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (*CEQA Guidelines* Section 15126.6(c)). Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, also do not need to be considered (*CEQA Guidelines* Section 15126(f)(2)). Kern County considered several alternatives to reduce impacts to aesthetics (project and cumulative), air quality (cumulative), biological resources (cumulative), hydrology and water quality (project and cumulative), noise (project), utilities and service systems (project and cumulative), and wildfire (cumulative). Per CEQA, the lead agency may make an initial determination as to which alternatives are

feasible and warrant further consideration, and which are infeasible. The following alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet project objectives or were infeasible.

- Wind Energy Project Alternative
- Industrial Power Plant Alternative
- Alternative Site Alternative

Wind Energy Project Alternative

The Wind Energy Project Alternative would involve the use of wind energy as an alternative to development of solar site. Similar solar power, power from the wind is an alternative to energy production from coal, oil, or nuclear sources. Wind energy provides the following benefits:

- It is a renewable and infinite resource;
- It is free of any emissions, including carbon dioxide (GHG); and
- It is a free resource after the capital cost of installation (excluding maintenance).

In addition, energy production from wind power would not require the significant water usage associated with coal, nuclear, and combined-cycle sources. Turbines used in wind farms for commercial production of electric power are usually three-bladed units that are pointed into the wind by computer-controlled motors. The wind farm would consist of a group of wind turbines placed where electrical power is produced. The individual turbines would be interconnected with a medium-voltage power collection system and a communications network. At a substation, the medium-voltage electrical current would be increased through a transformer before connection to the high-voltage transmission system. Compared with traditional energy sources, the environmental effects of wind power are relatively minor. However, wind farms would not decrease short-term construction-related air emissions. Wind turbines would also have the potential to affect avian species in the local area.

As noted above, some of the project proponent's objectives for the project are to develop a solar project that will help meet the increasing demand for clean, renewable electrical power, as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects by using proven and established PV technology that is efficient, requires low maintenance and is recyclable. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would substantially increase the significant aesthetic impacts associated with the project because wind turbines would be much taller than solar panels, be more visible from many viewpoints and would require FAA lighting;
- It may conflict with the Inyokern Airport, Kern County Airport Land Use Compatibility Plan and potentially the China Lake NAWs due to the heights of the turbines.
- It may result in additional/greater biological resources impacts than the project;
- It may generate long-term noise impacts to nearby sensitive receptors from rotating turbine blades; and
- It would require a greater overall project footprint that would result in increased disturbance.

Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 26.6 MW) in Kern County. Fossil fuel-powered plants are designed on a large scale for continuous operation. However, byproducts of industrial power plant operation need to be considered in both design and operation. When waste heat that results from the finite efficiency of the power cycle is not recovered and used as steam or hot water, it must be released to the atmosphere, and often uses a cooling tower as a cooling medium (especially for condensing steam). The flue gas from combustion of the fossil fuels is discharged to the air and contains carbon dioxide and water vapor as well as other substances, such as nitrogen, nitrogen oxides, and sulfur oxides. Furthermore, unlike the proposed project, fossil fuel-powered plants are major emitters of GHGs. In addition, industrial power plants generally involve the construction of large structures, such as cooling towers and gas stacks, as well as a large number of employees to operate the facility on a 24/7 basis 365 days a year. Accordingly, the development of an industrial power plant would typically result in greater adverse impacts related to: (1) air quality and GHG emissions, (2) aesthetics and the local visual setting of the project area, (3) land use and planning conflicts with the rural development of the surrounding area, (4) noise from the plant operations, (5) traffic from increased employment at the facility, and (6) demand on public utilities, including water and waste disposal.

As noted above, some of the objectives for the proposed project are to develop a solar project that would help meet the increasing demand for clean, renewable electrical power as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would result in additional/greater impacts than the proposed project (aesthetics, air quality, GHG emissions, land use and planning, noise, traffic, public utilities, and water use and disposal);
- It may conflict with the Inyokern Airport, Kern County Airport Land Use Compatibility Plan and potentially the China Lake NAWS due to the heights of the cooling towers and smoke stacks.
- Depending on siting, it may also result in greater biological resources impacts than the project; and
- It would not contribute to the statewide renewable energy and GHG reduction objectives.

Alternative Site

This alternative would involve the development of the proposed project on another site located within Kern County, other than constructing rooftop distributed generation systems. Although undetermined at this time, the alternative project site would likely be located in the Indian Wells Valley desert region of the County. This alternative is assumed to involve construction of a 26.6 MW PV solar facility on a site totaling 166.5 acres. *CEQA Guidelines* Section 15126.6(f)(2)(a) states that the key and initial step in considering an alternative site is whether “any of the significant effects of the project would be avoided or substantially lessened” in relocating the project, while remaining consistent with the same basic objectives of the proposed project.

The Indian Wells Valley has attracted renewable energy development applications that are being proposed for vacant land or land with a history of agricultural uses. The availability of alternative sites is constrained by the renewable energy market itself. While other sites with similar size, configuration, and use history may exist in the Indian Wells Valley, alternative project sites in the area are likely to have similar project

and cumulatively significant impacts after mitigation, including cumulatively significant impacts to aesthetics, biological resources, hydrology and water quality, noise, and utilities and service systems. This is based on the known general conditions in the area and the magnitude of the proposed project.

In addition, alternative sites for the project are not considered to be “potentially feasible,” as there are no suitable sites within the control of the project proponent that would reduce project impacts. The potential amount of available, similar sites is further reduced because unlike the proposed project, alternative sites may not include sites with close proximity to transmission infrastructure. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the proposed project.

1.7.2 Alternatives Selected for Analysis

The following alternatives have been determined to represent a reasonable range of alternatives that have the potential to feasibly attain most of the basic objectives of the project, but which may avoid or substantially lessen any of the significant impacts of the project. The following alternatives are analyzed in detail in this chapter of the EIR:

- Alternative 1: No Project Alternative
- Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative
- Alternative 3: Reduced Project Alternative
- Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only

Table 1-7, *Summary of Development Alternatives*, on the following page provides a summary of the relative impacts and feasibility of each alternative and **Table 1-8**, *Comparison of Alternatives*, provides a summary side-by-side comparison of the potential impacts of the alternatives and the project. A complete discussion of each alternative is provided below.

TABLE 1-7: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility with battery energy storage on approximately 166.5 acres that would generate up to 26.6 MW of electricity and deliver it to the grid. The proposed project would interconnect to an existing Southern California Edison (SCE) 33 kV electrical distribution line to an existing SCE Inyokern Substation approximately 0.5 miles to the east. Approval of two Conditional Use Permits (CUPs) for construction and operation of commercial solar electrical generating facility with battery energy storage and a Specific Plan Amendment (SPA) to the Circulation Element would be required.	N/A
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	<ul style="list-style-type: none"> • Required by CEQA • Avoids need for CUPs and SPA • Avoids all significant and unavoidable impacts • Greater impacts to GHGs • Similar impacts to agricultural and forestry resources, tribal cultural resources, and mineral resources • Fewer overall impacts in all remaining environmental issue areas • Does not meet any of the project objectives
Alternative 2: General Plan/ Specific Plan and Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations, Inyokern Specific Plan, Kern County zoning, and other existing applicable restrictions.	<ul style="list-style-type: none"> • Avoids need for CUPs and SPA • Similar impacts to agricultural and forestry resources, cultural resources, tribal cultural resources, and mineral resources • Fewer impacts to land use and planning • Greater overall impacts in all remaining environmental issue areas • Would not reduce any significant and unavoidable impacts • Does not meet any of the project objectives

TABLE 1-7: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative 3: Reduced Project Alternative	Construction and operation of one solar facility on approximately 124.56 acres, situated on the southern parcel of the project site, would generate up to 20 MW of electricity and battery energy storage and deliver it to the grid. The project site would require CUP and SPA approvals.	<ul style="list-style-type: none"> • Does not avoid any significant and unavoidable impacts but would reduce overall impacts to aesthetics, air quality, biological resources, hydrology and water quality, noise, utilities and service systems, and wildfire • Greater impacts to GHGs • Similar impacts to agriculture and forestry resources, tribal cultural resources, land use and planning, and mineral resources • Fewer overall impacts in all remaining environmental issue areas • Does not meet all the project objectives
Alternative 4: No Ground- Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 26.6 MW of PV solar distributed on rooftops throughout the Indian Wells Valley. Electricity generated would be for on-site use only.	<ul style="list-style-type: none"> • Avoids need for CUPs and SPA at the project site but may require other entitlements (such as a CUP or variance) on other sites • Avoid significant and unavoidable impacts associated with aesthetics, air quality, biological resources, hydrology and water quality, noise, utilities and service systems, and wildfire • Greater impacts to GHGs and land use and planning • Similar impacts to agriculture and forestry resources, cultural resources, mineral resources, and tribal cultural resources • Fewer impacts in all remaining issue areas • Does not meet all of the project objectives nor does this alternative account for the energy storage component of the project.

TABLE 1-8: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Alternative 3: Reduced Project Alternative	Alternative 4: No Ground Mounted Utility- Solar– Distributed Commercial and Industrial Rooftop Solar Only
Aesthetics	Significant and unavoidable (project and cumulative)	Fewer (NI)	Greater (SU)	Fewer (SU)	Fewer (LTS)
Agricultural and Forestry Resources	No impact	Similar (NI)	Similar (NI)	Similar (NI)	Similar (NI)
Air Quality	Significant and Unavoidable (project and cumulative)	Fewer (NI)	Greater (SU – Project and Cumulative)	Fewer (SU – Project and Cumulative)	Fewer (LTS)
Biological Resources	Significant and unavoidable (cumulative only)	Fewer (NI)	Greater (SU)	Fewer (SU)	Fewer (LTS)
Cultural Resources	Less than significant with mitigation	Fewer (NI)	Similar (LTS)	Fewer (LTS)	Fewer (LTS)
Energy	Less than significant with mitigation	Fewer (NI)	Greater (LTS)	Fewer (LTS)	Fewer (LTS)
Geology and Soils	Less than significant with mitigation	Fewer (NI)	Greater (LTS)	Fewer (LTS)	Fewer (LTS)
Greenhouse Gas Emissions	Less than significant	Potentially Greater (LTS)	Potentially Greater (LTS)	Potentially Greater (LTS)	Greater (LTS)
Hazards and Hazardous Materials	Less than significant with mitigation	Fewer (NI)	Greater (LTS)	Fewer (LTS)	Fewer (LTS)
Hydrology and Water Quality	Significant and unavoidable (project and cumulative)	Fewer (NI)	Greater (SU)	Fewer (SU)	Fewer (LTS)
Land Use and Planning	Less than significant with mitigation	Fewer (NI)	Fewer (NI)	Similar (LTS)	Greater (LTS)
Mineral Resources	Less than significant	Similar (NI)	Similar (NI)	Similar (NI)	Similar (NI)
Noise	Significant and unavoidable (project construction only)	Fewer (NI)	Greater (SU)	Fewer (SU)	Similar (LTS)

TABLE 1-8: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Alternative 3: Reduced Project Alternative	Alternative 4: No Ground Mounted Utility- Solar– Distributed Commercial and Industrial Rooftop Solar Only
Public Services	Less than significant with mitigation	Fewer (NI)	Greater (LTS)	Fewer (LTS)	Fewer (LTS)
Traffic and Transportation	Less than significant with mitigation	Fewer (NI)	Greater (LTS)	Fewer (LTS)	Fewer (LTS)
Tribal Cultural Resources	No impact	Similar (NI)	Similar (NI)	Similar (NI)	Greater (LTS)
Utilities and Service Systems	Significant and unavoidable (project and cumulative)	Fewer (NI)	Greater (SU)	Fewer (SU)	Fewer (LTS)
Wildfire	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Fewer (NI)	Greater (SU)	Fewer (SU)	Fewer (SU)
Meet Project Objectives?	All	None	None	Some	Some
Reduce Significant and Unavoidable Impacts?	N/A	All	None	None	Some

Alternative 1: No-Project Alternative

The *CEQA Guidelines* require EIRs to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the proposed project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of the (up to) 26.6 MW PV solar facility and battery energy storage on the 166.5-acre site would not occur. The No Project Alternative would not require an amendment to the Inyokern Specific Plan Circulation Element to eliminate future road reservations or the Lot Line Adjustment. The No Project Alternative would maintain the current zoning, land use classifications, and existing land uses, which consisting mostly of undeveloped desert vegetation. No physical changes would be made to the project site.

Alternative 2: General Plan/Specific Plan Build-Out Alternative

Alternative 2, the General Plan/Specific Plan and Zoning Build-Out Alternative, would develop the project site to the maximum intensity allowed under the existing Kern County General Plan, Inyokern Specific Plan, and Kern County Zoning Ordinance. According to the Kern County General Plan, the 4.1 (Accepted County Plan Areas) land use designation applies to areas where specific land use plans have already been prepared and approved. In the case of the project site, the project would be within the boundaries of the Inyokern Specific Plan. The entire project site is currently designated as 7.2/2.5 (Service Industrial/Flood Hazard) under the Inyokern Specific Plan and a zoning code designation of M-2 (Medium Industrial).

Implementation of Alternative 2 would consist of developing the project site under the current land use classification of 7.2/2.5 (Service Industrial/Flood Hazard). The 7.2 classification pertains to commercial or industrial activities which involve outdoor storage or the use of heavy equipment. These industries can be visually obtrusive and are not generally suited for locations next to residential uses. Typical permitted land uses include auto and truck parking, welding, automobile body and painting shop, freighting or trucking yards, and lumber yard. The 2.5 classification pertains to a special flood hazard area (Zone A) as identified by the Federal Emergency Management Agency (FEMA) where 100-year flood events occur.

The project site would also be developed under its current zoning classification of M-2 (Medium Industrial). The M-2 zoning classification involves general manufacturing, processing and assembly activities. Therefore, under this alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities.

Alternative 3: Reduced Project Alternative

Alternative 3, the Reduced Project Alternative, would develop only Phase 1, the southern parcel of the project site and eliminate the construction and operation of Phase 2. The proposed gen-tie line connecting Phase 1 to the existing substation would remain unchanged. Eliminating Phase 2 facilities from the project would reduce the project's total generation and battery storage capacity to 20 MW and reduce the developed area from approximately 166.5 acres to 124.56 acres. Similar to the proposed project, this alternative would require amendments to the Inyokern Specific Plan Circulation Element to eliminate future road reservations and approval of a conditional use permit (CUP) for construction and operation of a commercial solar electrical generating facility. The Lot Line Adjustment would not be required under this alternative.

Alternative 4: No Ground-Mounted Utility-Solar Development Alternative—Distributed Commercial and Industrial Rooftop Solar Only

Alternative 4, the No Ground-Mounted Utility-Solar Development Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kWh to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout the Indian Wells Valley. Under this alternative, no new land would be developed or altered. However, depending on the type of solar modules installed and the type of tracking equipment used (if any), a similar or greater amount of acreage (i.e., greater than 166.5 acres of total rooftop area) may be required to attain project's capacity of 26.6 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop solar PV systems would be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project and, therefore, would not attain the same level of efficiency with respect to solar PV generation. Alternative 4 would generate 26.6 MW of electricity, but it would be for onsite use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed on site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities. The battery energy storage facility would not be constructed as part of this alternative.

1.7.3 Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in Table 6-2, there are a number of factors in selecting the environmentally superior alternative. An EIR must identify the environmentally superior alternative to the project. Alternative 1, the No Project Alternative, would be environmentally superior to the project on the basis of its minimization or avoidance of physical environmental impacts. However, *CEQA Guidelines* Section 15126.6(e)(2) states:

The “no project” analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be the No Ground-Mounted Utility-Solar Development Alternative. This alternative would avoid significant and unavoidable impacts to aesthetics, biological resources, hydrology and water quality, and utilities. Greater impacts to tribal cultural resources would occur given this alternative's potential to impact areas containing tribal cultural resources. Impacts related to GHG emissions would be greater under this alternative due to the lower efficiency of the distributed systems, which would not include solar tracking technology. This alternative would also result in greater impacts to land use as it would require extensive discretionary actions, such as design review, CUPs, or zone variances, depending on local jurisdictional requirements. However, this alternative would result in fewer overall impacts to aesthetics, air quality, biological resources, geology and soils, hazards

and hazardous materials, hydrology and water quality, public services, traffic and transportation, and utilities and service systems. Thus, for most environmental issue areas, this alternative would result in fewer environmental impacts, both short-term and long-term, when compared to the proposed project.

It is important to note that it is considered to be impracticable and infeasible to construct the No Ground-Mounted Utility-Solar Development Alternative within the same timeframe and/or with the same efficiency as the proposed project because the project proponent lacks control and access to the sites required to develop 26.6 MW of distributed solar generated electricity. In addition, this alternative would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Nonetheless, because this alternative reduces impacts to a greater degree than the Alternatives 2 and 3, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

1.8 Areas of Controversy

Areas of controversy were identified through written agency and public comments received during the scoping period. Public comments received during the scoping period are provided in Appendix A. In summary, the following issues were identified during scoping and are addressed in the appropriate sections of Chapter 4:

- Impacts related to aesthetics (glare);
- Impacts to air quality;
- Impacts to biological resources;
- Impacts to hydrology and water quality;
- Impacts related to traffic;
- Impacts to utilities and service systems (water supplies).

1.9 Issues to Be Resolved

CEQA Guidelines Section 15123(b)(3) requires that an EIR contain issues to be resolved, which includes the choices among alternatives and whether or how to mitigate significant impacts. The following major issues are to be resolved:

- Determine whether the EIR adequately describes the environmental impacts of the project;
- Choose among alternatives;
- Determine whether the recommended mitigation measures should be adopted or modified; and
- Determine whether additional mitigation measures need to be applied to the project.

1.10 Summary of Environmental Impacts and Mitigation Measures

Table 1-9 summarizes the environmental impacts of the project, mitigation measures, and unavoidable significant impacts identified and analyzed in Sections 4.1 through 4.18 of this EIR. Refer to the appropriate EIR section for additional information.

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.1 Aesthetics			
Impact 4.1-1: The project would have a substantial adverse effect on a scenic vista.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.1-2: The project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.1-3: The project would, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points) If the project is in an urbanized area, the project would conflict with applicable zoning and other regulations governing scenic quality.	Significant and unavoidable	<p>MM 4.1-1: Prior to issuance of a grading or building permit, a Maintenance, Trash Abatement, and Pest Management Program shall be submitted to the Kern County Planning and Natural Resources Department. The program shall include, but not be limited to the following:</p> <ul style="list-style-type: none"> a. The project proponent/operator shall clear debris from the project area at least four times per year; this can be done in conjunction with regular panel washing and site maintenance activities. b. The project proponent/operator shall erect signs with contact information for the project proponent/operator's maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Natural Resources Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris. Correspondence with such requests and responses shall be submitted to the Kern County Planning and Natural Resources Department. c. The project proponent/operator shall implement a regular trash removal and recycling program on an ongoing basis during construction and operation of the project. Barriers to prevent pest/rodent access to food waste receptacles shall be implemented. Locations of all trash receptacles during operation of the project shall be shown on final plans. d. Trash and food items shall be contained in closed containers to be locked at the end of the day and removed at least once per 	Significant and unavoidable

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>week to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.</p> <p>MM 4.1-2: The project proponent shall install metal fence slats or similar view-screening materials, as approved by the Kern County Planning and Natural Resources Department, in all on-site perimeter fencing for any portion of the solar site that is adjacent to parcels zoned for residential use, including E (Estate Residential), R-1 (Low-Density Residential), R-2 (Medium-Density Residential), R-3 (High-Density Residential), or PL (Platted Lands) zoning unless the adjacent property is owned by the project proponent (to be verified by the Kern County Planning and Natural Resources Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Natural Resources Department requesting this requirement to be waived. Should the project proponent sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale.</p> <p>The project proponent/operator shall color treat all project facilities including operations and maintenance buildings, gen-tie poles, array facilities, etc. to blend in with the colors found in the natural landscape. Color treatments shall result in matte or nonglossy finishes. Plans showing color treatments shall be submitted for approval by the Kern County Planning and Natural Resources Department.</p> <p>MM 4.1-3: The measures detailed below shall be implemented during project construction and decommissioning to protect existing vegetation onsite:</p> <ol style="list-style-type: none"> Natural vegetation may be mowed only within the project boundary, along gen-tie and access routes. Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed as permitted by the Fire Code. Where feasible, root balls shall be maintained during vegetation clearing to maintain soil stability and ultimately vegetation re-growth following construction. 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> d. All natural vegetation adjacent to the proposed project boundary shall remain in place. e. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below: <ul style="list-style-type: none"> i. In areas temporarily disturbed during construction and decommissioning (including grading or removal of root balls resulting in loose soil), the ground surface shall be revegetated with a native seed mix or native plants (including Mohave creosote scrub habitat) and/or allowed to re-vegetate with the existing native seed bank in the top soil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation. ii. The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, (4) a list of the consultation efforts completed, (5) the methods and schedule for installation of fencing that complies with wildlife agency regulations, and a clear prohibition of the use of toxic rodenticides. iii. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the Kern County Planning and Natural Resources Department prior to planting. Phased seeding may be used if a phased construction approach is used (i.e., the entire site need not be seeded all at the same time). 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>iv. Ground cover shall be continuously maintained on the site by the project operator.</p> <p>v. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during these three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should efforts to revegetate with the existing native seed bank in the top soil prove in the second year to not be successful by 75 percent cover rate, re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. The three-year monitoring program is intended to ensure the site naturally achieve native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.</p>	
Impact 4.1-4: The project would create a new source of substantial light or glare that could adversely affect day or nighttime views in the area.	Potentially significant	<p>MM 4.1-4: Prior to final activation of the solar facility, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff that the project site complies with the applicable provisions of the <i>Dark Skies Ordinance</i> (Chapter 19.81 of the Kern County Zoning Ordinance), and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields.</p> <p>MM 4.1-5: Prior to the issuance of building permits, the project proponent shall demonstrate the solar panels and hardware are designed to minimize glare and spectral highlighting. Emerging technologies shall be used, such as diffusion coatings and nanotechnological innovations, to effectively reduce the refractive index of the solar cells and protective glass. These technological</p>	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>advancements are intended to make the solar panels more efficient with respect to converting incident sunlight into electrical power while also reducing the amount of glare generated by the panels. Specifications of such designs shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>MM 4.1-6: Prior to final activation of the solar facility, the project operator shall demonstrate that all onsite buildings utilized non-reflective materials, as approved by the Kern County Planning and Natural Resources Department.</p>	
Impact 4.1: Cumulative Impacts	Significant and unavoidable	Implementation of Mitigation Measures MM 4.1-1 through MM 4.1-6 is required.	Significant and unavoidable
4.2 Agriculture and Forestry Resources			
Impact 4.2-1: The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to nonagricultural uses.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.2: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
4.3 Air Quality			
Impact 4.3-1: The project would conflict with or obstruct implementation of the applicable air quality plan.	Potentially significant	<p>MM 4.3-1: The project proponent/operator shall ensure construction of the project shall be conducted in compliance with applicable rules and regulations set forth by the Eastern Kern Air Pollution Control District. Dust control measures outlined below shall be implemented where they are applicable and feasible. The list shall not be considered all-inclusive and any other measures to reduce fugitive dust emissions may be required by appropriate agencies to respond to urgent issues on site:</p> <p>a. Land Preparation, Excavation and/or Demolition. The following dust control measures shall be implemented:</p> <p>i. All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil</p>	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>areas. Watering shall take place a minimum of three times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust suppressant.</p> <p>ii. After active construction activities, soil shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods.</p> <p>iii. All unpaved construction and operation/maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent.</p> <p>iv. All clearing, grading, earth moving, and excavation activities shall cease during periods 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 or as identified in a plan approved by the Eastern Kern Air Pollution Control District.</p> <p>v. All trucks entering or leaving the site shall cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of 6 inches.</p> <p>vi. Areas disturbed by clearing, earth moving, or excavation activities shall be minimized at all times.</p> <p>vii. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.</p> <p>viii. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.</p> <p>ix. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate.</p> <p>x. Where acceptable to the Kern County Fire Department, weed control shall be accomplished by mowing instead of disking, thereby, leaving the ground undisturbed and with a mulch covering.</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> xi. The project proponent/operator shall use Global Positioning System or lasers to level posts, generally avoiding grading except when elevation changes exceed design requirements. xii. When grading is unavoidable, it is to be phased and done with the application of approved chemical dust palliatives that stabilize the earth. xiii. Where ground is cleared, plant roots must be left in place where possible to stabilize the soil. 	
		<ul style="list-style-type: none"> b. Site Construction. After active clearing, grading, and earth moving is completed within any portion of the site, the following dust control practices shall be implemented: <ul style="list-style-type: none"> i. Dust suppressant shall be used on the same day or day immediately following the cessation of activity for a particular area where further activity is not planned. ii. Dependent on specific site conditions (season and wind conditions), revegetation shall occur in those areas where planned after installation of the solar panels. iii. All unpaved road areas shall be treated with a dust suppressant or graveled to prevent excessive dust. iv. The project proponent/operator shall use dust suppression measures during road surface preparation activities, including grading and compaction. v. Final road surfaces must be stabilized to achieve a measurable threshold friction velocity equal to or greater than 100 centimeters per second. vi. Wind barrier fencing or screening shall be installed, when appropriate. c. Vehicular Activities. During all phases of construction, the following vehicular control measures shall be implemented: <ul style="list-style-type: none"> i. Onsite vehicle speed shall be limited to 10 miles per hour on unpaved areas within the project site. Vehicles may travel up to 25 miles per hour on stabilized unpaved roads (application of palliatives, gravel, etc. that reduces the erosion potential of 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>the soil) as long as such speeds do not create visible dust emissions.</p> <p>ii. Visible speed limit signs shall be posted at main ingress point(s) onsite.</p> <p>iii. All areas with vehicle traffic such as the main entrance roadway to the project site shall be graveled or treated with dust palliatives so as to prevent track-out onto public roadways.</p> <p>iv. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.</p> <p>v. Streets adjacent to the project site shall be kept clean, and project-related accumulated silt shall be removed on at a minimum of once daily, or as necessary to prevent substantial offsite fugitive dust releases. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited.</p> <p>vi. Access to the site shall be by means of an apron into the project site from adjoining surfaced roadways. The apron shall be surfaced or treated with dust suppressants. If site soils cling to the wheels of the vehicles, then a grizzly, wheel-washer, or other such device shall be used on the road exiting the project site, immediately prior to the pavement, to remove most of the soil material from vehicle tires.</p> <p>MM 4.3-2: Prior to the issuance of grading or building permits, the project proponent/operator shall provide a comprehensive Phased Grading Plan for review by the Kern County Planning and Natural Resources Department to reduce fugitive dust emissions resulting from wind erosion at the site. The Phased Grading Plan shall:</p> <p>a. Identify a comprehensive grading schedule for the entire project site which demonstrates the measures described below.</p> <p>i. Grading shall be minimized to limit the removal of topsoil and creation of loose soils. Only in areas where drainage</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>improvements, structural foundations (e.g., inverter/transformer pads), service roads, and leveling of severe grades need to occur will grading that removes and recompacts the soil surface occur. Dust palliatives and water shall be immediately applied following any grading.</p> <p>ii. Application of dust palliatives shall be applied throughout project construction to help reduce dust, especially during periods of high winds, and shall include use of: (1) an eco-safe, biodegradable, liquid copolymer shall be used to stabilize and solidify any soil; and (2) A hydro mulch mixture composed of wood fiber mulch and an Environ-Mend binder may also be applied, where real-time weather conditions dictate that additional measures are necessary.</p> <p>iii. Water trucks shall transit across the project site and construction access roads to suppress the fugitive dust from disturbed soils on roads and active working areas on a regular and as needed basis.</p> <p>b. Minimize all grading activities to those areas necessary for project access and installation of solar panels and other associated infrastructure associated with the solar facility. Construction shall commence on areas that have undergone initial grading within 20 calendar days.</p> <p>c. Identify, in addition to those measures required by the Eastern Kern Air Pollution Control District, all measures being undertaken during construction activities and operational activities to ensure dust being blown off site is minimized. Measure may include, but are not limited to:</p> <p>i. Increased use of water and or use of dust suppressant;</p> <p>ii. Pre-seeding and/or use of wood chips as permitted by the Eastern Kern Air Pollution Control District; and</p> <p>iii. Construction of dust screening around the project site.</p> <p>d. A Revegetation Plan shall be submitted for approval to the Kern County Planning and Natural Resources Department. To minimize long term dust issues from the project, the project site</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>shall be revegetated (consistent with existing site conditions). Root balls shall be maintained during vegetation clearing to maintain soil stability and ultimately vegetation re-growth following construction, where feasible. Following construction completion, the project area shall be re-seeded with native vegetation. See Mitigation Measure MM 4.1-3 for plan specifications.</p> <p>MM 4.3-3: Implement Diesel Emission Reduction Measures During Construction. To control PM emissions during construction, the project proponent/operator and/or its contractor(s) shall implement the following measures during construction of the project, subject to verification by the County:</p> <ol style="list-style-type: none"> All equipment shall be maintained in accordance with the manufacturer's specifications. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 10 minutes. Electric equipment shall be used whenever feasible in lieu of diesel or gasoline-powered equipment. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce oxides of nitrogen emissions. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines. Prohibit the use of heavy-equipment during first- or second-stage smog alerts and suspend all construction activities during second-stage smog alerts. Utilize existing power sources (i.e., power poles) when available. This measure would minimize the use of higher polluting gas or diesel generators. Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use to the extent feasible. 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> i. Require that trucks and vehicles in loading or unloading queues have their engines turned-off when not in use. j. Off-road equipment engines over 50 horsepower shall be Tier 2 certified or higher (unless Tier 2 equipment has been determined to not be available). k. Provide notification to trucks and vehicles in loading or unloading queues that their engines shall be turned-off when not in use for more than 10 minutes. <p>MM 4.3-4: The project proponent/operator shall implement the following wind erosion reduction measures to comply with Eastern Kern Air Pollution Control District Rules 401 and 402 during strong wind events.</p> <ul style="list-style-type: none"> a. Sand fences shall be used to capture sand deposits caused by wind erosion in the southwest portion of the project site. Sand fences should be placed to protect structures, including residences, and other amenities from wind-blown sand. In particular, sand fencing should be placed during Phase 1 on the eastern boundary of Phase 1, the southwest corner of Phase 1, and during Phase 2 on the western boundary and southern boundary of Phase 2. b. Install permanent fencing with a minimum 50 percent porosity and at least 6 feet in height in those areas immediately west, north, and east of permanent existing residences prior to vegetation removal/soil disturbance within 1,000 feet of the residence. c. In areas where grading will occur, temporary construction fences (with minimum 50 percent porosity and at least 4 feet high) shall be installed every 200 to 300 feet perpendicular to the prevailing wind in a manner to reduce fugitive dust from leaving the area being graded. Depending on the use and effectiveness of water and dust suppressants, install additional temporary fencing with tighter spacing as necessary. <p>MM 4.3-5: The project proponent/operator shall continuously comply with the measures described below during construction and operations to control fugitive dust emissions.</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> a. The unpaved main access road for employees and deliveries to the maintenance complex shall be paved or effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation. b. The other unpaved roads at the project site shall be stabilized using water or soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes. c. Traffic speeds on unpaved roads shall be limited to no more than 10 miles per hour, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s) from the project site. d. The construction contractor shall ensure that all on-road construction vehicles are properly tuned and maintained in accordance with the manufacturer's specifications. <p>MM 4.3-6: The project proponent/operator shall continuously comply with the measures described below to control fugitive dust emissions during project operations and construction activities.</p> <ul style="list-style-type: none"> a. Increase handling moisture content of graded soils from the typical of 15 percent to 20 percent. b. Reduce speed of road grading by motor graders and rollers from typical 7.1 miles per hour to 5 miles per hour. c. Prior to construction, onsite roads that will have the greatest extent of onsite travel shall be graveled. d. Use a dust suppressant such as magnesium chloride, polymer, or similar, to the extent feasible, including on gravel roads. <p>MM 4.3-7: The project proponent/operator shall continuously comply with the measures described below during construction and</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>operations to control emissions from onsite dedicated equipment (equipment that would remain onsite each day).</p> <ul style="list-style-type: none"> a. All onsite off-road equipment and on-road vehicles for operation and maintenance shall meet the recent California Air Resources Board engine emission standards or alternatively fueled construction equipment, such as compressed natural gas, liquefied gas, or electric, as appropriate. b. All equipment shall be turned off when not in use, where feasible. Engine idling of all equipment shall be minimized. c. All equipment engines shall be maintained in good operating condition and in tune per manufacturer's specification. <p>MM 4.3-8: The project proponent/operator shall continuously comply with the measures described below during operation to control wind erosion.</p> <ul style="list-style-type: none"> a. Install permanent fencing with a minimum 50 percent porosity and at least 6 feet in height along the project boundary within 1,000 feet of permanent residences along the eastern boundary of Phase 1, the southwest corner of Phase 1, and the western boundary and southern boundary of Phase 2. If significant sand movement is observed onsite, additional sand fences should be placed within the site to reduce movement and protect onsite structures, including photovoltaic arrays, from wind-blown sand. As sand deposits grow, the sand deposits shall be planted with vegetation to reduce further erosion. (This can take the place of Mitigation Measure MM 4.3-4(3) assuming installed prior to construction activities.) b. Prepare a Fugitive Dust Emission Monitoring Plan, which shall include installation of onsite particulate matter-10 air monitors for a minimum of 5 years to ensure effectiveness of dust mitigation measures. Per Eastern Kern Air Pollution Control District guidelines, the project proponent of a facility may petition to cancel particulate monitoring, in the event that 5 years of data demonstrate (upwind/downwind concentration difference is $50\text{-}\mu\text{g}/\text{m}^3$ or less [based on one-hour averages]). 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>MM 4.3-9: Prior to the issuance of any grading or building permit, the project proponent shall establish a “construction coordinator” and submit written documentation which includes their phone number, email address and mailing address. The construction coordinator shall be responsible for the following:</p> <ul style="list-style-type: none"> a. Responding to any local complaints about construction activities. The construction coordinator shall determine the cause of the construction complaint and shall be required to implement reasonable measures such that the complaint is resolved. b. Ensuring all appropriate construction notices have been made available to the public and that all appropriate construction signs have been installed. c. Maintaining an ongoing up-to-date log of all construction related complaints (i.e., blowing dust, inability to access parcels, etc.) during project construction activities. The log shall include the nature of the complaint and the measures that were undertaken to address the concerns. Upon request, the construction coordinator shall provide the log to the Planning and Natural Resources Department no later than three business days from request. 	
<p>Impact 4.3-2: The project would expose sensitive receptors to substantial pollutant concentrations.</p>	Potentially significant	<p>Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9 is required.</p> <p>MM 4.3-10: At the time of project implementation, a COVID-19 Health and Safety Plan should be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy shall be submitted to the Kern County Planning Department for review and approval.</p> <p>MM 4.3-11: Minimize Exposure to Potential Valley Fever–Containing Dust. Prior to ground disturbance activities, the project proponent shall implement the following Valley Fever Provisions:</p> <ul style="list-style-type: none"> a. Provide evidence to the Kern County Planning and Natural Resources Department that the project operator and/or construction manager has developed a “Valley Fever Training Handout”, training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the 	Significant and Unavoidable

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>training session materials, handout(s) and schedule shall be submitted to the Kern County Planning and Natural Resources Department within 24 hours of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The training may be administered using video or other electronic media. The evidence submitted to the Kern County Planning and Natural Resources Department regarding the “Valley Fever Training Handout” and Session(s) shall include the following:</p> <ul style="list-style-type: none"> i. A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session. ii. Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and Valley Fever. iii. Training on methods that may help prevent Valley Fever infection. iv. A demonstration to employees on how to use personal protective equipment, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs. b. The project proponent also shall consult with the Kern County Health Services Department to develop a Valley Fever Dust Management Plan that addresses the potential presence of the Coccidioides spore and mitigates for the potential for Coccidioidomycosis (Valley Fever). Prior to issuance of permits, the project operator shall submit the Plan to the Kern County 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>Public Health Department for review and approval. The Plan shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to potential Coccidioides spores. Measures in the Plan shall include the following:</p> <ul style="list-style-type: none"> i. Provide High-Efficiency Particulate Air filters for heavy equipment equipped with factory enclosed cabs capable of accepting the filters. Require contractors utilizing applicable heavy equipment to furnish proof of worker training on proper use of applicable heavy equipment cabs, such as turning on air conditioning prior to using the equipment. ii. Provide communication methods, such as two-way radios, for use in enclosed cabs. iii. Require National Institute for Occupational Safety and Health- approved half-face respirators equipped with minimum N-95 protection factor for use during worker collocation with surface disturbance activities, as required per the hazard assessment process. iv. Cause employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a full respiratory protection program in accordance with the applicable California Occupational Safety and Health Administration Respiratory Protection Standard (8 California Code of Regulations Section 5144). v. Provide separate, clean eating areas with hand-washing facilities. vi. Install equipment inspection stations at each construction equipment access/egress point. Examine construction vehicles and equipment for excess soil material and clean, as necessary, before equipment is moved off site. 	

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Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> vii. Train workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor. viii. Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever. ix. Work with a medical professional, in consultation with the County Health Services Department, to develop an educational handout for on-site workers and surrounding residents within 3 miles of the project site, and include the following information on Valley Fever: what are the potential sources/ causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. Prior to construction permit issuance, this handout shall have been created by the project operator and reviewed by the project operator and reviewed by the County. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within 3 miles of the project boundaries. x. When possible, position workers upwind or crosswind when digging a trench or performing other soil-disturbing tasks. xi. Prohibit smoking at the worksite outside of designated smoking areas; designated smoking areas will be equipped with handwashing facilities. xii. Post warnings on-site and consider limiting access to visitors, especially those without adequate training and respiratory protection. <p>MM 4.3-12: Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of \$3,200 for Valley Fever public awareness programs.</p>	

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Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-12 is required.	Significant and Unavoidable
Impact 4.3-3: Construction and operation of the project would result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or state ambient air quality standards.			
4.4 Biological Resources			
Impact 4.4-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.	Potentially significant	<p>Implementation of Mitigation Measure MM 4.1-3 and MM 4.1-4 is required.</p> <p>MM 4.4-1: Prior to the issuance of a grading permit from the County, the project proponent/operator shall conduct focused surveys to determine the exact locations of silver cholla and beavertail cactus, and determine presence or absence of Mojave tarplant, pale yellow layia, Charlotte's phacelia, and Latimer's woodland gilia onsite. After the additional analysis determines if these species occur on the project site and the exact locations of these species, the project proponent/operator shall submit written documentation to the Kern County Planning and Natural Resources Department confirming implementation of the measures described below.</p> <p>a. The project proponent/operator shall work with an authorized biologist to identify all known locations of silver cholla and beavertail cactus, and to determine presence of Mojave tarplant, pale yellow layia, Charlotte's phacelia, and Latimer's woodland gilia to establish "avoidance areas," where feasible. All locations of these special-status cactus species found within the project site shall be avoided by a buffer of 25 feet through micro-siting activities to the extent feasible. Sturdy, highly visible, orange plastic construction fencing (or equivalent material verified by the authorized biologist) shall be installed around all locations of these special-status cactus plants to protect from impacts during the construction phase, until they can be relocated. The fence shall be securely staked and installed in a durable manner that</p>	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>would be reasonably expected to withstand wind and weather events and last at least through the construction period. Fencing shall be removed upon completion of the project construction.</p> <p>b. Silver cholla and beavertail cactus that cannot feasibly be avoided during construction shall be translocated according to the California Department of Fish and Wildlife’s 2014 <i>Cactus Translocation (Revegetation) Guidelines</i> and in accordance with California Desert Native Plants Act. Translocation will include the following components:</p> <ul style="list-style-type: none"> i. A likelihood of salvage success assessment of all special-status species proposed for translocation; ii. Preferred extraction period (October through March); iii. Temporary (shaded) nursery storage of extracted cactus for at least two weeks prior to translocation to “callous” roots and prevent fungal growth; iv. Translocation to a suitable California Department of Fish and Wildlife approved site; v. Transplanting into shallow swales or holes during cool morning periods; vi. Limited supplemental watering if needed based on precipitation conditions; vii. Two years of post-construction monitoring that include supplemental irrigation (if determined to be necessary); viii. Annual monitoring and reporting to meet success criteria; and ix. Monitoring of translocation by a qualified biologist experienced with cactus translocation. <p>c. Any pale yellow layia, Charlotte’s phacelia, and Latimer’s woodland gilia onsite populations that cannot feasibly be avoided in final project design shall have seed collected prior to construction for sowing into suitable onsite habitat or in nearby suitable offsite habitat covered with a conservation easement. A seed harvesting and storage plan including a planting plan shall</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>be prepared and approved by the County, prior to ground disturbance of these areas.</p> <p>MM 4.4-2: If Mojave tarplant is found on the project site during implementation of Mitigation Measure MM 4.4-1, and it is determined this species cannot be avoided during the construction phase of the project, additional permitting shall be required. Therefore:</p> <ol style="list-style-type: none"> Since the Mojave tarplant is a State-listed species as endangered, potential project impacts to a listed species requires obtaining an incidental take permit from the California Department of Fish and Wildlife Regional Office prior to construction for compliance with Section 2081 of the California Endangered Species Act; and Once a Section 2081 permit is obtained, the species will be included in the seed collection efforts included in Mitigation Measure MM 4.4-1. <p>MM 4.4-3: Mohave ground squirrel has been confirmed to be present on the Phase 1 portion of project site. Therefore, the project must comply with the measures detailed below.</p> <ol style="list-style-type: none"> A California Department of Fish and Wildlife 2081 incidental take permit shall be required to the development of Phase 1. In addition, prior to any impacts on the Phase 2 portion of the project, California Department of Fish and Wildlife protocol surveys for Mohave ground squirrel shall occur to determine presence or absence of the species. Alternatively, the project proponent/operator may assume presence of Mohave ground squirrel on Phase 2 and provide compensatory habitat-based mitigation for loss of suitable habitat at a ratio determined by the California Department of Fish and Wildlife prior to issuance of a grading permit from the county. Compensatory mitigation for the loss of habitat will be provided through compliance with Senate Bill 34 and either the advance purchase of mitigation properties acceptable to the California Department of Fish and Wildlife or the contribution of in lieu fees to the California Department of Fish and Wildlife. 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>MM 4.4-4: Prior to construction, the project proponent/operator shall conduct preconstruction surveys in suitable habitat for desert tortoise and shall implement the measures described below.</p> <ol style="list-style-type: none"> Pre-construction tortoise clearance surveys shall be conducted at 15-foot intervals to locate any desert tortoises prior to grading or ground disturbance. The surveys shall be conducted by an authorized biologist within 24 hours of the onset of the surface disturbance and prior to the installation of all tortoise-proof fencing. An “authorized biologist” is defined as a wildlife biologist who has been authorized to handle desert tortoises by U.S. Fish and Wildlife Service and California Department of Fish and Wildlife for this project. Name(s) of proposed authorized biologist(s) must be submitted to U.S. Fish and Wildlife Service and California Department of Fish and Wildlife for approval at least 15 days prior to initiating field surveys. Authorized biologists shall conduct preconstruction clearance surveys for desert tortoise prior to the start of any ground disturbing construction activity. If a desert tortoise is found during preconstruction surveys, no one shall be allowed to touch the tortoise without authorization from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. The U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance and consultation on additional measures and to determine whether temporary exclusionary fencing is required. Authorized biologists shall conduct clearance surveys for desert tortoises within the fenced project site after exclusionary fence installation if required by the wildlife agencies. Two surveys without finding any tortoises or new tortoise signs shall occur prior to declaring the site clear of tortoises. All burrows that could provide shelter for a desert tortoise shall be excavated during the first clearance survey. An authorized biologist shall remain onsite until all vegetation is cleared and, at a minimum, conduct site and fence inspections on a regular basis throughout construction in order to ensure that the 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>fence is intact and that no tortoises can enter the construction area.</p> <p>d. Authorized biologists shall be onsite to survey for tortoises immediately prior to vegetation clearance activities in the event a tortoise was inadvertently missed during clearance surveys. An authorized biologist shall remain on-call throughout construction in the event a tortoise wanders onto the site.</p> <p>e. All construction personnel shall watch for desert tortoises within the construction area and access roads whenever driving, transporting, or operating equipment.</p> <p>f. If no desert tortoises are found during preconstruction surveys, the project proponent/operator shall provide a report to U.S. Fish and Wildlife Service and California Department of Fish and Wildlife within one week of starting construction. This report shall be prepared by the authorized biologist. Following construction, the project proponent/operator shall submit the report within 90 days, documenting applicable desert tortoise measures taken during the project such as tortoise training, fence monitoring and maintenance, etc.</p> <p>g. If a desert tortoise is observed on the project site after preconstruction surveys and during construction activities, construction shall cease in the vicinity of the tortoise and the tortoise shall be allowed to pass through the area on its own accord. No one shall be allowed to touch the tortoise without authorization from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. Concurrent with this effort, U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. Once the animal is observed leaving the site, work in the area can resume. A report shall be prepared by an authorized biologist to document the occurrence of the desert tortoise within the site. This report shall be submitted to U.S. Fish and Wildlife Service and California Department of Fish and Wildlife and the</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>Kern County Planning and Natural Resources Department after the impact occurs.</p> <p>MM 4.4-5: Prior to the issuance of grading or building permits from the county, the project proponent/operator shall retain a qualified biologist(s) who meets the qualifications of an authorized biologist as defined by U.S. Fish and Wildlife Service to oversee compliance with protection measures for all listed and other special-status species that may be affected by the construction of the project. The following measures pertain to qualified biologists onsite.</p> <ol style="list-style-type: none"> The qualified biologist(s) shall be on the project site during construction of perimeter fencing, clearing of vegetation, grading activities, and similar ground-disturbance activities that will be associated with the construction phase. The qualified biologist(s) shall have the right to halt all activities that are in violation of the special-status species mitigation measures, as well as any regulatory permits from the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. The qualified biologist(s) shall have in her/his possession a copy of all the compliance measures while work is being conducted on the project site. Prior to issuance of grading or building permits, contact information for the qualified biologist(s) shall be submitted to the Kern County Planning and Natural Resources Department. Any individuals who undertake biological monitoring and mitigation tasks shall be supervised by the qualified biologist(s) and shall have the appropriate education and experience to accomplish biological monitoring and mitigation tasks. Biological monitors shall comply with the above measures. <p>MM 4.4-6: Prior to the issuance of grading or building permits from the County, and for the duration of construction activities, and within a minimum of one-week initial ground disturbance, all construction workers shall attend an Environmental Awareness Training and</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>Education Program that will be presented by an authorized biologist. Any personnel associated with construction that did not attend the initial training shall be trained by the authorized biologist prior to working on the project site.</p> <p>Any employee responsible for the operations, maintenance, and/or decommissioning of the project facilities shall also attend the Worker Environmental Awareness Training and Education Program prior to starting work on the project and on an annual basis.</p> <p>The Program will be developed and presented by the project qualified biologist(s) or designee approved by the qualified biologist(s). The Program shall include the components described below.</p> <ol style="list-style-type: none"> Information on the life history of the desert tortoise; Mohave ground squirrel, burrowing owl, Swainson's hawk, Cooper's hawk; nesting birds; as well as other wildlife, special-status plant species, and the California Department of Fish and Wildlife-regulated drainages that may be affected during construction activities. The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the California Environmental Quality Act mitigation measures and agency permit requirements. An acknowledgement form signed by each worker indicating that the Worker Environmental Awareness Training and Education Program has been completed shall be kept on file at the construction site. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the Worker Environmental Awareness Training and Education Program and signed acknowledgement forms shall be submitted to the Kern County Planning and Natural Resources Department. 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> d. A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with as necessary. e. A sticker shall be placed on hard hats indicating that the worker has completed the Worker Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Worker Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker. f. The construction crews and contractor(s) shall be responsible for preventing unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits. Unauthorized impacts may result in project stoppage, and/or fines depending on the impact and consultation with the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service. <p>MM 4.4-7: During construction, operations and maintenance, and decommissioning, the project proponent/operator and/or contractor(s) shall implement the general avoidance and protective measures described below.</p> <ul style="list-style-type: none"> a. Prior to conducting vegetation clearing or grading activities associated with construction or decommissioning, a qualified biologist or biological monitor that has been approved by the qualified biologist shall survey the area immediately prior to conducting these activities to ensure that no special-status animals are present. The qualified biologist or biological monitor shall monitor all initial construction and decommissioning ground disturbance activities. A report of those activities shall be submitted to the Kern County Planning and Natural Resources Department within 30 days of completion of activities. b. All proposed impact areas, including solar fields, generation-tie lines, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid sensitive biological 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>resources (i.e., special-status species, jurisdictional drainages, nesting birds, etc.) where possible. Construction-related activities outside of the impact zone shall be avoided.</p> <p>c. Access roads that are planned for use during construction shall not extend beyond the planned impact area. All vehicle traffic shall be contained within the planned impact area or in previously disturbed areas. Where new access routes are required, the route will be clearly marked (i.e., flagged and/or staked) prior to construction.</p> <p>d. The project proponent/operator shall limit the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be demarcated and disturbance activities, vehicles, and equipment shall be confined to these areas.</p> <p>e. Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (see Section 4.10, <i>Hydrology and Water Quality</i>, for more details on Stormwater Pollution Prevention Plan requirements). All detected erosion shall be remedied within 2 days of discovery or as described in the Stormwater Pollution Prevention Plan or Erosion Control Plan. Spoils that have been stockpiled and inactive for greater than 10 days shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing the spoils.</p> <p>f. If exclusion fencing is required by any consulting Resource Agency (i.e., California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service), the project site shall be fenced with a temporary exclusion fence to keep special-status terrestrial wildlife species, including desert tortoise, from entering during construction. This exclusion fencing shall be constructed of silt fence material, metal flashing, plastic sheeting, or other materials that will prohibit wildlife from climbing the fence or burrowing below the fence. The fencing shall be buried approximately</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>12 inches below the surface and extend a minimum of 30 inches above grade. Fencing shall be installed prior to issuance of grading or building permits and shall be maintained during all phases of construction and decommissioning. The fencing shall be inspected by an authorized biologist approved by the Resource Agencies weekly and immediately after all major rainfall events through the duration of construction and decommissioning activities. Any needed repairs to the fence shall be performed on the day of their discovery. Exclusion fencing shall be removed once construction or decommissioning activities are complete. Outside temporarily fenced exclusion areas, the project proponent/operator shall limit the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas. When consultation with the Resource Agency is required, such Resource Agency may impose additional requirements.</p> <p>g. To prevent inadvertent entrapment of desert kit foxes, American badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks that are no less than 12 inches wide and secured at the top, and placed a minimum of every 100 feet within the open trench. Covered and non-covered holes or trenches shall be thoroughly inspected for trapped animals by a qualified biologist or their biological monitor at the beginning and end of each day, including non-work days. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by trained staff approved by the retained qualified biologist for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow for their escape. If a listed species is trapped, the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife, as appropriate for the species,</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>and Kern County Planning and Natural Resources Department shall be contacted immediately.</p> <p>h. Burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. Therefore, all construction pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site (during operation or maintenance) for one or more overnight periods shall be thoroughly inspected by a qualified biologist for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist holding the appropriate handling permits from the Resource Agencies.</p> <p>i. No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own, or relocated by a qualified biologist holding the appropriate handling permits from the Resource Agencies. No one shall be allowed to touch a listed species without authorization from the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife.</p> <p>j. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited.</p> <p>k. A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project. If night work occurs on the proposed project, the speed limit will be 10 miles per hour.</p> <p>l. Fueling of equipment shall take place within existing roads. No refueling within or adjacent to drainages or native desert habitats (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> m. The project proponent/operator shall submit a Maintenance, Trash Abatement, and Pest Management Program to the Kern County Planning and Natural Resources Department for review and approval. The program shall include, but not be limited to the following: <ul style="list-style-type: none"> i. The project proponent/operator shall clear debris from the project area at least twice per year; this can be done in conjunction with regular panel washing and site maintenance activities. ii. The project proponent/operator shall erect signs with contact information for the project proponent/operator's maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Natural Resources Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris. Correspondence with such requests and responses shall be submitted to the Kern County Planning and Natural Resources Department. iii. The project proponent/operator shall implement a regular trash removal and recycling program on an ongoing basis during construction and operation of the project. Barriers to prevent pest/rodent access to food waste receptacles shall be implemented. Locations of all trash receptacles during operation of the project shall be shown on final plans. iv. Trash and food items shall be contained in closed containers to be locked at the end of the day and removed at least once per week to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs. n. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife. o. Intentional killing or collection of any plant or wildlife species shall be prohibited. p. No rodenticides shall be used on the project site. 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>MM 4.4-8: Prior to the issuance of grading or building permits from the County, a Raven Management Plan shall be developed for the project site and approved by the Kern County Planning and Natural Resources Department. This plan shall include, but is not limited to, the components listed below.</p> <ul style="list-style-type: none"> a. Identification of all raven nests within the project area during construction and decommissioning, with written documentation submitted to the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service. b. Weekly inspection during construction and decommissioning under all nests in the project area for evidence of raven predation on local wildlife (bones, carcasses, etc.), and, if evidence of predation is noted, submit a report to California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and the Kern County Planning and Natural Resources Department within 5 calendar days. c. Where evidence of wildlife predation is observed, the project authorized biologist shall coordinate with both California Department of Fish and Wildlife and U.S. Fish and Wildlife Service to determine if preventative measures are possible and to implement such measures. d. Provisions for the management of exposed food, trash, and standing water that could attract common ravens during the construction, operation, and decommissioning phases of the project. e. Furthermore, the project proponent/operator shall be required to participate in the regional comprehensive raven management plan to address the threats of the common raven to desert resources. The project proponent/operator shall be subject to compensation through the payment of a one-time fee not to exceed \$150 per disturbed acre. Evidence of the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife determination and payment of any required fees shall be 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>submitted to the Kern County Planning and Natural Resources Department.</p> <p>MM 4.4-9: To protect special status species from disturbance during construction, the actions described below shall occur.</p> <ol style="list-style-type: none"> A qualified biologist (approved by the appropriate agency) shall monitor all initial ground-disturbance activities and remain on-call throughout construction in the event a special-status species wanders into the project site. Preconstruction surveys for special-status species shall be conducted within the project boundaries of the project site, as well as within a minimum of 500 feet from the project site to account for any inadvertent impacts to adjacent areas, by the authorized biologist within a maximum of 14 days of the start of any ground disturbing activities, such as geotechnical drilling vegetation clearing and/or grading. Methodology for preconstruction surveys shall be conducted as appropriate for special-status plants, Swainson's hawk, burrowing owl, desert tortoise, Mohave ground squirrel, kit fox, loggerhead shrike, Le Conte's thrasher, and migratory birds, and shall follow U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife preconstruction survey guidelines, where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site that will be disturbed. If evidence of occupation by a special-status species is observed, a suitable buffer shall be established by a qualified biologist that results in sufficient avoidance. <p>MM 4.4-10: The project proponent/operator shall implement the following measures, based on the recently updated California Department of Fish and Game (now California Department of Fish and Wildlife) 2012 Staff Report on Burrowing Owl Mitigation, to ensure potential impacts to burrowing owl resulting from project implementation will be avoided and minimized to less-than-significant levels:</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>a. A qualified wildlife biologist shall be onsite during all initial grading and construction, pre-construction ground disturbing activities, and decommissioning activities. A qualified wildlife biologist (i.e., a wildlife biologist with the ability to identify the species and possessing previous burrowing owl survey and avoidance and minimization protection experience) shall conduct pre-construction surveys of all areas that will be permanently or temporary impacted, plus a 150-meter (approximately 492-foot) buffer, to locate active breeding or wintering burrowing owl burrows. The survey(s) shall occur no more than 14 days prior to ground-disturbing activities (i.e., exploratory geotechnical drilling, vegetation clearance, grading, etc.). The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting and mapping any potential burrows with burrowing owl signs or presence of burrowing owls. Surveys may be conducted concurrently with desert tortoise preconstruction surveys. A biologist shall prepare a preconstruction survey report that shall be submitted to California Department of Fish and Wildlife and the Kern County Planning and Natural Resources Department.</p> <p>b. A qualified biologist shall conduct an additional pre-construction survey of all impact areas plus an approximately 492-foot buffer no more than 24-hours prior to start or restart (as the case may be) of ground disturbing activities associated with construction or decommissioning activities as authorized by this approval to identify any additional burrowing owls or burrows necessitating avoidance, minimization, or mitigation measures.</p> <p>If active burrowing owl burrows are detected onsite, they shall be protected in place through the use of visual screens or through California Department of Fish and Wildlife-identified restricted activity dates and setback distances (presented in Table 4.4-4, Burrowing Owl Burrow Restricted Activity Dates and Setback Distances, below), or other measures as described in the 2012</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation																			
		California Department of Fish and Wildlife Staff Report to minimize disturbance impacts unless otherwise authorized by California Department of Fish and Wildlife. Burrowing owls shall not be moved or excluded from burrows during the breeding season.																				
<p>TABLE 4.4-4: BURROWING OWL RESTRICTED ACTIVITY DATES AND SETBACK DISTANCES</p> <table> <tr> <th rowspan="2">Time of Year</th><th colspan="3">Level of Disturbance (m)</th></tr> <tr> <th>Low</th><th>Medium</th><th>High</th></tr> <tr> <td>April 1–August 15</td><td>200</td><td>500</td><td>500</td></tr> <tr> <td>August 16–October 15</td><td>200</td><td>200</td><td>500</td></tr> <tr> <td>October 16–March 31</td><td>50</td><td>100</td><td>500</td></tr> </table> <p>SOURCE: CDFW, 2012.</p>				Time of Year	Level of Disturbance (m)			Low	Medium	High	April 1–August 15	200	500	500	August 16–October 15	200	200	500	October 16–March 31	50	100	500
Time of Year	Level of Disturbance (m)																					
	Low	Medium	High																			
April 1–August 15	200	500	500																			
August 16–October 15	200	200	500																			
October 16–March 31	50	100	500																			
<p>c. If avoidance of active burrows is infeasible, the owls can be passively displaced from their burrows according to recommendations made in the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation. Burrowing owls shall not be excluded from burrows unless or until:</p> <ol style="list-style-type: none"> Occupied burrows shall not be disturbed during the nesting season generally defined as February 1 through August 31. Before excluding owls during the non-nesting season, generally defined as September 1 through January 31, a qualified biologist meeting the Biologist Qualifications set forth in the 2012 California Department of Fish and Wildlife Staff Report, shall verify through noninvasive methods that either: (1) the owls have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging 																						

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Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>independently and are capable of independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season.</p> <p>iii. A Burrowing Owl Exclusion Plan is developed and approved by the applicable local California Department of Fish and Wildlife office and submitted to the Kern County Planning and Natural Resources Department. The plan shall include, at a minimum:</p> <ol style="list-style-type: none"> 1. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping; 2. Type of scope and appropriate timing of scoping to avoid impacts; 3. Occupancy factors to look for and what will guide determination of vacancy and excavation timing, one-way doors shall be left in place a minimum of 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily, and monitored for evidence that owls are inside and can't escape (i.e., look for sign immediately inside the door); 4. How the burrow(s) will be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that owls do not reside in the burrow); 5. Removal of other potential owl burrow surrogates or refugia onsite; 6. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency; vii. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take; 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>7. How the impacted site will continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.</p> <p>iv. Permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the measures described below.</p> <p>v. Temporary exclusion is mitigated in accordance with the measures described below.</p> <p>vi. Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Conduct daily monitoring for 1 week to confirm young of the year have fledged if the exclusion will occur immediately after the end of the breeding season.</p> <p>vii. Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).</p> <p>viii. In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using 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.</p> <p>ix. During construction activities, monthly and final compliance reports shall be provided to the California Department of Fish and Wildlife, Kern County Planning and Natural Resources Department, and other applicable resources agencies documenting the effectiveness of mitigation measures and the</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>level of burrowing owl take associated with the proposed project.</p> <p>x. If passive relocation is required, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented onsite or offsite in accordance with Burrowing Owl Staff Report guidance. The following recommendations shall be implemented:</p> <ol style="list-style-type: none"> 1. Temporarily disturbed habitat shall be restored, to pre-project conditions, including decompacting soil and revegetating. If restoration is not feasible, then the project proponent/operator shall consult with the California Department of Fish and Wildlife when determining offsite mitigation acreages, but shall be no less than 160 acres. 2. In order to protect habitat, the measures described below shall be implemented. <ol style="list-style-type: none"> a. Permanently conserve similar vegetation communities (grassland, scrublands, desert, and agriculture [grazing lands]) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. Conservation shall occur in areas that support burrowing owl habitat and can be enhanced to support more burrowing owls. b. Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project proponent/operator may purchase available burrowing owl conservation bank credits. c. Develop and implement a mitigation land management plan in accordance with Burrowing Owl 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>Staff Report guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.</p> <p>d. Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism such as an endowment.</p> <p>e. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to California Department of Fish and Wildlife-approved management, monitoring and reporting plans (including construction of artificial burrows if necessary), and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.</p> <p>f. Mitigation lands shall be on, adjacent to, or in proximity to the impact site, where feasible, and where habitat is sufficient to support burrowing owls.</p> <p>MM 4.4-11: To mitigate for potential impacts to nesting birds, special-status birds, and birds protected under the Migratory Bird Treaty Act and California Fish and Game Code during construction and decommissioning activities, the following measures shall be implemented as part of the approval for a grading or building permit.</p> <p>a. During the avian nesting season (February 1–August 31), a qualified biologist shall conduct a preconstruction avian nesting survey no more than 7 days prior to initial vegetation clearing. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur within 7 days prior to clearing or disturbance in specific areas of the site. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. At no time shall the biologist be allowed to handle the nest or its eggs. The survey shall cover all reasonably potential nesting locations on and within 500 feet of the project site, including</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>ground nesting where species, such as California horned lark and killdeer might nest all shrubs that could support nests, and suitable raptor nest sites such as nearby trees, windrows and power poles. Swainson's hawk nest surveys will be conducted prior to construction according to the <i>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</i> (California Department of Fish and Wildlife, 2010) and within a 5-mile buffer around the project site. Access shall be granted on private offsite properties prior to conducting surveys on private land. If access is not obtainable, the biologist shall survey these areas from the nearest vantage point with use of spotting scopes or binoculars.</p> <p>b. If construction is scheduled to occur during the non-nesting season (September 1–February 1), no preconstruction surveys or additional measures are required for non-listed avian species.</p> <p>c. If construction begins in the non-nesting season and proceeds continuously into the nesting season within any particular construction or decommissioning area, no surveys are required for non-listed avian species so long as all suitable nesting sites have been cleared from active construction/decommissioning areas.</p> <p>d. If active nests are found, a 300-foot no-disturbance buffer shall be created around passerine species' nests unless adjusted by the qualified biologist based on the needs and sensitivities of individual species, a 0.5-mile no-disturbance buffer for Swainson's hawk nest, and a 500-foot no-disturbance buffer around raptor species' nests (or a suitable distance otherwise determined in consultation with California Department of Fish and Wildlife). Any nest of a federal- or State-listed bird species shall require consultation with the appropriate agency (United States Fish and Wildlife Service or the California Department of Fish and Wildlife) to determine the appropriate buffer distance surrounding the nest to provide adequate nest protection. These buffers shall remain in effect until a qualified wildlife biologist has determined that the birds have fledged or the proposed project</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>component(s) have been redesigned to avoid the area. All no-disturbance buffers shall be delineated in the field with visible flagging or fencing material.</p> <p>MM 4.4-12: During the operations and maintenance phase of the project, an Avian Mortality Monitoring Program shall be developed in coordination with California Department of Fish and Wildlife and U.S. Fish and Wildlife Service and implemented to systematically and periodically determine the extent of mortality occurring due to collisions with solar arrays. The measures listed below apply to the program.</p> <ol style="list-style-type: none"> The Avian Mortality Monitoring Program shall be developed following the Mortality Monitoring Design for Utility-Scale Solar Power Facilities to achieve Objective 1 (monitoring to estimate total bird and bat mortality). Methods include using a trained and skilled team of authorized biologists to systematically sample the project site by walking transects through the solar arrays scanning for deceased birds. Data shall be collected on any encountered deceased wildlife species including species, condition of the carcass, approximate age, presence of feathers, etc. Additionally, maintenance personnel working on the project site that encounter injured or deceased birds (or any other wildlife) should be trained to collect data and photograph the encountered species. Mortality monitoring shall be conducted for a minimum 2-year period following the commencement of the operations and maintenance phase of the project. Quarterly reporting of results shall be prepared and provided to State and federal agencies, if requested. Appropriate performance standards for mitigation of impacts to any species regulated by the Bald and Golden Eagle Protection Act, the Endangered Species Act, and the California Endangered Species Act exist through required consultation with the U.S. Fish and Wildlife Service and the California Department of Fish 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>and Wildlife under their respective regulatory and permitting frameworks. If, after 2 years of mortality monitoring, project impacts to any other avian species caused by the project are shown to result in a substantial, long-term reduction in the demographic viability of the population of the species in question, then adaptive management must be implemented to reduce impacts to below this threshold. Adaptive management measures may include but not be limited to passive avian diverter installations, the use of sound, light or other means to discourage site use consistent with legal requirements, onsite habitat management or pre control measures consistent with applicable legal requirements, or modification to support structures to exclude nesting birds.</p> <p>f. Construct all power transmission lines to the 2006 Avian Power Line Interaction Committee Guidelines specifications to protect birds from electrocution and collision. Appropriate notes regarding these specifications shall be included on any grading permit, building permit, or final map.</p> <p>g. After construction, submit written documentation to the Kern County Planning and Natural Resources Department verifying that all power lines are constructed to the 2006 Avian Power Line Interaction Committee Guidelines. The project proponent/operator shall conform to the latest practices (as outlined in the 2006 Avian Power Line Interaction Committee Guidelines document) to protect birds from electrocution and collision.</p> <p>h. Install power collection and transmission facilities utilizing Avian Power Line Interaction Committee standards for collision reducing techniques as outlined in Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee, 2006).</p>	
Impact 4.4-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community, or jurisdictional waters,	Potentially significant	MM 4.4-13: Prior to issuance of any grading or building permit by the County, the project proponent/operator shall submit a report detailing how all identified ephemeral drainages are avoided and will be continually complied with during the life of the project. A copy	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS.		<p>of this report shall be provided to the Regional Water Quality Control Board and the County. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:</p> <ul style="list-style-type: none"> a. Avoidance of potential jurisdictional features (ephemeral drainages). This may be shown in plan form. b. Any material/spoils generated from project activities shall be located away from jurisdictional areas and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate. c. Fuel or hazardous materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and be placed generally at least 50 feet from the top of bank. d. Any spillage of fuel or hazardous material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated material properly disposed. For all spills, the project foreman or designated environmental representative will be notified. <p>MM 4.4-14: If jurisdictional features cannot be avoided, the project proponent/operator shall be subject to provisions as identified below:</p> <ul style="list-style-type: none"> a. If avoidance is not practical, prior to ground disturbance activities that could impact these aquatic features, the project proponent/operator shall file a complete Report of Waste Discharge with the Regional Water Quality Control Board to obtain Waste Discharge Requirements and shall also consult with California Department of Fish and Wildlife on the need for a streambed alteration agreement. Correspondence and copies of reports shall be submitted to the County. b. Based on consultation with the Regional Water Quality Control Board and California Department of Fish and Wildlife, if permits are required for the project site, appropriate permits shall be obtained prior to disturbance of jurisdictional resources. 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> c. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified and secured prior to disturbance of the features at a minimum 1:1 ratio, or as approved by the Regional Water Quality Control Board or California Department of Fish and Wildlife. Mitigation may be either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank. d. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from the Regional Water Quality Control Board and/or California Department of Fish and Wildlife, shall be provided to the County. e. A Habitat Mitigation and Monitoring Plan shall be prepared that outlines the compensatory mitigation in coordination with the Regional Water Quality Control Board and California Department of Fish and Wildlife. <ul style="list-style-type: none"> i. If onsite mitigation is proposed, the Habitat Mitigation and Monitoring Plan shall identify those portions of the site, such as relocated drainage routes, that contain suitable characteristics (e.g., hydrology) for restoration. Determination of mitigation adequacy shall be based on comparison of the restored habitat with similar, undisturbed habitat in the site vicinity (such as upstream or downstream of the site). ii. The Habitat Mitigation and Monitoring Plan shall include remedial measures in the event that performance criteria are not met. iii. If mitigation is implemented off site, mitigation lands shall be comprised of similar or higher quality and preferably located in the vicinity of the site or watershed. Offsite land shall be preserved through a deed restriction or conservation easement and the Habitat Mitigation and Monitoring Plan shall identify an approach for funding assurance for the long-term management of the conserved land. 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		iv. Copies of any coordination, permits, etc., with the Regional Water Quality Control Board and California Department of Fish and Wildlife shall be provided to the County.	
Impact 4.4-3: The project would interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Potentially significant	Implementation of Mitigation Measure MM 4.1-4 is required.	Less than significant
Impact 4.4: Cumulative Impacts	Significant and unavoidable	Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14 as well as MM 4.1-3 and MM 4.1-4 are required.	Significant and unavoidable

4.5 Cultural Resources

Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical resource as defined in <i>CEQA Guidelines</i> Section 15064.5.	Potentially significant	<p>MM 4.5-1: The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2011), to carry out all mitigation measures related to archaeological and historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:</p> <p>a. Prior to commencement of any ground disturbing activities, the Lead Archaeologist in consultation with the Native American monitor(s) shall develop a Cultural Resources Sensitivity Training for all personnel working on the proposed project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided and discussed with all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.</p>	Less than significant
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TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist and/or Native American monitor(s) for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources.</p> <p>b. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Project Owner to ensure all employees receive appropriate training before the work onsite.</p> <p>MM 4.5-2: During implementation of the project, the services of Native American Tribal Monitor(s) working under the supervision of the Lead Archaeologist, as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent/operator to monitor ground-disturbing activities associated with project-related construction activities, as follows:</p> <p>a. All initial excavation and ground-disturbing activities within the project site shall be monitored, given the potential for alluvial burial of archaeological resources.</p> <p>b. The Lead Archaeologist, archaeological monitors, and Native American monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. Project documentation shall include, but not be limited to, previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and schedules, shall immediately be provided to the Lead Archaeologist, archaeological monitor, and Native American monitor.</p> <p>c. The archaeological monitor(s) shall keep monitoring logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department. After monitoring has been completed, the Lead Archaeologist shall</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>prepare a monitoring report detailing the results of monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.</p> <p>MM 4.5-3: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor if the discovery involves resources of interest to Native American tribes, including but not limited to prehistoric archaeological sites or tribal cultural resources. The Lead Archaeologist in consultation with the Native American monitor, if appropriate, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act <i>Guidelines</i> Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with California Environmental Quality Act <i>Guidelines</i> Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist in consultation with the Native American monitor shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. Archaeological materials recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.	
Impact 4.5-2: The project would cause a substantial adverse change in the significance of an archaeological resource as defined in <i>CEQA Guidelines</i> Section 15064.5.	Potentially significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-3 is required.	Less than significant
Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.	Potentially significant	MM 4.5-4: If human remains are uncovered during project construction, the project proponent/operator shall immediately halt work within 100 feet of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act <i>Guidelines</i> . If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 et. seq.) directing identification of the next-of-kin will apply.	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.5: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 is required.	Less than significant
4.6 Energy			
Impact 4.6-1: The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Potentially significant	Implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7 is required.	Less than significant
Impact 4.6-2: The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.5: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7 is required.	Less than significant
4.7 Geology and Soils			
Impact 4.7-1: The project would directly or indirectly cause 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.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.7-2: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	Potentially significant	MM 4.7-1: Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the project site and submit it to the Kern County Public Works Department for review and approval.	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> a. The geotechnical study must be signed by a California-registered and licensed professional geotechnical engineer or engineering geologist and must include, but not be limited to, the following: <ul style="list-style-type: none"> i. Location of fault traces and potential for surface rupture and groundshaking potential; ii. Maximum considered earthquake and associated ground acceleration for design; iii. Potential for seismically induced liquefaction, landslides, differential settlement, and unstable soils; iv. Stability of any existing or proposed cut-and-fill slopes; v. Collapsible or expansive soils; vi. Foundation material type; vii. Potential for wind erosion, water erosion, sedimentation, and flooding; viii. Location and description of unprotected drainage that could be impacted by the proposed development; and, ix. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground. b. The geotechnical study shall be performed pursuant to Chapters 16 and 18 of the 2016 California Building Code; California Geological Survey Special Publication 117A; the American Society of Civil Engineers (ASCE) 7-10 Standard; and California Geological Survey Note 49. Final project design and construction shall incorporate the recommendations of the geotechnical study. The project proponent shall not locate project facilities on or immediately adjacent to an active fault trace. c. The Kern County Public Works Department shall evaluate any final facility siting design developed prior to the issuance of any building or grading permits to verify that geological constraints have been avoided. <p>MM 4.7-2: Prior to the issuance of grading permits, the project proponent shall retain a California registered and licensed geotechnical engineer to design the project facilities to withstand</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>probable seismically induced ground shaking at the site. All grading and construction onsite 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 professional engineer and state and local building codes, as well as California Geological Survey Special Publication 117A.</p> <p>a. The procedures and site conditions shall encompass site preparation, foundation specifications, and protection measures for buried metal.</p> <p>b. The final structural design shall be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements shall be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.</p>	
Impact 4.7-3: The project would result in substantial soil erosion or the loss of topsoil.	Potentially significant	<p>MM 4.7-3: The construction contractor shall incorporate BMPs consistent with National Pollutant Discharge Elimination System (NPDES) General Construction Permit Program for all construction projects that would not retain all stormwater onsite and the Kern County Grading Code. The project proponent shall prepare an Erosion and Sedimentation Control Plan as well as a Stormwater Pollution Prevention Plan (SWPPP). The plan shall be prepared by a Qualified SWPPP Developer (QSD) and submitted for review and approval by the applicable Regional Water Quality Control Board. The SWPPP BMPs shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> • Scheduling to avoid construction during rain events to the maximum extent possible • Preservation of existing vegetation and topography to the maximum extent practicable • Stabilized construction entrances and exits • Erosion control (including all pertinent temporary erosion control practices as specified in Chapter 17.28.140 of the Kern County 	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>Grading Code), such as mulching, temporary drains and cullies, sandbag barrier, geotextiles and mats, silt fences, brush or rock filters, earth dikes, straw bale barriers, and sediment traps</p> <ul style="list-style-type: none"> • Sediment control • Waste management • Good housekeeping • Post-construction site stabilization <p>Prior to initial construction mobilization, preconstruction surveys shall be performed and sediment and erosion controls shall be installed in accordance with the approved SWPPP. A copy of the approved SWPPP shall be submitted to the Kern County Planning and Natural Resources Department.</p> <p>MM 4.7-4: The project proponent shall limit grading to the minimum area necessary for construction. Prior to the initiation of construction, the project proponent shall retain a California registered and licensed professional engineer to submit final grading earthwork and foundation plans to the Kern County Public Works for approval.</p>	
Impact 4.7-4: The project would 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 onsite or offsite landslides, lateral spreading, subsidence, liquefaction, or collapse.	Potentially significant	Implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2 is required.	Less than significant
Impact 4.7-5: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in <i>CEQA Guidelines</i> Section 15064.	Potentially significant	<p>MM 4.7-5: The project proponent/operator shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (Society for Vertebrate Paleontology, 2010), to carry out all mitigation measures related to paleontological resources.</p> <p>a. Prior to commencement of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological Resources Awareness Training program for all construction</p>	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>personnel working on the project. A Paleontological Resources Awareness Training Guide approved by the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.</p> <p>b. Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements.</p> <p>c. The training shall include an overview of potential paleontological resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of paleontological resources.</p> <p>d. The Paleontological Resources Awareness Training Guides shall be kept onsite and available for all personnel to review and be familiar with as necessary.</p> <p>MM 4.7-6: A qualified paleontologist or designated monitor shall monitor all ground-disturbing activity (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 5 feet or deeper below ground surface.</p> <p>a. The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the Kern County Planning and Natural Resources Department, and shall be based on a review of geologic maps and grading plans.</p> <p>i. During the course of monitoring, if the paleontologist can demonstrate based on observations of subsurface conditions that the level of monitoring should be reduced, the paleontologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances, as warranted.</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>b. Paleontological monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments. The qualified paleontologist or paleontological monitor shall have authority to temporarily divert excavation operations away from exposed fossils to collect associated data and recover the fossil specimens if deemed necessary.</p> <p>c. Following the completion of construction, the qualified paleontologist shall prepare a report within 60 days after completion of construction, documenting the absence or discovery of fossil resources onsite. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to an appropriate repository such as the Natural History Museum of Los Angeles County.</p> <p>MM 4.7-7: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials. Accompanying notes, maps, and photographs shall also be filed at the repository.</p>	
Impact 4.7: Cumulative Impacts	Less than significant	Implementation of Mitigation Measures MM 4.7-1 through MM 4.7-7 is required.	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.8 Greenhouse Gases			
Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Potentially significant	No mitigation would be required; however, implementation of Mitigation Measure MM 4.3-3 would further reduce GHG emissions from construction activities.	Less than significant
Impact 4.8-2: The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.8: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
4.9 Hazards and Hazardous Materials			
Impact 4.9-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially significant	<p>Implementation of Mitigation Measure MM 4.17-1 is required.</p> <p>MM 4.9-1: During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan, as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System at http://cers.calepa.ca.gov/ for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The Hazardous Materials Business Plan shall:</p> <ul style="list-style-type: none"> • Delineate hazardous material and hazardous waste storage areas • Describe proper handling, storage, transport, and disposal techniques • Describe methods to be used to avoid spills and minimize impacts in the event of a spill 	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction and operation Establish public and agency notification procedures for spills and other emergencies including fires Include procedures to avoid or minimize dust from existing residual pesticides and herbicides that may be present on the site <p>The project proponent shall ensure that all contractors working on the project are familiar with the facility's Hazardous Materials Business Plan as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted Hazardous Materials Business Plan from the California Environmental Reporting System shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the projects permanent record.</p>	
Impact 4.9-2: The project would 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>Implementation of Mitigation Measures MM 4.9-1 and MM 4.17-1 is required.</p> <p>MM 4.9-2: The project proponent/operator shall continuously comply with the following:</p> <ol style="list-style-type: none"> The construction contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service. Personnel applying herbicides shall have all appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use. Herbicides shall be mixed and applied in conformance with the manufacturer's directions. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife. 	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated. f. A written record of all herbicide applications on the site, including dates and amounts shall be furnished to the Kern County Planning and Natural Resources Department. 	
Impact 4.9-3: The project would emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.	Potentially significant	Implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1 is required.	Less than significant
Impact 4.9-4: The project would result in a safety hazard or excessive noise for people residing or working in the project area, for a project located within the adopted Kern County Airport Land Use Compatibility Plan.	Potentially significant	<p>Implementation of Mitigation Measures MM 4.1-5 and MM 4.1-6is required.</p> <p>MM 4.9-3: Prior to the issuance of building and grading permits, the project proponent/operator shall comply with the following:</p> <ul style="list-style-type: none"> a. Submit Form 7460-1 (Notification of Proposed Construction or Alteration) to the Federal Aviation Administration, in the form and manner prescribed in Code of Federal Regulation 77.17 (if applicable). b. Provide documentation to the Kern County Planning and Natural Resources Department demonstrating that a copy of the final site plans has been provided to the operators of the Inyokern Airport. 	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.9-5: The project would 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.	Potentially significant	Implementation of Mitigation Measure MM 4.14-1 is required.	Less than significant
Impact 4.9: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.9-3, MM 4.1-5, MM 4.1-6, MM 4.14-1, and MM 4.17-1 is required.	Less than significant
4.10 Hydrology and Water Quality			
Impact 4.10-1: The project would violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality.	Potentially significant	<p>Implementation of Mitigation Measures MM 4.7-3 and MM 4.9-1 is required.</p> <p>MM 4.10-1: Prior to the issuance of a grading permit, the project proponent/operator shall complete a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study shall include, but is not limited to the following:</p> <ol style="list-style-type: none"> Numerical stormwater model for the project site and would evaluate existing and proposed (with project) drainage conditions during storm events ranging up to the 100-year event. The study shall also consider potential for erosion and sedimentation in light of modeled changes in stormwater flow across the project area that would result from project implementation. The drainage plan would include engineering recommendations to be incorporated into the project design and applied within the site boundary. Engineering recommendations will include measures to offset increases in stormwater runoff that would result from the project, as well as implementation of design measures to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding onsite or offsite. 	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> d. The final design of the solar arrays shall include one-foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures. Solar panel sites located within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than one foot or as required by Kern County's Floodplain Management Ordinance. e. The hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards, and approved by the Kern County Public Works Department prior to the issuance of grading permits. 	
Impact 4.10-2: The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Significant and unavoidable	<p>MM 4.10-2: The proposed project proponent/operator would be required to comply with all applicable restrictions on groundwater use as applicable to the Indian Wells Valley Groundwater Authority's Groundwater Sustainability Plan for the Indian Wells Valley Groundwater Basin. During construction, operation, and decommissioning, the project shall implement water conservation measures to the maximum extent possible.</p> <p>MM 4.10-3: Prior to the issuance of a grading or building permit, written documentation shall be submitted to the Kern County Planning and Natural Resources Department that the project proponent has verified the water source for project construction and operation by one of the following methods:</p> <ul style="list-style-type: none"> a. A will serve letter from the Inyokern Community Services District dated within 60 days of application for the grading or building permit; or b. A letter from the Indian Wells Valley Groundwater Authority dated within 60 days of application for the grading or building permit acknowledging that a new well drilled and developed within the project boundaries, which is permitted by Kern County Public Health, can pump groundwater and state the amount of groundwater pumping allowed per year; or c. A letter from a water provider outside of the Basin, showing the source and amount of water and method of delivery to the site. 	Significant and unavoidable

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.10-3: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner than would result in substantial erosion and/or sedimentation on-site or off-site.	Potentially significant	Implementation of Mitigation Measures MM 4.7-3 and MM 4.10-1 is required.	Less than significant
Impact 4.10-4: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface runoff which would result in flooding on- or off- site.	Potentially significant	Implementation of Mitigation Measure MM 4.10-1 is required.	Less than significant
Impact 4.10-5: The project would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially significant	Implementation of Mitigation Measure MM 4.10-1 is required.	Less than significant
Impact 4.10-6: The project would contribute to inundation by a flood hazard, tsunami, or seiche zones, that would result in risk of release of pollutants.	Potentially significant	Implementation of Mitigation Measure MM 4.9-1 is required.	Less than significant
Impact 4.10-7: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Potentially significant	Implementation of Mitigation Measures MM 4.7-3 and MM 4.10-1 through MM 4.10-3 is required.	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.10: Cumulative Impacts	Significant and unavoidable	Implementation of Mitigation Measures MM 4.7-3, MM 4.9-1 and MM 4.10-1 through MM 4.10-3 is required.	Significant and unavoidable
4.11 Land Use			
Impact 4.11-1: The project would conflict with 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	<p>Implementation of Mitigation Measures MM 4.1-4 and MM 4.1-6 is required.</p> <p>MM 4.11-1: Prior to the issuance of grading/building permits, the project proponent shall either:</p> <ol style="list-style-type: none"> Keep all recorded access easements within the project boundaries free and clear of development and revise site plans accordingly and provide an updated site plan to the Kern County Planning and Natural Resources Department showing the easement and panel setbacks; or Record a minimum 30-foot-wide public access easement traversable to a standard vehicle for APN 352-501-04 approved by the Kern County Planning and Natural Resources Director and provide an updated site plan to the Kern County Planning and Natural Resources Department showing the easement and panel setbacks. 	Less than significant
Impact 4.11: Cumulative Impacts	Potentially significant	<p>Implementation of Mitigation Measures MM 4.1-4, MM 4.1-6, and MM 4.11-1 is required.</p> <p>MM 4.11-2: Prior to issuance of any building permit, the project operator shall provide a Decommission Plan for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform</p>	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility.</p> <p>The financial assurance required prior to issuance of any building permit shall be established using one of the following:</p> <ol style="list-style-type: none"> An irrevocable letter of credit; A surety bond; A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department. <p>The financial institution or Surety Company shall give the County at least 120 days' notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.</p> <p>Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.</p> <p>Should any portion of the solar field not be in operational condition for a consecutive period of 12 months that portion of the site shall be</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>deemed abandoned and shall be removed within 60 days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this 60-day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional 12 months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than 48 months from the date the solar facility was first deemed abandoned.</p> <p>MM 4.11-3: Prior to the operation of the solar facility, the operator shall consult with the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.</p>	
4.12 Mineral Resources			
Impact 4.12-1: The project would result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.12-2: The project would 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	No mitigation measures are required.	No impact
Impact 4.12: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.13 Noise			
Impact 4.13-1: The project would result in generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.	Significant and unavoidable	<p>MM 4.13-1: The following measures are to be implemented to further reduce short-term noise levels associated with project construction and decommissioning:</p> <ul style="list-style-type: none"> a. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible. b. Construction equipment shall be fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer. c. Construction and decommissioning activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the County's Code of Ordinances, Chapter 8.36. Accordingly, construction activities shall be prohibited between the hours of 9 p.m. and 6 a.m. on weekdays, and between 9 p.m. and 8 a.m. on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized, unanticipated emergencies requiring immediate attention, or security patrols. 	Significant and unavoidable

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> d. Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing). e. Onsite vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency). f. Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health's safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed. <p>MM 4.13-2: The construction contractor shall establish a Noise Disturbance Coordinator for the project during construction. The Noise Disturbance Coordinator shall be responsible for responding to any complaints about construction noise. The Noise Disturbance Coordinator shall determine the cause of the complaint and shall be required to implement reasonable measures to resolve the complaint. Contact information for the Noise Disturbance Coordinator shall be submitted to the Kern County Planning and Natural Resources Department prior to commencement of any ground disturbing activities.</p> <p>MM 4.13-3: Prior to commencement of any onsite construction activities (i.e., fence construction, mobilization of construction equipment, initial grading, etc.), including decommissioning, the project proponent/operator shall provide written notice to the public through mailing a notice, which shall include:</p> <ul style="list-style-type: none"> a. The mailing notice shall be to all residences within 1,000 feet of the project site, 15 days or less prior to construction activities. The notices shall include the construction schedule and a telephone number and email address where complaints and questions can be registered with the noise disturbance coordinator. 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul style="list-style-type: none"> b. A minimum of one sign, legible at a distance of 50 feet, shall be posted at the construction site, or adjacent to the nearest public access to the main construction entrance, throughout construction activities that shall provide the construction schedule (updated as needed) and a telephone number where noise complaints can be registered with the noise disturbance coordinator. c. Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Natural Resources Department. 	
Impact 4.13-2: The project would expose persons to or generation excessive ground borne vibration or ground borne noise levels.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.13-3: The project would create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.13-4: The project is located within the Kern County Airport Land Use Compatibility Plan and would expose people residing or working in the project area to excessive noise levels.	Potentially significant	MM 4.13-4: The project contractor(s) shall implement a hearing protection plan for onsite construction workers in accordance with applicable California Division of Occupational Safety and Health Administration worker hearing conservation requirements. The plan shall include provisions for protecting onsite construction workers from high noise levels, such as the use of ear plugs or other hearing protection devices, and safety procedures for communicating with other onsite construction workers who may be using hearing protection devices, such as hand gestures and other visual communication.	Less than significant
Impact 4.13: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4 is required.	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.14 Public Services			
Impact 4.14-1: The project would result in substantial adverse physical impacts associated with the provision of new or physically altered government 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 fire protection services or police protection and law enforcement services.	Potentially significant	<p>MM 4.14-1: Prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation, and decommissioning.</p> <p>The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved fire safety plan shall be submitted to the Kern County Planning and Natural Resources Department. The fire safety plan shall contain notification procedures and emergency fire precautions including, but not limited to the following:</p> <ol style="list-style-type: none"> All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials. Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel. 	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>MM 4.14-2: The project proponent/operator shall implement the following mitigation steps at the project site:</p> <ul style="list-style-type: none"> a. For facility operation, the project proponent/operator shall pay for impacts on countywide public protection, sheriff's patrol and investigative services, and fire services at a rate of \$29.59 per 1,000 square feet of panel-covered ground for the facility operation and related onsite structures for the entire covered area of the project. The total amount shall be divided by 20 and paid on a yearly basis. Any operation that continues past 20 years shall pay the same yearly fee. If completed in phases, the annual amount shall be based on the square footage of ground covered by April 30 of each year of operation. Alternatively, the project proponent/operator may choose to pay the total amount, based on 20 years of operations, as a one-time lump sum rather than ongoing annual payments. The amount shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year for each and every year of operation. Copies of payments made shall be submitted to the Kern County Planning and Natural Resources Department. b. Written verification of ownership of the project shall be submitted to the Kern County Planning and Natural Resources Department by April 15 of each calendar year. If the project is sold to a city, county, or utility company with assessed taxes that total less than \$1,000 per megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of \$1,000 per megawatt. The amount shall be paid for all years of operation. The fee shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year. c. The project proponent/operator shall work with the County to determine how the use of sales and use taxes from construction of the project can be maximized. This process shall include, but is not necessarily limited to, the project proponent/operator obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, and registering this address with the State Board of Equalization. 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		As an alternative to the aforementioned process, the project proponent/operator may make arrangements with Kern County for a guaranteed single payment that is equivalent to the amount of sales and use taxes that would have otherwise been received (less any sales and use taxes actually paid); with the amount of the single payment to be determined via a formula approved by Kern County. The project proponent/operator shall allow the County to use this sales tax information publicly for reporting purposes.	
Impact 4.14: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2 is required.	Less than significant
4.15 Traffic and Transportation			
Impact 4.15-1: The project would conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows: Kern County General Plan LOS “D.”	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.15-2: The project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards developed by the county congestion management agency for designated roads or highways.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.15: Cumulative Impacts	Potentially significant	MM 4.15-1: Prior to the issuance of construction or building permits, the project proponent/operator shall: a. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department – Development Review and the California Department of Transportation offices for District 9, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:</p> <ul style="list-style-type: none"> i. Timing of deliveries of heavy equipment and building materials; ii. Directing construction traffic with a flag person; iii. 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; iv. Ensuring access for emergency vehicles to the project sites; v. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections; vi. Maintaining access to adjacent property; and vii. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the project sites, and avoiding residential neighborhoods to the maximum extent feasible. <p>Monitoring shall be conducted on a weekly basis by the project proponent/operator and any deficiencies shall be corrected immediately. Proof of compliance shall be available and furnished at the request of the Kern County Public Works Department-Development Review and the California Department of Transportation at any time during construction of gen-tie facilities.</p> <ul style="list-style-type: none"> b. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the 	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<p>Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and the California Department of Transportation.</p> <p>c. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County.</p> <p>d. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to non-county maintained roads that may result from construction activities. The project proponent/operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Development Review and the Kern County Planning and Natural Resources Department.</p> <p>e. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in digital video disc format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.</p>	

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.16 Tribal Cultural Resources			
Impact 4.16-1a: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe 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).	No impact	No mitigation measures are required.	No impact
Impact 4.16-1b: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is 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	No impact	No mitigation measures are required.	No impact

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
resource to a California Native American tribe.			
Impact 4.16: Cumulative Impacts	No impact	No mitigation measures are required.	No impact
4.17 Utilities and Service Systems			
Impact 4.17-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects.	Significant and unavoidable	Implementation of Mitigation Measures MM 4.7-3 and MM 4.10-1 through MM 4.10-3 is required.	Significant and unavoidable
Impact 4.17-2: The project would have insufficient water supplies available to serve the project from existing entitlements and resources, and new or expanded entitlement is needed.	Potentially significant	Implementation of Mitigation Measure MM 4.10-2 is required.	Less than significant
Impact 4.17-3: The project would result in a determination by the waste water treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Impact 4.17-4: The project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	Potentially significant	MM 4.17-1: During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible. <ul style="list-style-type: none"> a. An onsite Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance, Trash Abatement and Pest Management Program. b. The Recycling Coordinator shall facilitate recycling of all construction waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. c. The onsite Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal. d. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits. e. The project proponent/operator shall provide a storage area for recyclable materials within the fenced project area that is clearly identified for recycling. This area shall be maintained on the site during construction, operations and decommissioning. A site plan showing the recycling storage area shall be submitted prior to the issuance of any grading or building permit for the site. 	Less than significant
Impact 4.17-5: The project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.	Potentially significant	Implementation of Mitigation Measure MM 4.17-1 is required.	Less than significant
Impact 4.17: Cumulative Impacts	Significant and unavoidable	Implementation of Mitigation Measures MM 4.7-3, MM 4.10-1 through MM 4.10-3, and MM 4.17-1 is required.	Significant and unavoidable

TABLE 1-9: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
4.18 Wildfire			
Impact 4.18-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.18-2: The project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.18-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Potentially significant	Implementation of Mitigation Measure MM 4.14-1 is required.	Less than significant
Impact 4.18-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes.	Potentially significant	Implementation of Mitigation Measure MM 4.10-1 is required.	Less than significant
Impact 4.18: Cumulative Impacts	Significant and unavoidable	Implementation of Mitigation Measures MM 4.10-1 and MM 4.14-1 is required.	Significant and unavoidable

2.1 Intent of the California Environmental Quality Act

The Kern County Planning and Natural Resources Department, as lead agency, has determined that an Environmental Impact Report (EIR) must be prepared for the proposed RB Inyokern Solar Project (project). The project is located on approximately 166.5 acres and would generate up to 26.6 megawatts (MW) of renewable electric energy and/or storage capacity from a photovoltaic solar facility in unincorporated Kern County. A 33 kilovolt generation tie-in line (gen-tie) would be located within a 100-foot corridor and would interconnect the facilities to an existing 33-kilovolt electrical distribution line that ultimately connects to the existing Southern California Edison (SCE) Inyokern Substation.

The project would require approval of a Specific Plan Amendment (SPA) to the Circulation Element of the Inyokern Specific Plan, two Conditional Use Permits to allow for the construction and operation of a solar electrical generating facility on a site with an “M-2” (Medium Industrial) zoning classification, a lot line adjustment, and encroachment permits associated with transmission lines connecting to the local power grid. The project is described in detail in Chapter 3, *Project Description*.

This EIR has been prepared pursuant to the following:

- The California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.)
- *CEQA Guidelines* (California Code of Regulations Title 14, Chapter 3, Section 15000 et seq.)
- The Kern County CEQA Implementation Document

The overall purposes of the CEQA process are to:

- Ensure that the environment and public health and safety are protected in the face of discretionary projects initiated by public agencies or private concerns.
- Provide for full disclosure of the project’s environmental effects to the public, the agency decision-makers who will approve or deny the project, and responsible and trustee agencies charged with managing resources (e.g., wildlife, air quality) that may be affected by the project.
- Provide a forum for public participation in the decision-making process with respect to environmental effects.

2.2 Purpose of this Environmental Impact Report

An EIR is a public informational document used in the planning and decision-making process. This project-level EIR will analyze the environmental impacts of the project. The Kern County Planning Commission and Board of Supervisors will consider the information in the EIR, including the public comments and staff response to those comments, during the public hearing process. The final decision is made by the Board of Supervisors, who may approve, conditionally approve, or deny the project. The purpose of an EIR is to identify:

- The significant potential impacts of the 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; and
- Reasonable and feasible alternatives to the project that would eliminate any significant adverse environmental impacts or reduce the impacts to a less-than-significant level.

An EIR also discloses growth-inducing impacts; impacts found not to be significant; and significant cumulative impacts of the project when taken into consideration with past, present, and reasonably anticipated future projects.

CEQA requires that an EIR reflect the independent judgment of the lead agency regarding the impacts, the level of significance of the impacts both before and after mitigation, and mitigation measures proposed to reduce the impacts. A Draft EIR is circulated to responsible agencies, trustee agencies with resources affected by the project, and interested agencies and individuals. The purposes of public and agency review of a Draft EIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting mitigation measures and alternatives capable of avoiding or reducing the significant effects of the project, while still attaining most of the basic objectives of the project.

2.2.1 Issues to Be Resolved

CEQA Guidelines Section 15123(b)(3) requires that an EIR contain issues to be resolved, which includes the choices among alternatives and whether or how to mitigate significant impacts. The following major issues are to be resolved:

- Determine whether the EIR adequately describes the environmental impacts of the project;
- Preferred choice among alternatives;
- Determine whether the recommended mitigation measures should be adopted or modified; and
- Determine whether additional mitigation measures need to be applied to the project.

2.3 Terminology

To assist reviewers in understanding this EIR, the following terms are defined:

- *Project* means the whole of an action that has the potential for resulting in a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.
- *Environment* refers to the physical conditions that exist in the area and that would be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved is where significant direct or indirect impacts would occur as a result of the project. The environment includes both natural and man-made (artificial) conditions.
- *Impacts* analyzed under CEQA must be related to a physical change. Impacts are:
 - Direct or primary impacts that would be caused by the project and would occur at the same time and place; or
 - Indirect or secondary impacts that would be caused by the project and would be later in time or farther removed in distance, but would still be reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other effects related to induced changes in

the pattern of land use; population density or growth rate; and related effects on air and water and other natural systems, including ecosystems.

- *Significant impact on the environment* means a substantial, or potentially substantial, adverse change in any of the physical conditions in the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. An economic or social change by itself is not considered a significant impact on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.
- *Mitigation* consists of measures that avoid or substantially reduce the project's significant environmental impacts by:
 - Avoiding the impact altogether by not taking a certain action or parts of an action;
 - Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
 - Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
 - Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or
 - Compensating for the impact by replacing or providing substitute resources or environments.
- *Cumulative impacts* are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. The following statements also apply when considering cumulative impacts:
 - The individual impacts may be changes resulting from a single project or separate projects.
 - The cumulative impact from several projects is the change in the environment that 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 time.

This EIR uses a variety of terms to describe the level of significance of adverse impacts. These terms are defined as follows:

- *Less than significant.* An impact that is adverse but that does not exceed the defined thresholds of significance. Less-than-significant impacts do not require mitigation.
- *Significant.* An impact that exceeds the defined thresholds of significance and would or could cause a substantial adverse change in the environment. Mitigation measures are recommended to eliminate the impact or reduce it to a less-than-significant level.
- *Significant and unavoidable.* An impact that exceeds the defined thresholds of significance and cannot be eliminated or reduced to a less-than-significant level through the implementation of mitigation measures.

2.4 Decision-Making Process

CEQA requires lead agencies to solicit and consider input from other interested agencies, citizen groups, and individual members of the public. CEQA also requires the project to be monitored after it has been permitted to ensure that mitigation measures are carried out.

CEQA requires the lead agency to provide the public with a full disclosure of the expected environmental consequences of the project and with an opportunity to provide comments. In accordance with CEQA, the following steps constitute the process for public participation in the decision-making process:

- **Initial Study/Notice of Preparation (IS/NOP).** Kern County prepared and circulated a IS/NOP for 30 days to responsible, trustee, and local agencies for review and comment beginning on July 12, 2017, and ending on August 11, 2017.
- **Draft EIR Preparation/Notice of Completion (NOC).** A Draft EIR is prepared, incorporating public and agency responses to the IS/NOP and the scoping process. The Draft EIR is circulated for review and comment to appropriate agencies and additional individuals and interest groups who have requested to be notified of EIR projects. Per *CEQA Guidelines* Section 15105, Kern County will provide for a 45-day public review period on the Draft EIR. Kern County will subsequently respond to each comment on the Draft EIR received in writing through a Response to Comments chapter in the Final EIR. The Response to Comments will be provided to each agency or person who provided written comments on the EIR a minimum of 10 business days before the scheduled Planning Commission hearing on the Final EIR and project.
- **Preparation and Certification of Final EIR.** The Kern County Planning Commission will consider the Final EIR and the project, acting in an advisory capacity to the Kern County Board of Supervisors. Upon receipt of the Planning Commission's recommendation, the Board of Supervisors will also consider the Final EIR, all public comments, and the project and take final action on the project. At least one public hearing will be held by both the Planning Commission and Board of Supervisors to consider the Final EIR, take public testimony, and then approve, conditionally approve, or deny the project.

2.4.1 Initial Study/Notice of Preparation

Pursuant to *CEQA Guidelines* Section 15082, as amended, the Kern County Planning and Natural Resources Department circulated an IS/NOP to the State Clearinghouse, public agencies, special districts, and members of the public for a public review period beginning July 12, 2017, and ending on August 11, 2017. The IS/NOP was also posted in the Kern County Clerk's office for 30 days and sent to the State Clearinghouse at the Governor's Office of Planning and Research to solicit Statewide agency participation in determining the scope of the EIR.

The purpose of the IS/NOP is to formally convey that the Kern County Planning and Natural Resources Department, as the lead agency, solicited input regarding the scope and proposed content of the EIR. The IS/NOP and all comment letters are provided in Appendix A of this EIR.

2.4.2 Scoping Meeting

Pursuant to *CEQA Guidelines* Section 15082(c)(1), for projects of statewide, regional, or area-wide significance, the lead agency is required to conduct at least one scoping meeting. The scoping meeting is for jurisdictional agencies and interested persons or groups to provide comments regarding, but not limited to, the range of actions, alternatives, mitigation measures, and environmental effects to be analyzed. Kern County hosted a scoping meeting on July 21, 2017, at the Kern County Planning and Natural Resources Department, located at 2700 "M" Street, Suite 100, Bakersfield, California.

Initial Study/Notice of Preparation and Scoping Meeting Results

No verbal comments were received at the July 21, 2017, scoping meeting. Specific environmental concerns raised in written comments received during the IS/NOP public review period are discussed below. The IS/NOP and all comments received are included in Appendix A, along with the Summary of Proceedings from the Scoping Meeting.

NOP Written Comments

The following specific environmental concerns listed in **Table 2-1, Summary of IS/NOP Comments**, were received in writing by the County in response to the IS/NOP.

TABLE 2-1: SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
Federal Agencies	
United States Army Corps of Engineers July 17, 2017	The commenter recommends performance of a wetland delineation.
United States Department of the Navy August 8, 2017	The commenter states the need for additional information on the type of photo voltaic technology and the type of anti-reflective materials to be used in the project to assess for compatibility with military operations. Water consumption in the Indian Wells Valley and nearby wells, including those operated by the Navy, should be analyzed and detailed further in the EIR.
State Agencies	
State Clearinghouse July 13, 2017	The commenter acknowledges the receipt of the NOP. The length of the comment period was incorrect.
California Department of Conservation (CDOC) July 20, 2017	There commenter states there are no known oil, gas or geothermal wells located within the project boundary. CDOC shall be notified if wells are encountered during development activities.
California Department of Transportation (Caltrans) July 31, 2017	The commenter states the following: County roads must be used for Phase 1 access. Brown Road (north side SR-178) and Brown Road via Sunset Ave (South side SR-178) should be considered for Phase 2 access. Utilization of Nadine Street for access both sides of SR-178 should be considered, but would require a 90-degree intersection and an encroachment permit. A traffic control plan may be required; any traffic control in the state right-of-way requires a Caltrans encroachment permit.
Lahontan Regional Water Quality Control Board August 9, 2017	The commenter recommends the County include mitigation for development of a site-specific Stormwater Pollution Prevention Plan (SWPPP) that identifies temporary and permanent erosion and sediment control best management practices that will manage stormwater runoff during construction and post-construction. The EIR should be recirculated with a revised project description including detail of post-construction stormwater conveyance, collection and treatment facilities. Where feasible, the project should maintain existing topographic contours and vegetation. Low impact development components should be included to manage stormwater.

TABLE 2-1: SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
Native American Heritage Commission August 24, 2017	The commenter states that the proposed project should comply with Senate Bill (SB) 18 and Assembly Bill (AB) 52, contact CA Native American Tribes and their representatives that are within the geographic area of the project and conduct consultations in accordance with SB 18 and AB 52, evaluate if the project will have an adverse impact on historical resources within the project area, contact appropriate regional archaeological information center for a record search, prepare an archaeological inventory survey (if required), contact the Native American Heritage Commission, and include mitigation measures for inadvertent discoveries of archaeological resources.
Local	
Kern County Building and Development Division March 13, 2017	The commenter states that construction traffic should be coordinated to avoid conflicts during construction. A traffic control plan should be provided that address routes, duration and manner of traffic control so construction traffic is accommodated. Any roads damaged by the project should be repaired. Encroachment permits should be obtained for work within the County right of way. Obtain transportation permits for oversized or overweight loads that will utilize County-maintained roads, which may require California Highway Patrol escort. These permits may be obtained from the County Building and Development Division's permit engineer.
Kern County Public Works – Floodplain Management July 14, 2017	The commenter states that a plan for the disposal of drainage waters originating onsite and from adjacent roadways should be prepared per the Kern County Development Standards and subject to approval of the Engineering, Surveying and Permit Services Department. Per the Kern County Floodplain Management Ordinance, associated flood hazard requirements will need to be incorporated into the design of the project.
Kern County Public Health Services – Environmental Health July 14, 2017	An account on the California Environmental Report System should be made for the project.
Eastern Kern County Resources Conservation District August 7, 2017	The commenter expresses concern over impacts to groundwater, liquefaction, lighting, airport, heat islands, valley fever, public services, ingress/egress for local residents, and fugitive dust. The commenter states that fault zones should be identified and that tribal addresses should be modified for notification and add nearby Mutual Water Company. The commenter also states that the Inyokern Specific Plan, Red Rock State Park and Desert Tortoise Conservation area should be mentioned. The commenter also asks whether the tie-in will go under or over U.S. Highway 395.
Indian Wells Valley Airport District August 10, 2017	The commenter states that due to the proximity of the project to the Inyokern Airport, the project must meet all applicable laws, regulations and policies associated with the protection of navigable airspace including Federal Aviation Regulations (FAR) Part 77 and compliance with the FAA's Interim Policy for Solar Energy System Projects on Federally Obligated Airports. Additionally, a glare study should be performed.
Interested Parties	
Larry Rodarte July 17, 2017	The commenter states concern for their parcel and whether or not the proposed project would cause it to be "landlocked" and what land uses would be permitted after the development is operational.

TABLE 2-1: SUMMARY OF IS/NOP COMMENTS

Commenter/Date	Summary of Comment
Stuart Fields July 18, 2017	The commenter states the proposed project would impact water supplies.
Defenders of Wildlife July 24, 2017	The commenter states that the project is in a Development Focus Area (DFA) for renewable energy projects per the Draft Desert Renewable Energy Conservation Plan, which is defined as having little or no long-term conservation value for biological resources. The commenter recommends the performance of protocol surveys and appropriate mitigation for the desert tortoise and Mohave ground squirrel. A nest survey for American avocets (<i>Recurvirostra americana</i>) should be performed for this species and a 150-foot buffer should be established between suitable nesting habitat on the dikes and the project boundary. Due to the “lake effect” of solar panel arrays on waterbirds, systematic mortality monitoring and adaptive management should be conducted for a reasonable period once the project becomes operational.
Norma Marquardt August 5, 2017	The commenter states that the solar facilities would impact surrounding property values and would also result in pollution and waste impacts. The commenter also asks about the number of full time and part-time jobs the project will generate.
Amanda Seidel August 9, 2017	The commenter refers to the Black Mountain Conservation Bank for mitigation regarding impacts to desert tortoise, Mojave ground squirrel, waters of the State and CEQA habitat requirements.
Philip Tarantino August 10, 2017	The commenter asks if similar facilities have been construction in close proximity to homes and what it impact on property values.
Candace Davis and David Kelley August 11, 2017	The commenter states that the solar project will result in impacts to water supplies, light pollution, and dust pollution. Additionally, the solar equipment could have a toxic effect on the land, air and water.

2.4.3 Availability of the Draft EIR

This Draft EIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 45-day formal review period in accordance with *CEQA Guidelines* Section 15087. This Draft EIR and the full administrative record for the project, including all studies, is available for review during normal business hours Monday through Friday at the Kern County Planning Department, located at:

Kern County Planning and Natural Resources Department
 2700 “M” Street, Suite 100
 Bakersfield, CA 93301-2370
 Phone: 661.862.8600, Fax: 661.862.8601

This EIR is also available on the Kern County Planning and Natural Resources Department website: <https://kernplanning.com/environmental-doc/rb-inyokern-solar-project/>.

2.5 Format and Content

This EIR addresses the potential environmental effects of the project and was prepared following input from the public and responsible and affected agencies, and through the EIR scoping process, as discussed

previously. The contents of this EIR were based on the findings in the IS/NOP, and public and agency input. Based on the findings of the IS/NOP, a determination was made that an EIR was required to address potentially significant environmental effects on the following resources:

- Aesthetics;
- Agriculture and Forest Resources;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Energy;
- Geology and Soils;
- Greenhouse Gas Emissions;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Mineral Resources;
- Noise;
- Public Services;
- Traffic and Transportation;
- Tribal Cultural Resources;
- Utilities and Service Systems; and
- Wildfire.

With respect to the following resource area, which were discussed in the IS/NOP, it was determined that no impacts would occur that would require analysis in the EIR:

- Population and Housing;
- Recreation

The IS/NOP determined that the proposed project would not include any permanent employees as the operations and maintenance buildings would be remotely operated. Maintenance personnel would be expected to visit the project site several times per year for routine maintenance, but they would likely be drawn from the local labor force and would commute from their permanent residences to the project site during those times. However, even if the maintenance employees were hired from out of the area and had to relocate to eastern Kern County, the minor addition of persons to this area would not result in a substantial increase in population in the area. Consequently, this would represent a minor increase in the number of users at local recreational facilities. As a result, the project would not directly or indirectly induce the development of any new housing or businesses, and there would not be a detectable increase in the use of parks or other recreational facilities. No impacts to population and housing or recreation would occur and no further analysis is warranted.

Additionally, no comments were received during circulation of the IS/NOP indicating that additional impacts would need to be addressed. No further discussion of this topic is warranted. For a complete analysis of these impacts, please refer to Appendix A of this EIR.

2.5.1 Required EIR Content and Organization

This EIR includes all of the sections required by CEQA. **Table 2-2, *Required EIR Contents***, contains a list of sections required under CEQA, along with a reference to the chapter in which they can be found in this EIR document.

TABLE 2-2: REQUIRED EIR CONTENTS

Requirement (CEQA Guidelines Section)	Location in EIR
Table of contents (Section 15122)	Table of Contents
Summary (Section 15123)	Chapter 1
Project description (Section 15124)	Chapter 3
Significant environmental impacts (Section 15126.2)	Sections 4.1–4.18
Environmental setting (Section 15125)	Sections 4.1–4.18
Mitigation measures (Section 15126.4)	Sections 4.1–4.18
Cumulative impacts (Section 15130)	Sections 4.1–4.18
Growth-inducing impacts (Section 15126.2)	Chapter 5
Effects found not to be significant (Section 15128)	Chapters 1, 5; Sections 4.1–4.18
Significant irreversible changes	Chapter 5
Unavoidable significant environmental impacts (Section 15126.2)	Chapter 5
Alternatives to the project (Section 15126.6)	Chapter 6
Organizations and persons consulted	Chapter 8
List of preparers (Section 15129)	Chapter 9
References (Section 15129)	Chapter 10

The content and organization of this EIR are designed to meet the requirements of CEQA and the *CEQA Guidelines*, as well as to present issues, analysis, mitigation, and other information in a logical and understandable way. This EIR is organized into the following sections:

- Chapter 1, *Executive Summary*, provides a summary of the project description and a summary of the environmental impacts and mitigation measures.
- Chapter 2, *Introduction*, provides CEQA compliance information, an overview of the decision-making process, organization of the EIR, and a responsible and trustee agency list.
- Chapter 3, *Project Description*, provides a description of the location, characteristics, and objectives of the projects, and the relationship of the projects to other plans and policies associated with the project.
- Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, contains a detailed environmental analysis of the existing conditions, projects impacts, mitigation measures, and cumulative impacts.
- Chapter 5, *Consequences of Project Implementation*, presents an analysis of the project's cumulative and growth-inducing impacts and other CEQA requirements, including significant and unavoidable impacts and irreversible commitment of resources.
- Chapter 6, *Alternatives*, describes a reasonable range of alternatives to the projects that could reduce the significant environmental effects that cannot be avoided.
- Chapter 7, *Responses to Comments*, is reserved for responses to comments on the Draft EIR.
- Chapter 8, *Organizations and Persons Consulted*, lists the organizations and persons contacted during preparation of this EIR.

- Chapter 9, *Preparers*, identifies persons involved in the preparation of the EIR.
- Chapter 10, *Bibliography*, identifies reference sources for the EIR.
- *Appendices* provide information and technical studies that support the environmental analysis contained within the EIR.

The analysis of each environmental category in Chapter 4 is organized as follows:

- “Introduction” provides a brief overview on the purpose of the section being analyzed with regards to the project.
- “Environmental Setting” describes the physical conditions that exist at this time and that may influence or affect the topic being analyzed.
- “Regulatory Setting” provides State and federal laws and the Kern County General Plan goals, policies, and implementation measures that apply to the topic being analyzed.
- “Impacts and Mitigation Measures” discusses the impacts of the projects in each category, presents the determination of the level of significance, and provides a discussion of feasible mitigation measures to reduce any impacts.
- “Cumulative Setting, Impacts, and Mitigation Measures” provides a discussion of the cumulative geographic area for each resource area, and analysis of whether the project would contribute to a significant cumulative impact, and if so, identifies cumulative mitigation measures.

2.6 Responsible and Trustee Agencies

Projects or actions undertaken by the lead agency, in this case the Kern County Planning and Natural Resources Department, may require subsequent oversight, approvals, or permits from other public agencies in order to be implemented. Other such agencies are referred to as “responsible agencies” and “trustee agencies.” Pursuant to *CEQA Guidelines* Sections 15381 and 15386, as amended, responsible agencies and trustee agencies are defined as follows:

- A “responsible agency” is a public agency that proposes to carry out or approve a project, for which a lead agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term “responsible agency” includes all public agencies other than the lead agency that have discretionary approval power over the project (Section 15381).
- A “trustee agency” is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California (Section 15386).

The various public, private, and political agencies and jurisdictions with a particular interest in the project may include, but are not limited to, the following:

2.6.1 Federal Agencies

- United States Fish and Wildlife Service (USFWS)
- Bureau of Land Management (BLM)
- Federal Aviation Administration (FAA)
- United States Army Corps of Engineers

2.6.2 State Agencies

- California Air Resources Board (CARB)
- California Public Utilities Commission
- California Department of Fish and Wildlife (CDFW)
- California Energy Commission (CEC)
- California Department of Transportation (Caltrans)
- Governor's Office of Planning and Research (OPR)
- Lahontan Regional Water Quality Control Board (RWQCB)

2.6.3 Local Agencies

- Eastern Kern County Air Pollution Control District (EKAPCD)
- Kern County Board of Supervisors

Other additional permits or approvals from responsible agencies may be required for the project.

2.6.4 Kern County

- Planning and Natural Resources Department
- Public Works Department
- Public Health Services Department, Environmental Health Services Division
- Fire Department (KCFD)
- Sheriff's Department (KCSO)

Other additional permits or approvals from Kern County may be required for the project.

2.7 Incorporation by Reference

In accordance with *CEQA Guidelines* Section 15150 to reduce the size of the report, the following documents are hereby incorporated by reference into this EIR and are available for public review at the Kern County Planning and Natural Resources Department. A brief synopsis of the scope and content of these documents is provided below.

2.7.1 Kern County General Plan

The Kern County General Plan is a policy document with land use maps and related information that are designed to give long-range guidance to those County officials making decisions affecting the growth and resources of the unincorporated Kern County jurisdiction, excluding the metropolitan Bakersfield planning area. This document, adopted on June 14, 2004, and last amended on September 22, 2009, helps ensure that day-to-day decisions conform to the long-range program designed to protect and further the public interest

as related to Kern County's growth and development and mitigate environmental impacts. The Kern County General Plan also serves as a guide to the private sector of the economy in relating its development initiatives to the public plans, objectives, and policies of the County.

2.7.2 Inyokern Specific Plan

The Inyokern Specific Plan was drafted in 1990 for the unincorporated community of Inyokern. The plan includes the following elements: land use, open space, and conservation; circulation; housing; noise; seismic safety and safety; and scenic highways. Within each of these element categories, an existing setting, policies and implementation strategies for those policies are provided.

2.7.3 Kern County Zoning Ordinance

According to the Kern County Zoning Ordinance Chapter 19.02.020, Purposes, Title 19 was adopted to promote and protect the public health, safety, and welfare through the orderly regulation of land uses throughout the unincorporated area of Kern County. Further, the purposes of this title are to:

- Provide the economic and social advantages resulting from an orderly planned use of land resources;
- Encourage and guide development consistent with the Kern County General Plan;
- Divide Kern County into zoning districts of a number, size, and location deemed necessary to carry out the purposes of the Kern County General Plan and this title;
- Regulate the size and use of lots, yards, and other open spaces;
- Regulate the use, location, height, bulk, and size of buildings and structures;
- Regulate the intensity of land use;
- Regulate the density of population in residential areas;
- Establish requirements for off-street parking;
- Regulate signs and billboards; and
- Provide for the enforcement of the regulations of Chapter 19.02.

2.7.4 Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG) and was adopted in August 16, 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, state, and federal agencies. California's Sustainable Communities and Climate Protection Act, or SB 375, calls for the Kern RTP to include a Sustainable Communities Strategy (SCS) that reduces greenhouse gas emissions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation ensuring consistency between low income housing need and transportation planning. Kern COG is a federally designated Metropolitan Planning Organization and a

state designated Regional Transportation Planning Agency. These designations formally establish Kern COG's role in transportation planning. Preparing an RTP is one of Kern COG's primary statutory responsibilities under federal and state law.

2.7.5 Kern County Airport Land Use Compatibility Plan

The Kern County Airport Land Use Compatibility Plan (ALUCP) was originally adopted in 1996 and has since been amended to comply with Aeronautics Law, Public Utilities Code (Chapter 4, Article 3.5) regarding public airports and surrounding land use planning. As required by that law, proposals for public or private land use developments that occur within defined airport influence areas are subject to compatibility review. The principal airport land use compatibility concerns addressed by the plan are: (1) exposure to aircraft noise, (2) land use safety with respect to both people and property on the ground and the occupants of aircraft, (3) protection of airport air space, and (4) general concerns related to aircraft overflights.

The ALUCP identifies policies and compatibility criteria for influence zones or planning area boundaries. The ALUCP maps and labels these as Zones A, B1, B2, C, D, and E, ranging from the most restrictive (Zone A – airport property-runway protection zone) to the least restrictive (Zone D – disclosure to property owners only) while Zone E is intended to address special land use development. According to the ALUCP, the project site is in the airport influence area of the Inyokern Airport and is located in a medium-density residential land use area. Specifically, the project is located in Compatibility Zones B1 and C. Zone B1 prohibits schools/daycare centers; libraries; hospitals; nursing homes; highly noise-sensitive uses; storage of highly flammable materials; and hazards to flights (such as glare; sources of dust, steam, or smoke that make impair plot visibility; any use that may attract large flocks of birds; or any light that may cause visual discomfort or loss of orientation during critical phases of flight). Zone C prohibits schools, hospitals, nursing homes, and hazards to flights.

2.8 Sources

This EIR is dependent upon information from many sources. Some sources are studies or reports that have been prepared specifically for the project. Other sources provide background information related to one or more issue areas that are discussed in this document. The sources and references used in the preparation of this EIR are listed in Chapter 10, *Bibliography*, and are available for review during normal business hours at the Kern County Planning and Natural Resources Department, located at 2700 "M" Street, Suite 100, Bakersfield, CA 93301-2370. This EIR is also available on the Kern County Planning and Natural Resources Department website: <https://kernplanning.com/planning/environmental-documents/>.

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3.1 Introduction

This Environmental Impact Report (EIR) has been prepared by Kern County (County), which is the Lead Agency, to identify and evaluate potential environmental impacts associated with implementation of the approximate 166.5-acre RB Inyokern Solar Project (project) proposed by R&L Capital, Inc. (project proponent/operator). The project proposes to develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate a combined 26.6 megawatts (MW) of renewable electrical energy and energy storage capacity at the point of interconnection to the Statewide grid.

The project site includes two separate phases. The site phases may be combined and constructed at the same time as a single, 26.6 MW alternating current (AC) solar facility with advanced energy battery storage units on approximately 166.5 acres or alternatively, it could be developed as two independent solar facilities: (1) Phase 1: a 20 MW solar facility on approximately 124.56 acres; and (2) Phase 2: a 6.6 MW solar facility on approximately 41.93 acres. Phasing is dependent upon market conditions. The proposed project would interconnect to an existing Southern California Edison (SCE) 33-kilovolt (kV) electrical distribution line to an existing SCE Inyokern Substation approximately 0.5 miles to the east. The distribution line is located within an existing transmission corridor alongside of the project site. A Lot Line Adjustment (LLA 48-19) has been approved, but not yet recorded, to exclude portions of Assessor Parcel Number (APN) 352-085-13 from the Project. In addition, the project proposes to remove a portion of the designated future secondary collector from Brown Road to the southern boundary of the project site.

3.2 Project Location

The project is located in the eastern high desert region of Kern County in the unincorporated community of Inyokern as shown in **Figure 3-1, Project Site Vicinity**. The proposed project is located along United States Highway 395 (US 395) to the east and Brown Road to the west. Phase 1 is located north of Inyokern Road (State Route 178 [SR 178]), between Brown Road and US 395. Phase 2 is directly north and adjacent to Phase 1. The project site would be directly accessed by SR 178 to Brown Road. A wastewater treatment plant is located adjacent on the northeastern portion of the project site. The Inyokern Airport is located west of the project site. An existing approximately 4.2-acre borrow pit is located on the southeast corner of the Phase 1 portion of the site, which was originally used to build a roadway overpass. The pit is fenced around its perimeter and would not be developed or disturbed during project construction activities and is not included as part of the project site footprint. The proposed solar facility can be found within Sections 19 and 20, Township 26 South, Range 39 East, Mount Diablo Base and Meridian (MDB&M).

Figure 3-2, Project Site, depicts the project boundaries. The project consists entirely of privately-owned parcels, under ownership of the project proponent. The site consists of 12 total parcels and the APNs are summarized in **Table 3-1, Project Assessor Parcel Numbers – RB Inyokern Phase 1**, and **Table 3-2, Project Assessor Parcel Numbers – RB Inyokern Phase 2**. **Figure 3-3, APN Map**, shows the APNs associated with the project site and the portion of APN 352-085-13 that would be excluded from the Project Site boundaries per LLA 48-19.



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
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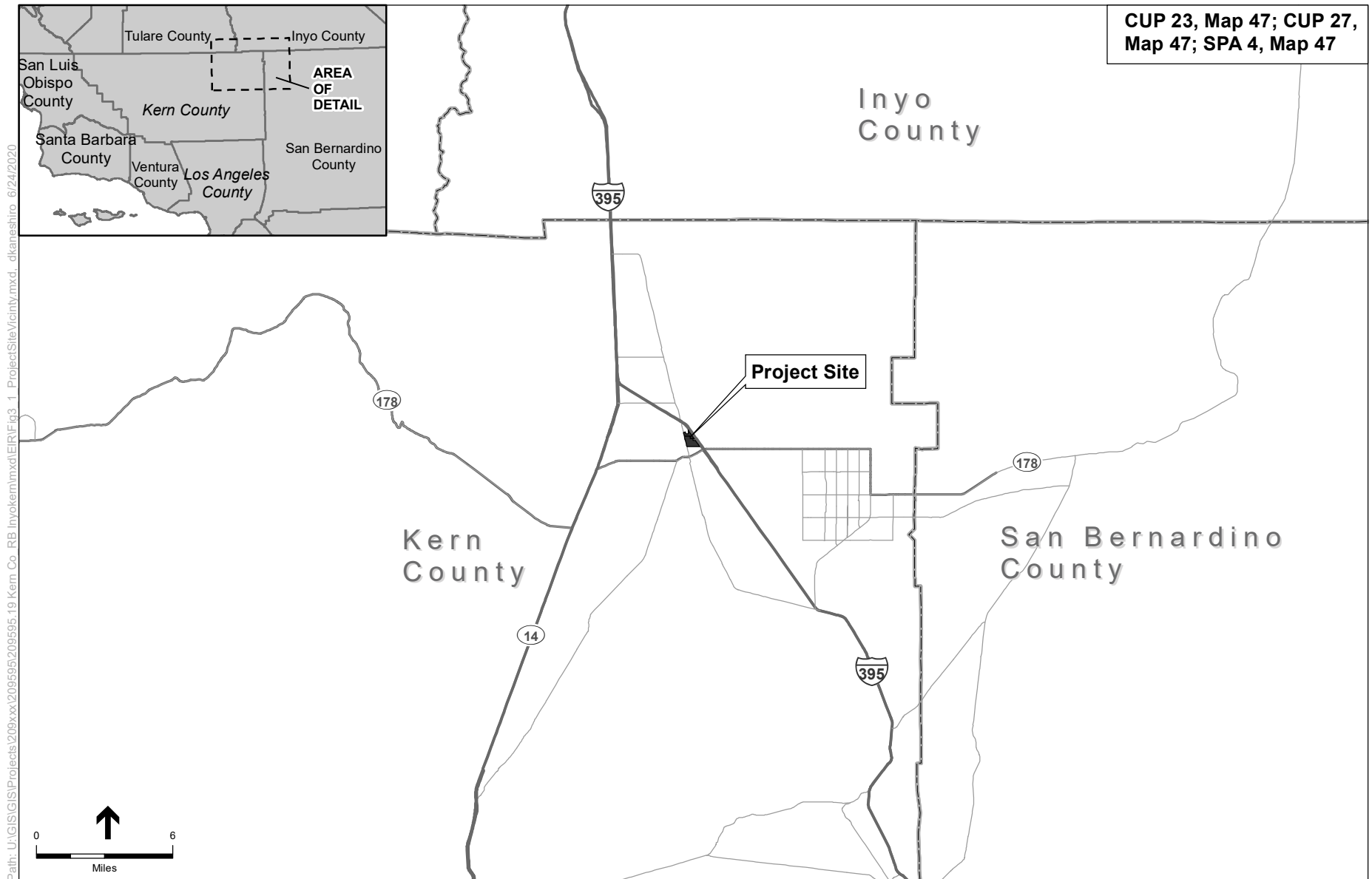


Figure 3-1: PROJECT SITE VICINITY



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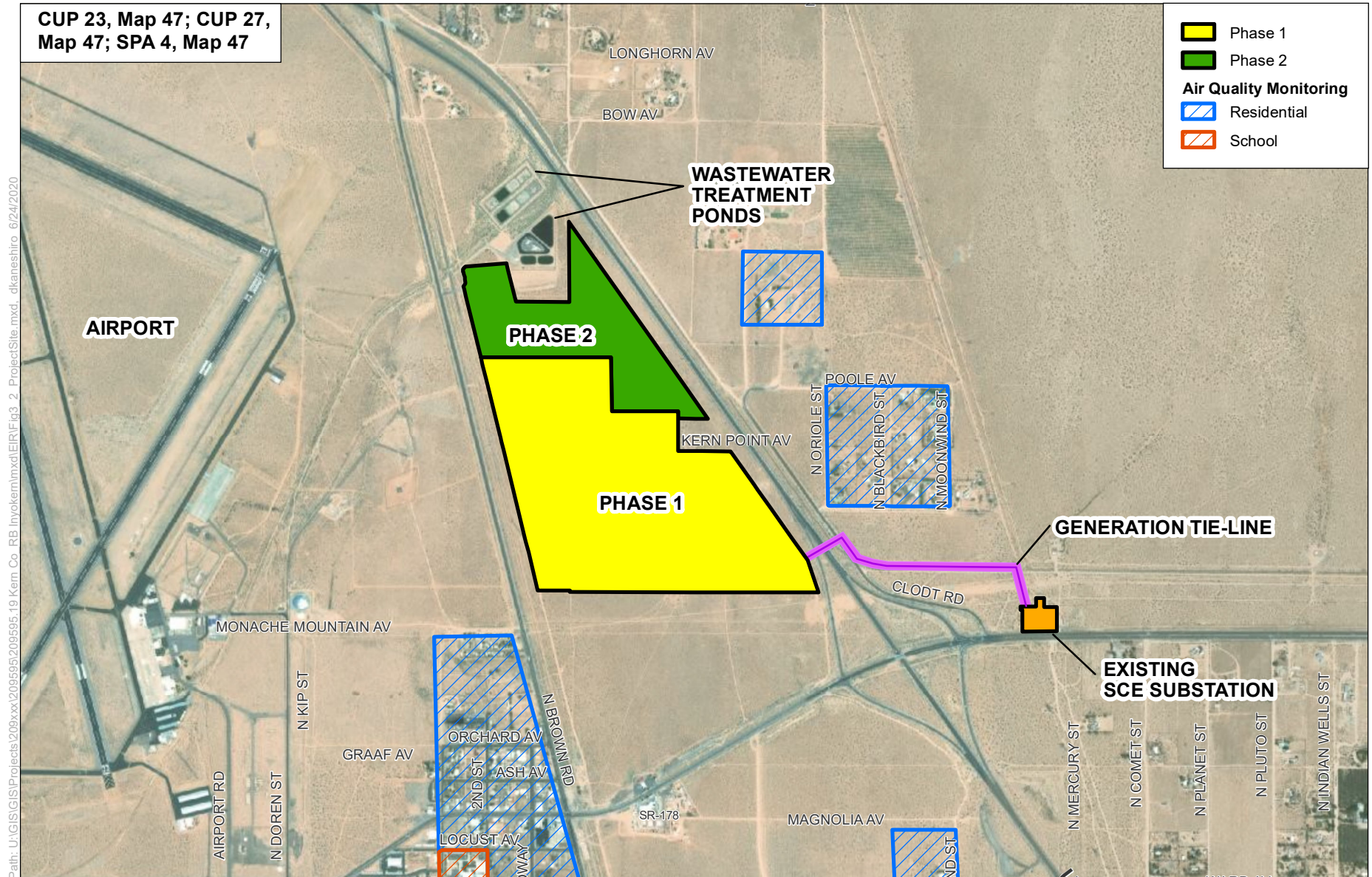


Figure 3-2: PROJECT SITE

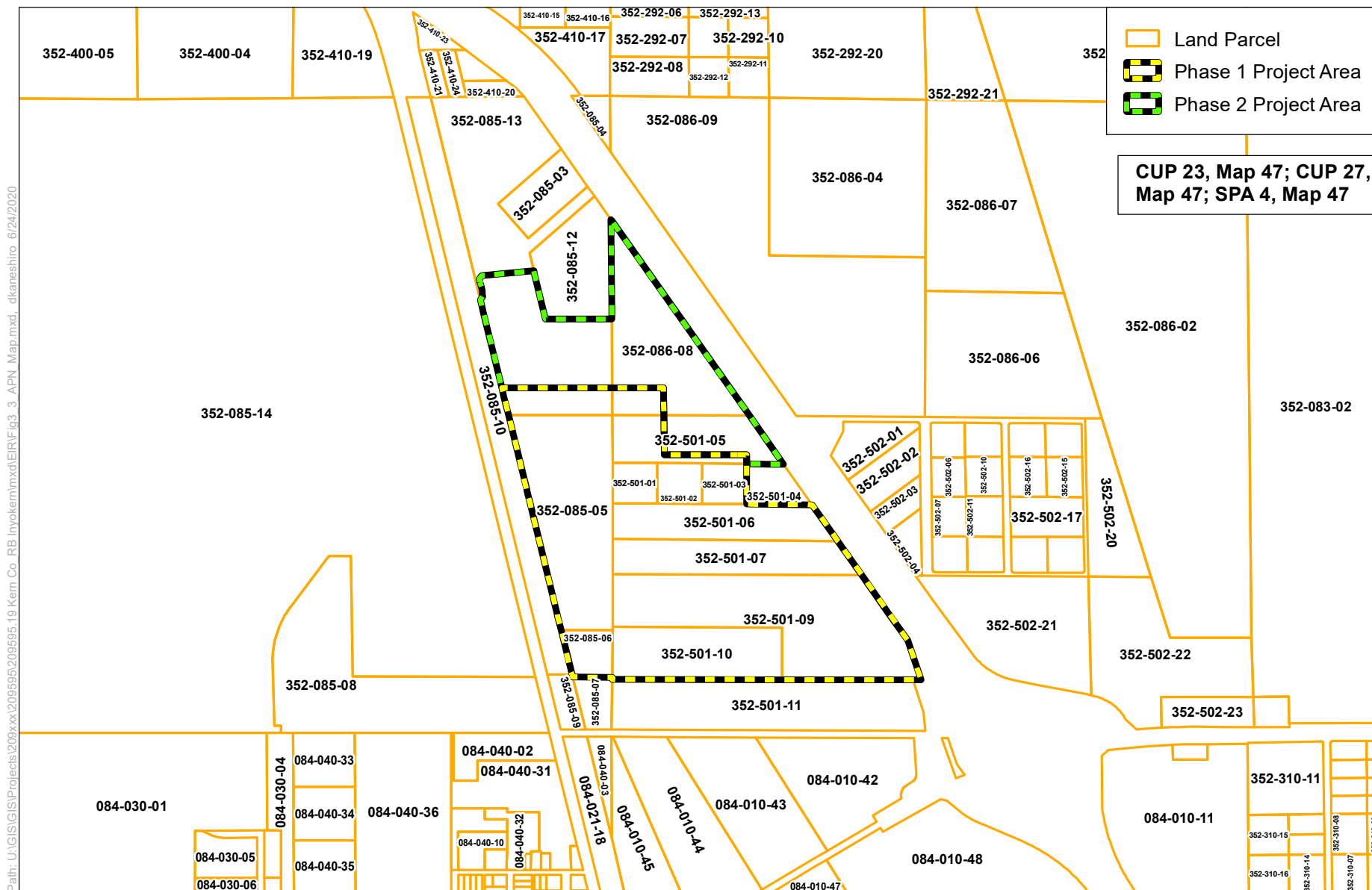
TABLE 3-1: PROJECT ASSESSOR PARCEL NUMBERS – RB INYOKERN PHASE 1

APN	Acres (approx.)	Zoning	Inyokern Specific Plan
352-085-05	26.59	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-085-06	3.50	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-086-08*	8.45*	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-01	2.82	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-02	2.89	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-03	2.85	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-05	5.02	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-06	11.99	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-07	13.20	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-09	33.32	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-10	13.84	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
Total	124.56		

TABLE 3-2: PROJECT ASSESSOR PARCEL NUMBERS – RB INYOKERN PHASE 2

APN	Acres (approx.)	Zoning	Inyokern Specific Plan
352-086-08*	35.17*	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
352-501-05	6.76	M-2	7.2/2.5 (Service Industrial/Flood Hazard)
Total	41.93		

* With recordation of LLA 48-19



3.3 Project Objectives

The project has the following objectives, as identified by the project proponent:

- Minimize the network upgrade costs borne to the consumer by locating the project on a transmission line that does not require major upgrades to accommodate the new facility;
- Maximize the use of existing transmission infrastructure;
- Ensure a short distance of the point of interconnection to minimize the cost on the generator interconnection tie-line and reduce environmental impacts;
- Develop a site to maximize renewable energy production and economic viability through the installation of up to 26.6 MW of solar PV panels and/or energy storage facilities on private lands with excellent solar resources (an average insolation value of 6 kilowatt-hours per square meter per day (kWh/m²/day) or greater);
- Ensure that the project can be constructed in a technologically feasible manner and operated in a manner that allows electricity to be provided at a competitive price;
- Locate the facility on land that is zoned for industrial use with no agricultural value, or soil quality conducive to agriculture;
- Support California's efforts to reduce greenhouse gas (GHG) emissions consistent with the timeline established in 2006 under California Assembly Bill 32, the Global Warming Solutions Act of 2006, which requires the California Air Resources Board to reduce statewide emissions of GHGs to at least the 1990 emissions level by 2020. This timeline was updated in 2016 under Senate Bill 32, which requires that statewide GHG emissions are reduced to at least 40 percent below the statewide GHG emissions limit by 2030; and
- Support California's aggressive RPS Program consistent with the timeline established by Senate Bill 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") as approved by the California legislature and signed by Governor Brown in September 2018, which increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045.

3.4 Environmental Setting

3.4.1 Regional Setting

The project is located in the eastern high desert region of Kern County in the unincorporated community of Inyokern, approximately 9.4 miles south of Inyo County and 9.3 miles west of San Bernardino County. The project site is approximately 5.5 miles west of the City of Ridgecrest, 3 miles east of the community of Indian Wells, and 8 miles west of the China Lake Naval Air Weapons Station. Land uses in the project area are both industrial and residential, as well as some open space. Topography in the project area is relatively flat. The project area is primarily accessible by SR 178 (West Inyokern Road) onto to Brown Road. US 395, located adjacent to the project site on the northeast, is an access control restriction; hence, no project site access is proposed from this route. Another major north-south roadway in the region is State Route 14 (SR 14), a four-lane highway located approximately 3.2 miles east of the project. Emergency access to both facilities is provided off of Brown Road.

3.4.2 Surrounding Land Uses and Project Site Conditions

The project site is located on undeveloped privately-owned land in the community of Inyokern. The project site is relatively flat and has an elevation that ranges from approximately 2,300 to 2,400 feet (700 to 730 meters) above mean sea level (amsl). Existing development in the project vicinity includes a wastewater treatment plant, the Inyokern Airport, single family residences, and undeveloped, open space. Forest, parkland, and preserve areas in the vicinity of the project site include the Sequoia and Kings Canyon National Parks located approximately 20 miles northwest. The project site is not located within the boundaries of an adopted Habitat Conservation Plan. The nearest residence is a small rural residential tract approximately 0.30 miles east of SR 395 and 500 feet southwest of the project site. The community of Inyokern is located to the southwest of the project site and includes various single-family residences. Scattered residences are also located east of the project site. The China Lake Naval Air Weapons Station, located approximately 8 miles east of the project site, has an existing utility scale solar facility. An expanded list of existing, approved, and pending projects in the vicinity of the project site is provided in **Table 3-5, Cumulative Projects List**, at the end of this section.

The project would develop approximately 166.5 acres of property, consisting of private undeveloped land. The project site is not designated by the California Department of Conservation (DOC) as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The DOC designates the project site as grazing land, non-agricultural and natural vegetation, and vacant or disturbed lands. No lands within the project site are subject to a Williamson Act Land Use contract.

As shown in **Figure 3-4, Flood Zones**, the project site is located within Flood Zone A (100-year flood zone) as defined on the Flood Insurance Rate Map (FIRM) issued by the Federal Emergency Management Agency (FEMA). This indicates the site has a 1 percent potential of annual flooding. There are no identified State-designated Alquist-Priolo Earthquake Fault Zones on the project site. The nearest active fault is the Little Lake Fault, which is located approximately 7 miles northeast of the project site. According to the Kern County ALUCP, the project site is located within Zones B1 and C of the Inyokern Airport influence area.

The project would be served by the Kern County Sheriff's Office for law enforcement and public safety. The closest sheriff station is the Ridgecrest Substation, located approximately 7.4 miles southeast of the project site, at 128 East Coso Avenue in the City of Ridgecrest. The Kern County Fire Department (KCFD) provides fire protection and emergency medical and rescue services for the project area. The closest KCFD fire station is Station #73, located approximately 0.6 miles west of the project site at 6919 Monache Mountain Avenue in the community of Inyokern. The closest school to the project site is Inyokern Elementary School, located approximately 0.22 miles southwest of the project site. The closest hospital to the project site is the Ridgecrest Regional Hospital in the City of Ridgecrest, approximately 7 miles to the east.

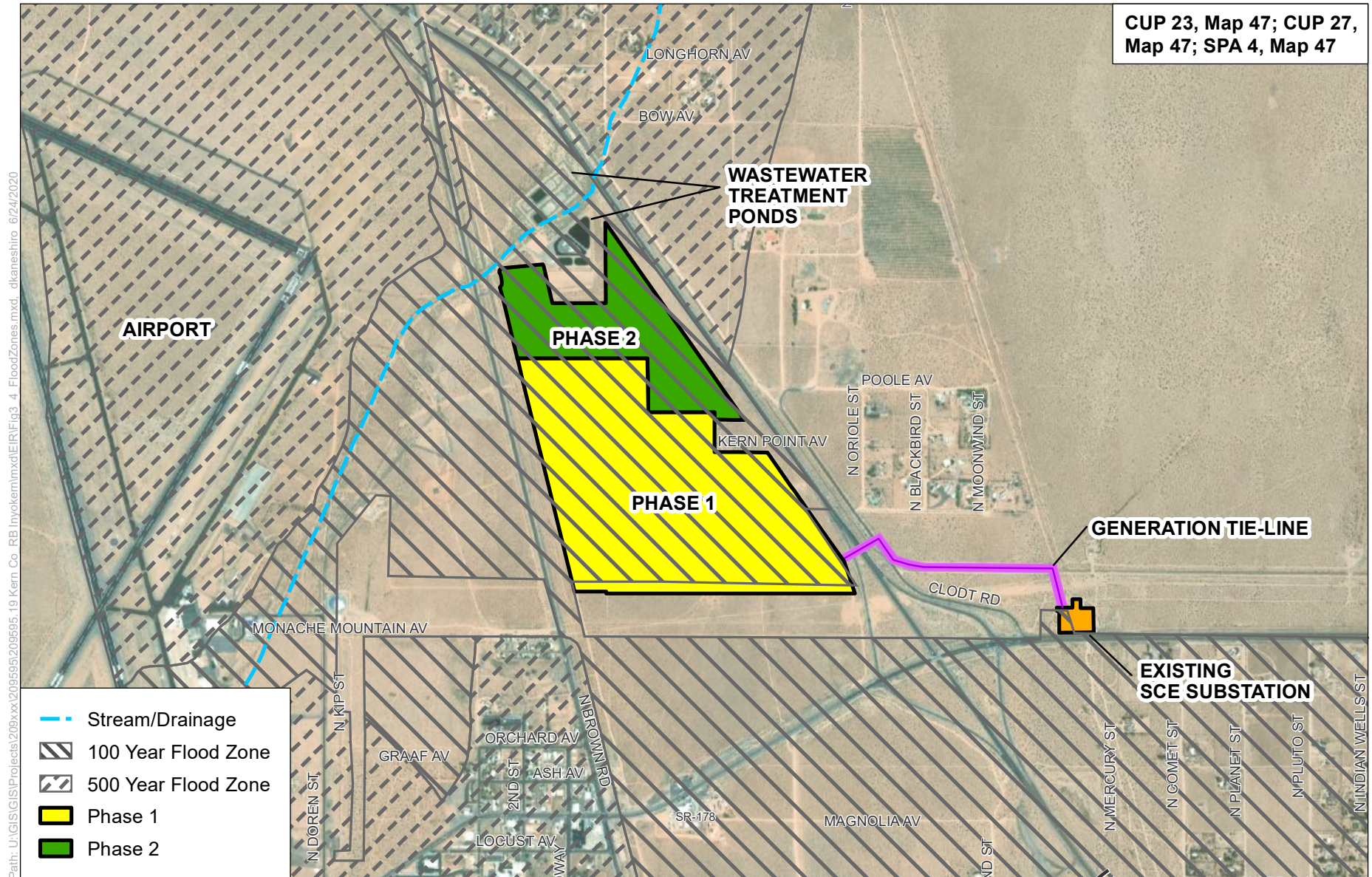


Figure 3-4: FLOOD ZONES

3.5 Land Use and Zoning

3.5.1 Kern County General Plan and Inyokern Specific Plan

The project site is located within unincorporated Kern County and within the administrative boundaries of the Inyokern Specific Plan. The Inyokern Specific Plan places the project site within map code designation of 7.2/2.5 (Service Industrial/Flood Hazard). The project proposes to amend the Inyokern Specific Plan Circulation Element to remove a portion of the designated future secondary collector from Brown Road to the southern boundary of the project site. **Figure 3-5**, *Amendment to Inyokern Specific Plan Circulation Element*, depicts the proposed amendment to the Inyokern Specific Plan Circulation Element. **Table 3-3**, *Project Site and Surrounding Land Uses*, and **Figure 3-6**, *Existing General Plan and Inyokern Specific Plan Designations*, highlight the land uses for the project site and surrounding area.



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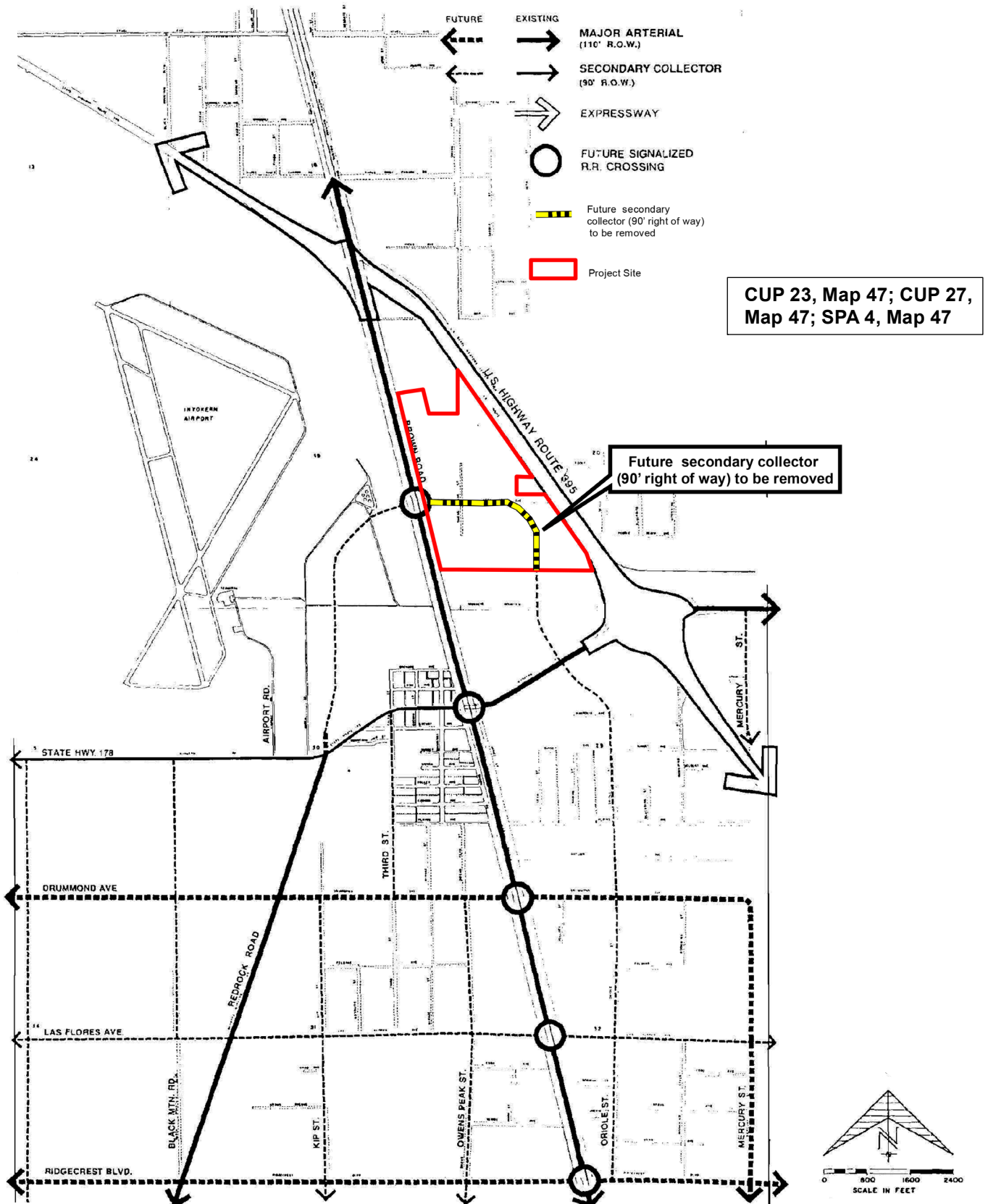
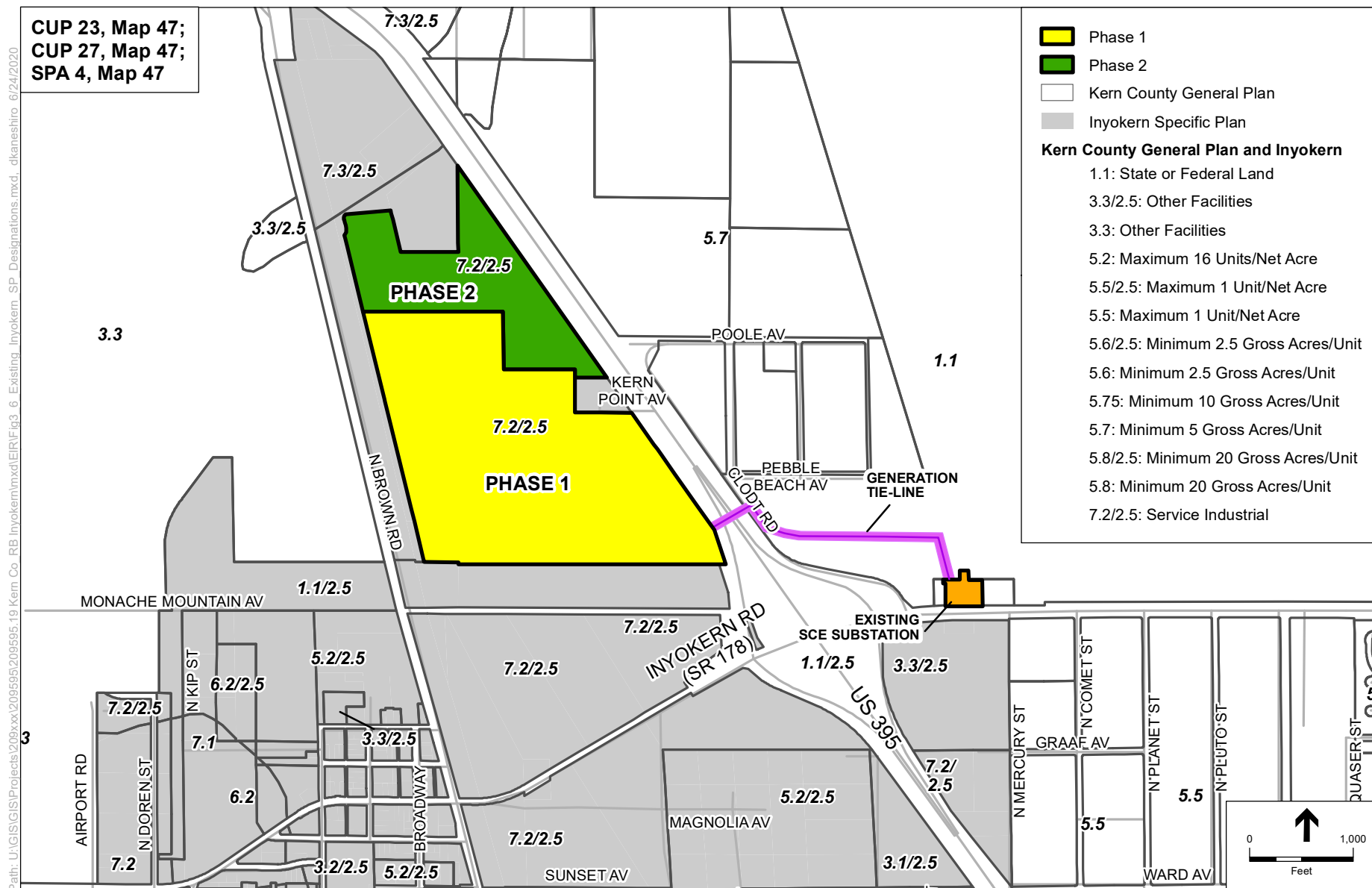


Figure 3-5: AMENDMENT TO INYOKERN SPECIFIC PLAN CIRCULATION ELEMENT

TABLE 3-3: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use	Existing Land Use Designations	Existing Zoning Classifications
Project Site	Undeveloped, Partially Disturbed Land	<i>Inyokern Specific Plan:</i> 7.2/2.5 (Service Industrial/Flood Hazard)	M-2 (Medium Industrial)
North	Largely Undeveloped, Industrial, Wastewater Treatment Plant	<i>Inyokern Specific Plan:</i> 7.3/2.5 (Heavy Industrial/Flood Hazard) 5.5 (Residential – 1 Dwelling Unit/Net Acre Maximum) 5.6 (Residential – Minimum 2.5 Gross Acres/Unit) 5.7 (Residential – 5.0 Gross Acres/Dwelling Unit Maximum) 5.8 (Residential – 20+ Gross Acres/DU Maximum) 7.1 (Light Industrial)	M-2 (Medium Industrial) E (2 ½) RS MH (Estate 2.5 Acres – Residential Suburban – Mobile Home Combining) E (5) RS MH (Estate 5 Acres – Residential Suburban – Mobile Home Combining)
South	Undeveloped land	<i>Inyokern Specific Plan:</i> 1.1/2.5 (State or Federal Land/Flood Hazard)	M-2 (Medium Industrial) M-2 PD (Medium Industrial-Precise Development Plan) OS (Open Space)
East	Roadway, undeveloped, Scattered residences	5.7 (Residential – Minimum 2.5 Gross Acres/Unit); 5.8 (Residential – 5 Gross Acres/Unit) 5.5/2.5 (Residential – 1 Dwelling Unit/Net Acre Maximum/Flood Hazard) 5.8/2.5 (Residential – 20+ Gross Acres/DU Maximum/Flood Hazard) 5.8 (Residential – 20+ Gross Acres/DU Maximum) 5.5 (Residential – 1 Dwelling Unit/Net Acre Maximum) 1.1 (State or Federal Land)	A-1 MH (Limited Agriculture – Mobile Home Combining) OS (Open Space) E (1) RS MH (Estate 1 Acre – Residential Suburban – Mobile Home Combining) E (2½) RS MH (Estate 2.5 Acres – Residential Suburban – Mobile Home Combining) E (10) RS MH (Estate 10 Acres – Residential Suburban – Mobile Home Combining) E (20) RS MH (Estate 20 Acres – Residential Suburban – Mobile Home Combining)
West	Roadway, Inyokern Airport	7.2/2.5 (Service Industrial/Flood Hazard) 3.3 (Other Facilities) 1.1/2.5 1.1/2.5 (State or Federal Land/Flood Hazard) 5.6/2.5 (Residential – Minimum 2.5 Gross Acres/Unit/Flood Hazard) 5.2/2.5 (Residential – 16 Dwelling Units/Net Acre Maximum/Flood Hazard) 6.2 (General Commercial) 6.2/2.5 (General Commercial/Flood Hazard)	M-1 PD H (Light Industrial, Airport Approach Height Combining, Precise Development Combining) OS (Open Space)



3.5.2 Kern County Zoning Ordinance

The entire project site is also subject to the provisions of the Kern County Zoning Ordinance. As shown in **Figure 3-7, *Existing Zoning***, the Kern County Zoning Ordinance designates the project site as being within the M-2 (Medium Industrial) zone district. Pursuant to Kern County Zoning Ordinance Section 19.38.030, solar facilities are permitted on properties zoned M-2, subject to approval of a Conditional Use Permit (CUP).

The Kern County Zoning Ordinance includes structure height limitations that are designated by the U.S. military for sites occurring within the vicinity of a military flight zone. In order to ensure that projects within Kern County do not conflict with military flight test pathways, Kern County adopted an ordinance that restricts the height of structures within these pathways.



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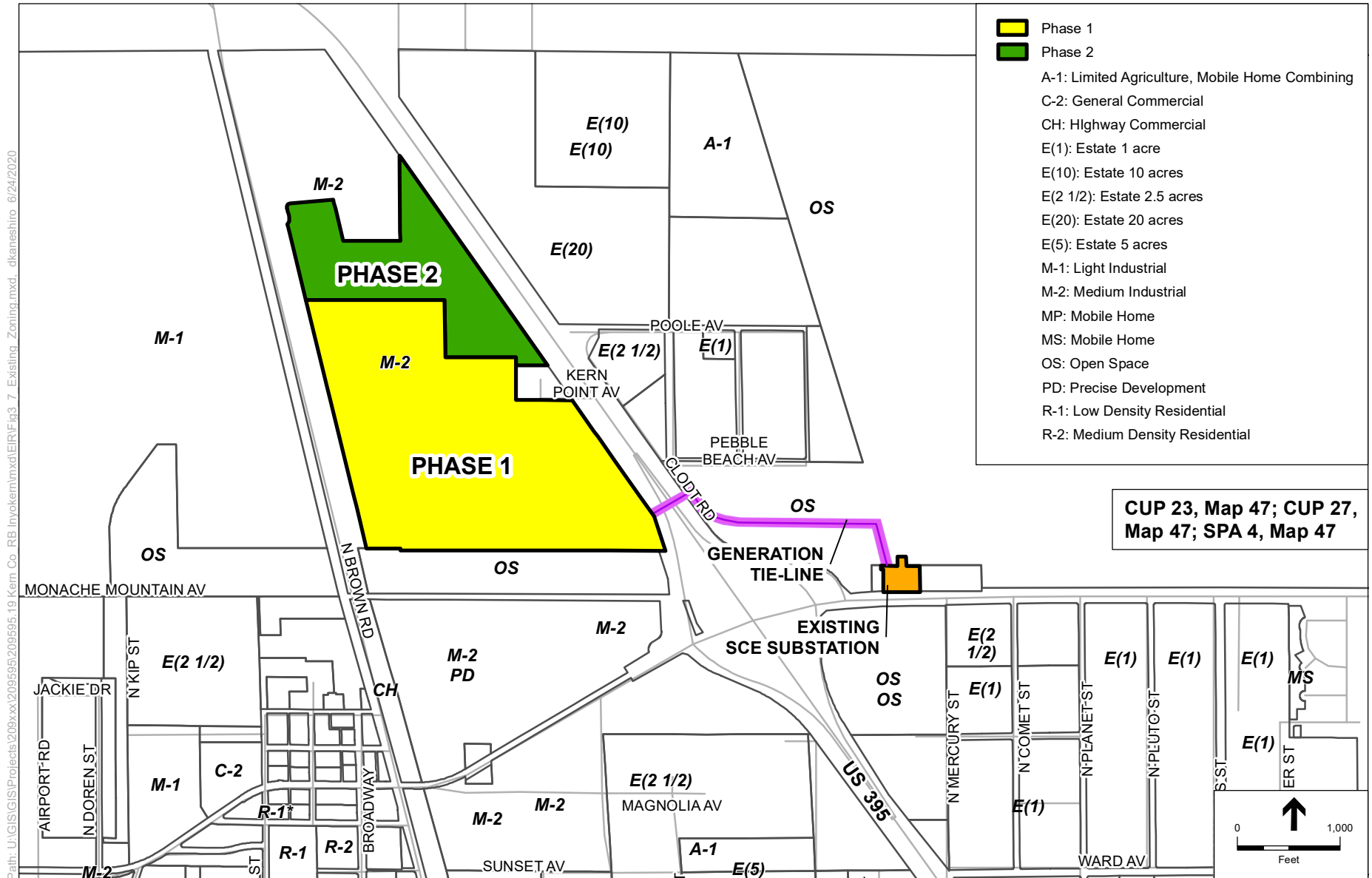


Figure 3-7: EXISTING ZONING

3.6 Proposed Project

The proposed project would include the development a solar facility and associated infrastructure with the capacity to generate up to 26.6 MW of renewable electric energy with energy storage capacity, located on approximately 166.5 acres of privately owned land in the eastern high desert region of Kern County in the unincorporated community of Inyokern.

Since the circulation of the Initial Study/Notice of Preparation, there are have been changes to the Project Description. These changes include:

Revisions

- The total project acreage from approximately 237.4 acres to approximately 166.5 acres
- Energy produced from 32 MW to 26.6 MW
- Conditional Use Permit No. 23, Map No. 47 for Phase 1 of the proposed project to include approximately 124.56 acres, rather than 143 acres

Additions

- Conditional Use Permit No. 27, Map No. 47 for Phase 2 of the proposed project to include 41.93 acres

Deletions

- Conditional Use Permit 6, Map 47-29 is withdrawn

The proposed project requests the following CUPs to allow for the construction and operation of a PV solar facility and associated infrastructure necessary to generate 26.6 MW of renewable electrical energy and energy storage capacity, as follows:

- Conditional Use Permit No. 23, Map No. 47 (Phase 1) to allow for the generation and storage of 20 MW of renewable electric energy on approximately 124.56 acres
- Conditional Use Permit No. 27, Map No. 47 (Phase 2) to allow for the generation and storage of 6.6 MW of renewable electric energy on approximately 41.93 acres

The proposed project requests the following amendment to the Circulation Element of the Inyokern Specific Plan:

- Specific Plan Amendment (SPA) No. 4, Map No. 47 to the Circulation Element of the Inyokern Specific Plan to remove a portion of the designated, but not constructed, future secondary collector from Brown Road to the southern boundary of the project site

3.7 Project Characteristics

Power generated by the proposed project would be transferred directly to SCE's Inyokern 33 kV electrical distribution line, which connects to the existing SCE Inyokern Substation approximately 0.5 miles east of the project site. The solar facility would utilize PV technology and consist of solar arrays mounted on either fixed or tracking structures mounted to vertical posts. The solar facility would operate year-round and would generate electricity during the daylight hours when electricity demand is at its peak.

The proposed project consists of two separate sites that comprise a combined approximate 166.5-acre project site (see Figure 3-2, *Project Site*). These two sites may be combined and constructed at the same time as a single, 26.6 MW AC solar facility, or alternatively, could be developed as two independent solar facilities. Phase 1 would include 20 MW of renewable energy generating solar facilities and battery energy storage on approximately 124.56 acres, and Phase 2 would include 6.6 MW of renewable energy generating solar facilities and battery energy storage on approximately 41.93 acres.

The project's facilities would include the parts and equipment to generate solar power, convert and connect it to the grid, allow site access and report the needed meteorological and power telemetry to the required stakeholders.

The power conversion process starts with the modules and ends with the medium voltage (MV) protection equipment arranged in the following sequence. PV modules are mounted to either a fixed or tracking support structure. They are then grouped into series-strings in parallel, using a combiner box with fuses to protect each incoming wire. Several combiners lead to an inverter that converts direct current (DC) electricity to alternating current (AC) electricity. The inverters output to transformers to step the inverter voltage up to 34,500 volts. This MV is collected using buried or overhead wires and routed to the MV protection and metering equipment.

A typical solar facility and substation are shown in **Figure 3-8**, *Typical Solar PV Power Plant Facility*, and **Figure 3-9**, *Typical Substation*, respectively. A conceptual site plan for the project site during construction is shown in **Figure 3-10**, *Phase 1 Site Plan*, and **Figure 3-11**, *Phase 2 Site Plan*.

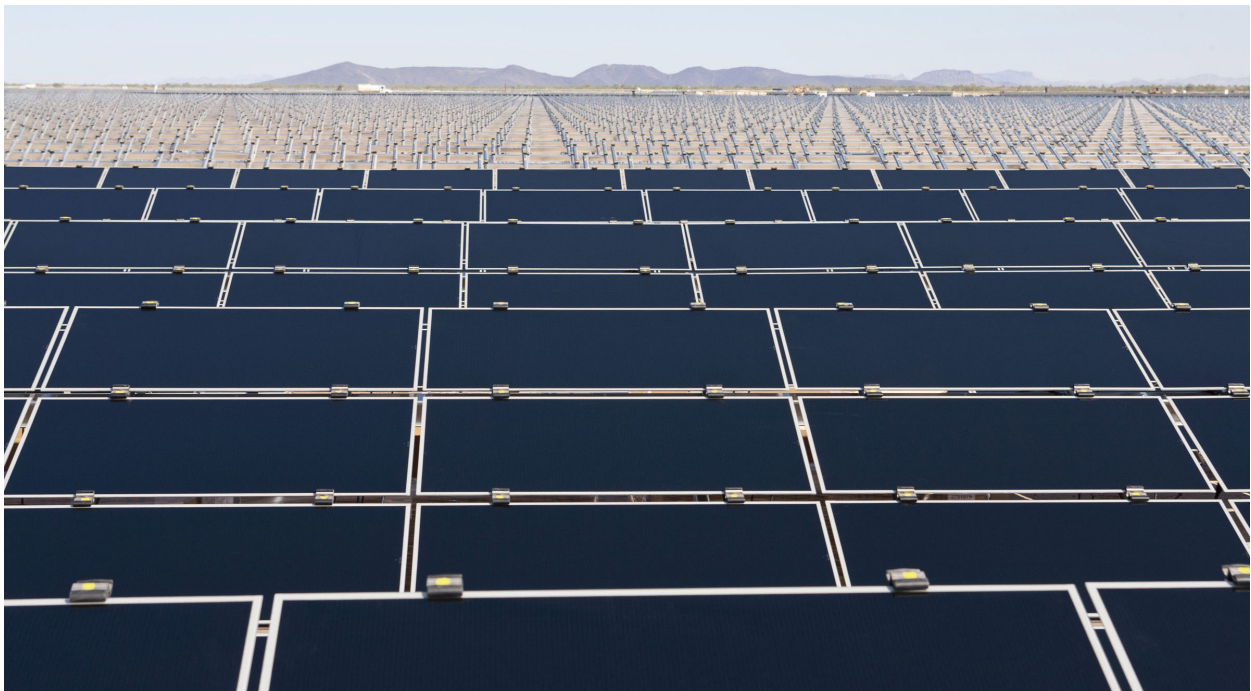
The combined project would include the following components.

- Solar PV generating facilities and solar modules;
- Energy storage systems (ESS);
- Operations and maintenance (O&M) building;
- Switchyards;
- An electrical collector system and inverters;
- One or two generation-tie (gen-tie) lines and an interconnection to the Statewide grid;
- Telecommunication facilities;
- An onsite meteorological station;
- Site access and security measures; and
- Potential SCE offsite upgrades.

The components listed above are described in more detail below.



Typical solar field



Oblique view of typical solar field

CUP 23, Map 47; CUP 27,
Map 47; SPA 4, Map 47

Figure 3-8: TYPICAL SOLAR PV POWER PLANT FACILITY



Typical electrical substation

CUP 23, Map 47; CUP 27,
Map 47; SPA 4, Map 47

Figure 3-9: TYPICAL SUBSTATION



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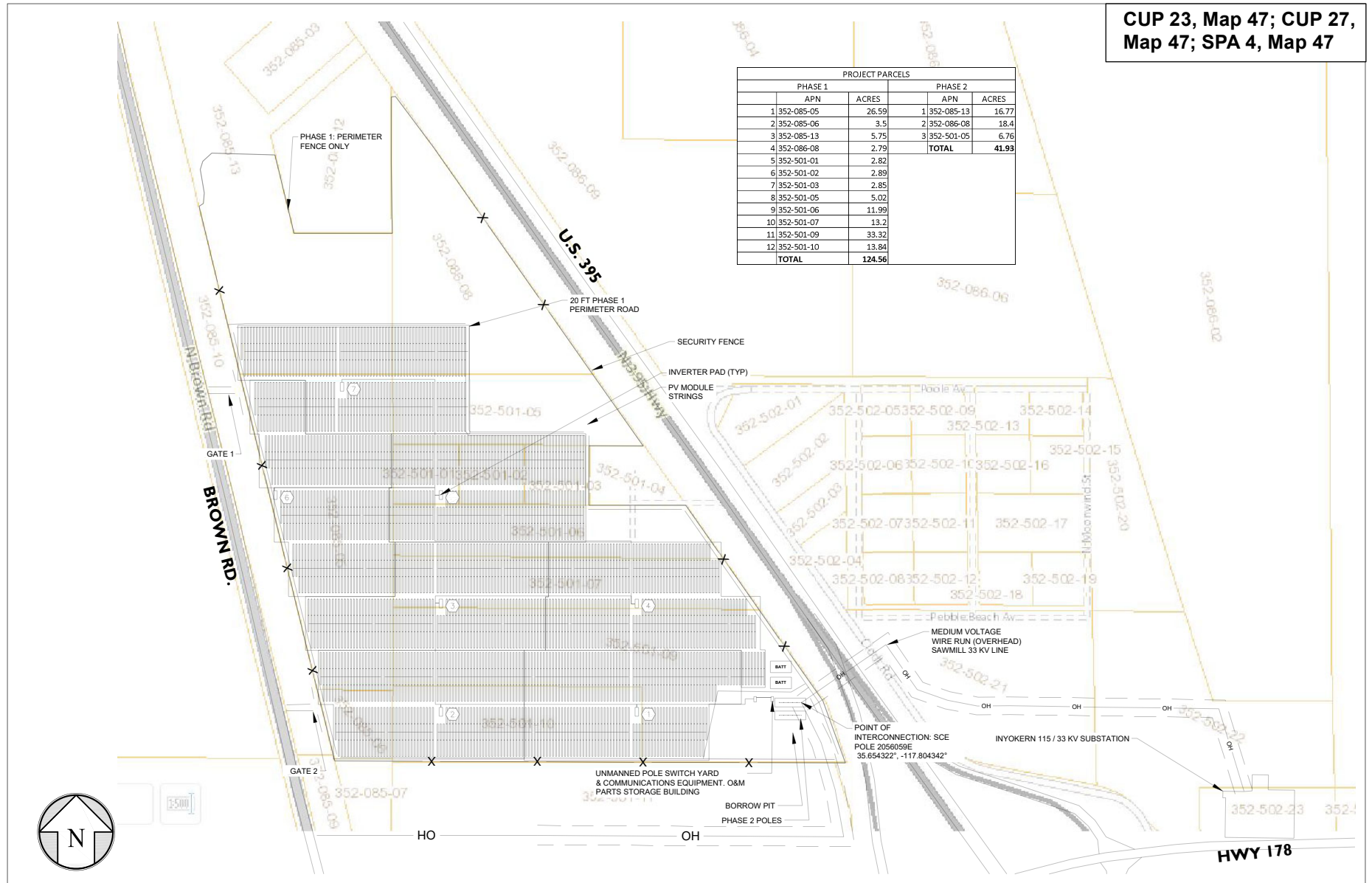


Figure 3-10: PHASE 1 SITE PLAN



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
RB INYOKERN SOLAR PROJECT

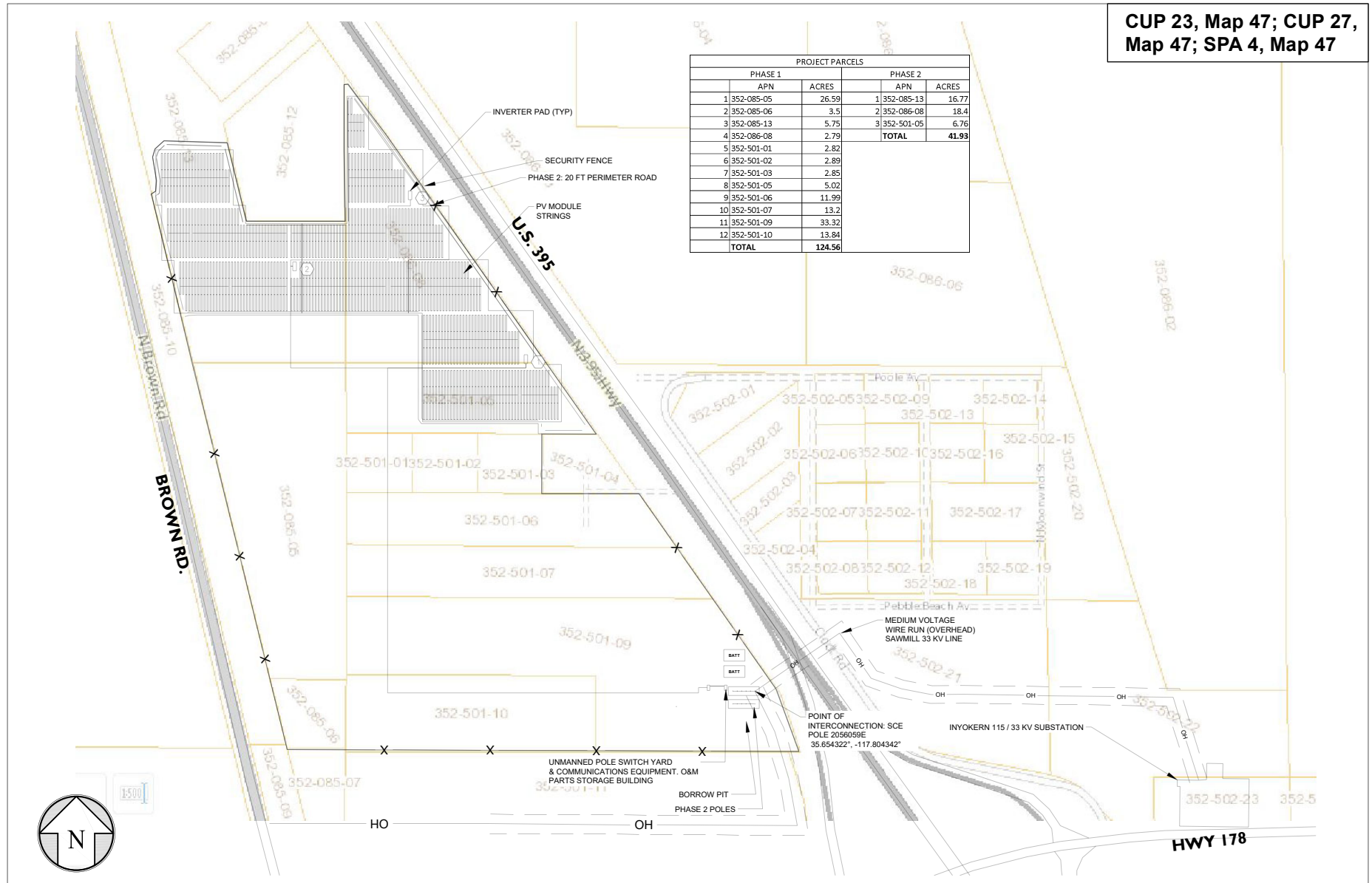


Figure 3-11: PHASE 2 SITE PLAN

Solar PV Generating Facilities and Solar Modules

The proposed project would utilize system blocks to convert solar energy directly to electrical power for export to the electrical grid. The proposed project would install PV modules that would be mounted on steel support posts that are pile driven into the ground and connected to inverters. The modules would be made of a thin film material or polycrystalline silicon material covering the glass panes, which would be dark in color, highly absorptive, and have minimum reflectivity. The modules would be manufactured at an offsite location and transported to the project site.

Solar modules for the proposed project will be a single axis tracker system. Depending on the modules used, the panels would measure between 4 and 7 feet in length, and the total height of the panel system measured from ground surface would be approximately 4 to 10 feet. The length of each row of panels would be approximately 300 feet and would be oriented in the east–west direction in the case of fixed-mounts being utilized, and oriented in the north–south direction in the case of single-axis trackers being utilized.

Solar Trackers

- Phase 1 would include:
 - Approximately 74,424 single-axis tracker panels
- Phase 2 would include:
 - Approximately 24,556 single-axis tracker panels

Access roads would be located throughout the project area. Spacing between each row would be approximately 8 to 22 feet. Single-axis tracking systems would employ a motor mechanism that would allow the arrays to track the path of the sun (from east to west) throughout the day. The motors would be installed after the horizontal cross-members described above are in place. In the morning, the panels would face the east. Throughout the day, the panels would slowly move to the upright position at noon and on to the west at sundown. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise. The project, as proposed, would be developed with traditional or second-generation technology.

A solar tracking mechanism is used to maximize the solar energy conversion efficiency by keeping the modules perpendicular to the sun's energy rays throughout the day. This completed assembly of PV modules mounted on a framework structure is called a "tracker" because it tracks the sun from east to west. Single-axis trackers would increase the efficiency of energy production from the arrays relative to a fixed tilt system. The exact tracker manufacturer and model would be determined in the final design. All trackers are intended to function identically in terms of following the motion of the sun.

Module layout and spacing is optimized to balance energy production versus peak capacity and would depend on the sun angles and shading caused by the horizon surrounding the project. The spacing between the rows of trackers is dependent on site-specific features and would be identified in the final design. The final configuration would allow for sufficient clearance for maintenance vehicles and panel access.

Energy Storage Systems

The proposed project may have up to two onsite ESS (one for each facility developed). Each ESS would be able to provide at least four hours of energy storage capacity for the electric grid. Each ESS would occupy approximately a 65-by-150-foot area within the project site and would consist of battery storage

modules placed in either multiple prefabricated enclosures or steel buildings near the onsite switchyard. The ESS would either be installed contemporaneously or after the installation of the PV facilities. The final location is dependent on final design and may require construction of a vault or other form of supporting foundation similar to other structures onsite.

The ESS would consist of battery banks housed in electrical enclosures and buried electrical conduit. The battery enclosures would have fire suppression equipment installed that automatically suppress thermal emergencies. Although the energy storage technology has not been determined at this time, it could include any commercially available battery technology, including but not limited to lithium ion, lead acid, sodium sulfur, and sodium or nickel hydride or any type of flow batteries. Battery systems are operationally silent and flywheel systems have a noise rating of 45 dBA. Power stored by the energy storage facility would be transferred by the existing Sawmill 33 kV electrical distribution line that connects to the existing SCE Inyokern Substation approximately 0.5 miles east of the project site.

Operation and Maintenance Buildings

The proposed project would include one unmanned O&M building. The O&M building would be a prefabricated commercial coach structure that measures up to 25 feet by 25 feet in area and 12 feet high. The O&M activities would not require permanent employees; therefore, no septic tanks or permanent toilets would be required, and no permanent water source is necessary. Water for day to day maintenance will be either from an on-site water well or trucked onto the site. The Inyokern Community Services District would provide water during construction and operation of the project. Electrical service to support the facility and equipment would be provided by SCE.

Switchyards

The proposed project would have a total of two switchyards (one on Phase 1 and one on Phase 2). Switchyards would include individual protection equipment that collects the electricity from all the inverter stations, combines it, and passes it through large breaker (often called a recloser) that protects the site from overcurrent events. Power measurement would be done using Potential and Current transducers that feed signals to a power meter. A customer switch would be included that can be used to show a visible disconnect from the grid. This switch may be pole mounted equipment at 25 feet separation or metal enclosed switch gear. In either case, the MV equipment would be surrounded by a fence to restrict access to all but qualified personnel.

Each switchyard would have two sets of gear: the gear the customer owns and controls and the gear the utility owns and controls. Included in the customer-owned gear are a recloser (or a large breaker) and the metering devices (such as potential transducers and current transducers) that send signals to a meter cabinet a short distance away. This meter cabinet then sends the information to the local Supervisory Control and Data Acquisition (SCADA) system to report offsite or store electricity locally. There is also customer owned-switch that provides a visible indication of grid disconnect should disconnection become necessary. The utility-owned gear includes a separate recloser that is pole-mounted as well as metering devices. Approximately 150 feet of 33 kV gen-tie line would be present onsite extending from the utility recloser to connect to the existing Sawmill 33 kV distribution circuit that leads to the SCE Inyokern Substation.

Electrical Collector System and Inverters

The DC-AC electrical collection system includes all cables and combiners that collect electricity from the panels, deliver it to the inverters, collect it from the inverters, and ultimately deliver it to the project switchyard. The collection system would likely be installed along internal access roads to collect power from the rows of modules and deliver it to the switching station. This collection system would likely be installed in subsurface trenches; in some areas of the site, part or all of the collection system may be housed in above-grade raceways mounted on supports approximately 24 to 36 inches above ground level. The collection system would be rated at between 1,000 and 2,000 volts DC until it reached the inverters and a 34.5 kV AC intermediate voltage system between the inverters and the project switching station.

The DC electricity produced by the solar panels is converted to three-phase AC by a series of inverters. AC is the type of electricity usable by the electric utility and is the form required to connect to the transmission system. The inverter pad equipment includes a transformer that steps up the electricity in its new form to an output voltage of 34.5 kV. This electricity is then transmitted via the medium voltage collection system to the switching station.

Generation-Tie Line(s) and Interconnection to the Statewide Grid

The project would construct one or two onsite 33 kV electrical gen-tie lines from the proposed project transformers to the existing 33 kV Sawmill circuit, which is located along the 20 MW facility's eastern boundary. As mentioned above, power generated by the proposed project would be transferred directly to SCE's Inyokern 33 kV line. Construction would include appropriate environmental monitoring.

Telecommunication Facilities

Onsite equipment communication would be conducted via a combination of options including a secured wireless mesh network, copper and fiber data cables both on equipment racks and underground.

Telecommunication equipment is needed to meet the communication requirements for interconnecting with the SCE and California Independent System Operator (CAISO) grid. Telecommunication equipment would allow the project site to collect information from onsite devices, communicate with offsite facilities and control the site. To provide for offsite bidirectional communication, a fiber optic cable or a T1 data line from local providers would be connected to the site with the appropriate allocations and security. This cable or data line may include both underground and overhead routing paths. The project's unmanned O&M buildings would house an automated field control system. The controls generally include a field supervisory controller in a central location and local microprocessor controllers connected to each tracker (if trackers are to be used). The field control system monitors solar insolation, wind velocity, and tracker performance and status, and communicates with all of the local microprocessor controllers. When the appropriate conditions exist, the field supervisory controller initiates the trackers' daily tracking of the sun, and at the end of the day stows the trackers in the solar array. The project would utilize local exchange carrier services to support remote monitoring requirements. The project would connect to telecommunication fiber optic lines owned and managed by existing service providers.

The project site's electricity would be controlled using a SCADA system comprised of onsite meters, relay control devices, communications gateways and control computers that limits the amount of energy the plant can export and to respond to external utility or owner commands that adjust power, power factor and other

grid required commands. This equipment would be located either in a metal enclosure or a small controls structure with the proper temperature and backup power equipment that is needed for operation. The SCADA system is critical to the CAISO and SCE utility interconnection, and for the proper operation and maintenance of the project, which utilizes propriety software, a fiber optic transmission system, a telephone, radio and/or microwave communications network, and other means of communication such as radio-links and phase loop communication systems that may be implemented to meet the requirements. The SCADA system functions as a remote start, stop, reset, and data aggregator for the facilities. The SCADA system would also control the onsite switchyard reclosers allowing for fully centralized operation of the project to meet all CAISO and utility interconnection requirements.

Onsite Meteorological Station

The project would include at least one onsite solar meteorological station located near the Phase 1 O&M building. The onsite solar meteorological station would consist of solar energy (irradiance) meters, as well as an air temperature sensor and wind anemometer. This equipment (specifically the wind anemometer) would have an estimated height of up to 15 feet.

Site Access and Security Measures

During operation, the project would be accessed from two separate entrances from Brown Road. An additional site access point for emergency vehicles would also be available to provided off of Brown Road. Access to Phase 2 would be directly from Phase 1; there would be no access to Phase 2 directly from Brown Road. To facilitate access for fire and work crews and equipment delivery, the site would have internal service roads typically composed of compacted rock. All road improvements would be completed per County code and regulations. Typical site access would be approximately 20 feet wide, accommodating a 56-foot turning radius in both directions. The rows of solar panels would be separated by access ways. Internal site circulation would include approximately 20-foot-wide perimeter roads consisting of crushed stone and approximately 16-foot-wide O&M roads among the solar arrays consisting of crushed stone or native soil.

Chain-link security fencing would be installed around the site perimeter and other areas requiring controlled access to restrict public access during construction and operations. The security fence would be between approximately 7 and 8 feet high. The fence posts would be set in concrete. Additional security may be provided through the use of closed circuit video surveillance cameras and intrusion systems. Signs would be installed to achieve appropriate safety and security as expected in a solar power facility. Proposed signage would include signs specifying high voltage danger, site under surveillance, caution electric shock, etc. Any signs as required by the National Electrical Code would also be installed.

The project's lighting system would provide operation and maintenance personnel with illumination for both normal and emergency conditions. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives. Lighting would be directed downward and shielded to focus illumination on the desired areas only and to avoid light spillage on adjacent properties. Light fixtures would be mounted at the entrance and each inverter station. Lighting would be no brighter than required to meet safety and security requirements, and lamp fixtures and lumens would be selected accordingly. All project lighting would be switched and without timer. All lighting at the proposed solar facilities would be designed to meet Kern County Zoning Ordinance Chapter 19.81, Outdoor Lighting "Dark Skies Ordinance," requirements.

Potential SCE Offsite Upgrades

To accommodate the project's interconnection, potential SCE and/or CAISO offsite upgrades are necessary. The proposed project would include upgrading the conductors, for less than 1 mile, of the existing Sawmill circuit, which runs along the northern and eastern boundaries of the project site and interconnects to the existing SCE Inyokern Substation.

Other potential network facility modifications necessary to support the development of the project may include but are not limited to replacement of the transformer bank at the existing Inyokern Substation, replacement of an existing transducer with a bidirectional transducer, and addition of remote terminal unit points for the transducer.

3.7.2 Construction

Schedule and Workforce

The construction of the proposed project would last a maximum of 7 to 10 months. Construction activities for the proposed project generally fall into three main categories: (1) site preparation; (2) system installation; and (3) testing, commissioning, cleanup. The onsite construction workforce is expected to peak at up to 50 individuals; however, the average daily construction workforce is expected to be 25 personnel, consisting of supervisory, support, and construction management staff. If construction Phases 1, 2, and 3, and the gen-tie connection phase are constructed separately, the entire project would be built in approximately 7.5 months (216 days). It is anticipated that the construction workforce would commute to the site each day from local communities and report to the designated construction staging yards prior to the beginning of each workday. Construction staff not drawn from the local labor pool would stay in local hotels in Inyokern or Ridgecrest, or other local communities. One or more of the proposed laydown yards may be used as a parking and meeting area for the construction employees and would be reclaimed after substantial completion of the project is reached. It is anticipated that the employees would utilize Brown Road as points of ingress/egress to the property and that, once on site, they would access various sections via the existing and improved network of dirt roads.

The proposed project would be constructed by several specialized construction contractors. Construction would primarily occur during daylight hours, Monday through Friday, between 7 a.m. and 6 p.m. Additional hours/days may be necessary to facilitate the schedule. Any construction work performed outside of the normal work schedule would be coordinated with the appropriate agencies and would conform to the Kern County Noise Ordinance (Chapter 8.36 of Kern County Code of Ordinances).

Construction of the proposed project would also include the creation of access roads to the proposed panel locations, and installation of solar panels. In addition, the proposed project would require the installation of underground/overhead electricity lines onsite and from the project site to the electrical interconnection point; electrical transformers; and laydown yards. Disturbed areas, temporary roadways, and equipment laydown sites that are not required as part of the ongoing operating of the facility would be restored. Staging areas would be required for material handling, temporary storage, and other staging activities. **Table 3-4, *Solar PV Construction Activity, Duration, Equipment, and Workers***, depicts the construction activities, duration, equipment, and workers by phase.

TABLE 3-4: SOLAR PV CONSTRUCTION ACTIVITY, DURATION, EQUIPMENT, AND WORKERS

Activity	Duration (est.)	Equipment	Workers (est.)
Phase 1: Mobilization and Site Preparation	42 days	1 Backhoe 4 Bulldozers 1 FE Loader 4 Graders 2 Instrument/Signal Boards 1 Roller 1 Skid Steer 1 Trencher 9 Water Trucks	10
Phase 2: PV System Installation	132 days	11 Forklifts 5 Pile Driver 5 Skid Steers 5 Trenchers 4 Water Trucks 11 Welders	8
Phase 3: Inverters and Substation	21 days	4 Aerial Lifts 1 Backhoe 1 Bulldozer 3 Cranes 1 FE Loader 1 Grader 2 Pile Drivers 1 Roller 1 Skid Steer 3 Trencher 1 Water Truck	8
Gen-tie Connection	21 days	4 Aerial Lifts 1 Crane 1 Bulldozer 1 Bull wheel Puller 1 Compressor Trailer 1 Grader 1 HD Truck (poles) 1 HD Truck (wire truck) 1 HD Truck (static truck) 1 HD Truck (line puller)	8

NOTE: Some activities occur concurrently.

Site Grading and Earthwork

Beginning work on the project would involve preparing the land for installation of arrays, energy storage facilities, related infrastructure, access driveways, and temporary construction staging areas. Site preparation would involve the removal and proper disposal of existing vegetation and debris that would unduly interfere with project construction or the health and safety of onsite personnel. Dust minimizing techniques would be employed, such as maintaining natural vegetation where possible, utilizing "mow-and-

roll" vegetation clearance strategy, placement of wind control fencing, application of water, and application of dust suppressants. Conventional grading would be minimized to the maximum extent possible to reduce unnecessary soil movement that may result in dust.

As the site is relatively flat, minimal if any grading is anticipated. Land-leveling equipment, such as a smooth steel drum roller, would be used to even the surface of the ground and to compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Access roads would be constructed of earthen or gravel materials that are pervious. Roads may be additionally compacted to 90 percent or greater, as required, to support construction and emergency vehicles. Certain access roads may also require the use of aggregate to meet emergency access requirements. Soil movement from grading would be balanced on the site, and it is anticipated that no import or export of soils would occur.

Trenching would be required for placement of underground electrical and communications lines, and may include the use of trenchers, backhoes, excavators, haul vehicles, compaction equipment and water trucks. After preparation of the site, the pads for structures, equipment enclosures and equipment vaults would be prepared per geotechnical engineer recommendations.

All applicable local, State, and federal requirements would be incorporated into the construction activities for the project site. Per the requirements of the State Construction General Permit, the construction contractor would be required to incorporate best management practices (BMPs) consistent with guidelines provided in the *California Storm Water Best Management Practice Handbooks: Construction* into a Storm Water Pollution Prevention Plan (SWPPP) prepared for the project site. Site preparation would also be consistent with Kern County BMPs and Eastern Kern Air Pollution Control District rules for dust control. Noise generating construction activities would be limited to the construction hours noted above. All stationary equipment and machines with the potential to generate a significant increase in noise or vibration levels would be located away from noise receptors to the extent feasible. The contractor would conduct construction activities in such a manner that the maximum noise levels at the affected buildings would not exceed established noise levels.

The entire construction process is estimated to take up to 7 to 10 months. Site grading and earthwork is anticipated to begin during the third quarter of 2020, with operations beginning in the first quarter of 2021.

Trenching would be required for placement of underground electrical and communications lines, and may include the use of trenchers, backhoes, excavators, haul vehicles, compaction equipment, and water trucks. After preparation of the site, the pads for structures, equipment enclosures and equipment vaults would be prepared per geotechnical engineer recommendations. The switchyard areas would have a grounding grid installed and be covered with aggregate surfacing for safe operation. Collection and transmission structures from the substation and switchyard to the existing transmission line would require drilling for foundation support, and the soils removed would be spread across the project site.

Construction equipment would be turned off when not in use. The construction contractor would ensure that all construction and grading equipment is properly maintained. All vehicles and compressors would utilize exhaust mufflers and engine enclosure covers (as designed by the manufacturer) at all times.

Solar Array Assembly

Erection of the solar arrays would include support structures and associated electrical equipment. First, steel piles would be driven into the soil using pneumatic techniques, similar to a hydraulic rock hammer attachment on the boom of a rubber-tired backhoe excavator. If shallow bedrock or other obstructions are

encountered, the pile locations would be predrilled and then grouted in place with concrete. The piles are typically spaced approximately 10 to 20 feet apart. Once the piles have been installed, the horizontal array support structures would be installed. The final design of the horizontal array support structures may vary, depending on the final selection of the PV technology, as well as whether a fixed tilt or tracking system is selected. Once the support structures are installed, workers would begin to install the solar modules. Solar array assembly and installation would require trenching machines and excavators, compactors, concrete trucks and pumpers, vibrators, forklifts, boom trucks, graders, pile drivers, drilling machines, and cranes.

Concrete may be required for portions of the footings as well as pads for the medium voltage transformers, inverters, and O&M buildings, ESS, and telecommunication facilities. Concrete may also be required for pile foundation support depending on the proposed mounting system chosen for installation and whether or not obstructions are encountered when trying to drive piles. Final concrete specifications would be determined during detailed design engineering. Concrete would be purchased from an offsite supplier and trucked onto the project site.

During this work, there would be multiple crews working on the site with vehicles, including special vehicles for transporting the modules and other equipment. As the solar arrays are installed, the solar switchyard would be constructed, and the electrical collection and communication systems would be installed. Within the solar fields, the electrical and communication wiring would be installed in underground trenches, although some of the mid-voltage collection runs and communications may be on overhead lines. Collection trenches would likely be mechanically excavated, though in some cases targeted shallow trench blasting may be required as a construction technique due to near-surface bedrock. If explosives are to be used, the project proponent would be required to obtain all necessary permits and approvals through the KCFD's Hazardous Materials Division (HMD).

The electrical and communication wiring would connect to the appropriate electrical and communication terminations and the circuits would be checked and electrical service would be verified. Additionally, if a tracker system is utilized, the motors would be checked and control logic verified. Once all of the individual systems have been tested, the overall project would be ready for testing under fully integrated conditions.

Construction Water Use

During construction of the proposed project, water would be initially required for site preparation and grading activities. During earthwork for grading of access road foundations, equipment pads and project components, the main use of water would be for compaction and dust control. Smaller quantities would be required for preparation of the concrete required for foundations and other minor uses. Subsequent to the earthwork activities, water usage would be used for dust suppression and normal construction water requirements that are associated with construction of the building, internal access roads, and solar arrays.

A sanitary water supply would not be required during construction, as restroom facilities would be provided by portable units to be serviced by licensed providers. The overall construction water usage for dust control and site preparation is anticipated during construction of the two phases is approximately 73.6 acre-feet (AF) (approximately 24 million gallons) during the 7- to 10-month construction period.

Water demand during construction is expected to be the same if the project is constructed during a year with normal precipitation, a year with less-than-average precipitation, or a multi-year period of less than-average precipitation. Water needed for construction is expected to be provided from an on-site water well, trucked onto the site from the Inyokern Community Service District, or provided by an offsite water

purveyor. The Inyokern Community Services District has provided multiple will-serve letters indicating their ability to provide sufficient water during the construction of the project.

Solid and Nonhazardous Waste

The project site would produce a small amount of solid waste from construction activities. This may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation wastes. These wastes would be segregated for recycling. Non-recyclable wastes would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. Vegetation wastes generated by site clearing and grubbing would be chipped/mulched and spread on site or hauled offsite to an appropriate green waste facility. The closest Class III municipal landfill is the Ridgecrest Recycling and Sanitary Landfill (RSLF) which is located approximately 5.5 miles southeast of the project site. The Ridgecrest RSLF is an unlined, active public Class III sanitary landfill owned by the County of Kern and operated by the Kern County Public Works Department.

Hazardous Materials

The hazardous materials used for construction would be typical of most construction projects of this type. Materials would include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, herbicides, and welding materials/supplies. A hazardous materials business plan would be provided to the Kern County Environmental Health Services Division/Hazardous Materials Section. The hazardous materials business plan would include a complete list of all materials used onsite and information regarding how the materials would be transported and in what form they would be used. This information would be recorded to maintain safety and prevent possible environmental contamination or worker exposure. During project construction, safety data sheets for all applicable materials present at the site would be made readily available to onsite personnel.

Hazardous Waste

Small quantities of hazardous wastes would most likely be generated over the course of construction. These wastes may include waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers would be trained to properly identify and handle all hazardous materials. Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped offsite for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

3.7.3 Operation and Maintenance

Typical O&M activities that would occur on the project site during operation include, but are not limited to: liaison and remote monitoring; administration and reporting; semi-annual and annual services; remote operations of inverters; site security and management; additional communication protocol; repair and maintenance of solar facilities and other project facilities; and periodic panel washing. The O&M building would be unmanned and monitored remotely 24 hours per day, seven days a week. Maintenance personnel are expected to visit the project site several times per year for routine maintenance. PV panel washing may

occur up to 4 times per year and is expected to take 10 days to complete per washing activity. Additional staff of two to five people would be required during panel washing.

Electrical Supply

Power for the O&M building and the project's associated structures would be supplied by SCE. The project would require power for the electrical enclosures, and for plant lighting and security. The switchgear building battery room would supply DC power for the substation protection equipment.

Operations Water Use

During operation and maintenance of the proposed project, it is anticipated that water would be required primarily for PV panel washing, equipment washing, and non-sanitary uses. Long-term operational water demand is expected to be a maximum of 1.22 acre-feet per year (AFY) (approximately 396,000 gallons per year), primarily to support PV panel washing activities. Water required for proposed project operation would be provided from an on-site water well, trucked onto the site from the Inyokern Community Service District, or provided by an offsite water purveyor. The Inyokern Community Services District has provided multiple will-serve letters indicating their ability to provide sufficient water during the construction of the project.

Solid and Nonhazardous Waste

The project site would also produce a small amount of waste associated with maintenance activities. PV solar system wastes typically include broken and rusted metal, defective or malfunctioning modules, electrical materials, and empty containers and other miscellaneous solid materials, including typical household refuse generated by workers. These materials would be collected and delivered back to the manufacturer for recycling. Trash would be disposed of by a local waste hauler service for disposal at a Class III landfill. The closest Class III municipal landfill is the Ridgecrest RSLF, which is located approximately 5.5 miles southeast of the project site. The Ridgecrest RSLF is an unlined, active public Class III sanitary landfill owned by the County of Kern and operated by the Kern County Public Works Department.

Hazardous Materials

Limited amounts of hazardous materials would be stored or used on the site during operations, which includes diesel fuel, gasoline and motor oil for vehicles, mineral oil to be sealed within the transformers and lead acid-based, and/or lithium ion batteries for emergency backup. Fuels and lubricants used in operations would be subject to the Spill Prevention, Containment, and Countermeasure Plan to be prepared for the proposed project. Appropriate spill containment and clean-up kits would be maintained during operation of the project.

Hazardous Waste

The proposed project would produce a small amount of hazardous waste associated with maintenance activities, which could include defective or malfunctioning modules, electrical materials, unused paint, solvents, cleaners, waste oil, oily rags, and batteries. Most of these materials would be collected and delivered back to the manufacturer for recycling and any materials not recycled would be disposed of in accordance to applicable laws. Hazardous waste would be either recycled or disposed of at a permitted and licensed

treatment and/or disposal facility. All hazardous waste shipped offsite for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

Security and Lighting

The proposed project would be fenced by an 8-foot-high chain-link fence with three-strand barbed wire installed around the perimeter of the facility to help prevent access by the public. Locking gates would be installed at specified points of ingress and egress. Limiting access to the project site would be necessary both to ensure the safety of the public and to protect the equipment from potential theft and vandalism.

There is minimal potential for wildfire in the vicinity. Vegetation is sparse with little potential for vegetative fuel buildup. Nevertheless, the project proponent would prepare a fire prevention plan for the project in compliance with applicable Kern County regulations.

The project's lighting system would provide operation and maintenance personnel with illumination for both normal and emergency conditions. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives. Additionally, lighting would be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with Kern County Zoning Ordinance Chapter 19.81, Outdoor Lighting "Dark Skies Ordinance" requirements.

3.7.4 Decommissioning

The project proponent expects to sell the renewable energy produced by the project under the terms of a long-term Power Purchase Agreement (PPA) or directly into the wholesale market. The life of the solar facility is anticipated to be up to 35 years; however, the project proponent may, at their discretion, choose to extend the life of the facility, update technology and re-commission, or decommission and remove the system and its components. If and when a decommissioning event occurs, the solar site could then be converted to other uses in accordance with applicable land use regulations in effect at that time.

It is anticipated that during decommissioning, project structures would be removed from the site. Aboveground equipment that would be removed would include module posts and support structures, onsite transmission poles that are not shared with third parties and the overhead collection system within the project site, inverters, transformers, electrical wiring, equipment on the inverter pads, and related equipment and concrete pads. Project roads would be restored to their pre-construction condition unless the landowner elects to retain the improved roads for access throughout the property. The area would be thoroughly cleaned and all debris removed. As discussed above, most materials would be recycled to the extent feasible, with minimal disposal to occur in landfills in compliance with all applicable laws. A collection and recycling program would be executed to promote recycling of project components and minimize disposal of project components in landfills. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations. The project proponent expects a secondary market for PV modules to develop over time. Although energy output may diminish, PV modules are expected to continue to have a productive life and can be decommissioned from a prime location or re-commissioned in another location.

3.8 Entitlements Required

The anticipated approvals needed for the project include an amendment to the Inyokern Specific Plan Circulation Element and adoption of Conditional Use Permits. Construction and operation of the proposed solar energy facility may require additional State, local, and federal entitlements; as well as discretionary and ministerial actions and approvals listed below:

3.8.1 Kern County

- Consideration and certification of Final EIR
- Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
- Approval of proposed Mitigation Measures Monitoring Program
- Approval by the Kern County Board of Supervisors for proposed conditional use permits for the project site
- Approval by the Kern County Board of Supervisors for the proposed Circulation Amendment to the Inyokern Specific Plan
- Kern County construction, grading, building and encroachment permits

3.8.2 Other Responsible Agency Entitlements

- U.S. Fish and Wildlife Service Habitat Conservation Plan (if required)
- California Department of Fish and Wildlife (CDFW) Incidental Take Permit and Habitat Conservation Plan (if required)
- California State Water Resources Control Board – National Pollutant Discharge Elimination System Construction General Permit (if required)
- California Department of Transportation Right-of-Way Encroachment Permit, and Permit for Transport of Oversized Loads
- Eastern Kern County Air Pollution Control District Authority to Construct/Permit to Operate/Fugitive Dust Control Plan

3.9 Relationship of the Project to Other Solar Projects

The project is being developed independently of other approved or proposed solar projects in the County. If approved, the RB Inyokern Solar Project, which includes Phase 1 and 2 facilities, would be subject to their own use permits, conditions of approval, interconnection agreements, and PPAs. The County understands that the RB Inyokern Solar Project facilities would be built and operated independently of any other solar project, and, if approved, would not depend on any other solar project for economic viability. The proposed project would involve constructing 150 feet of a new gen-tie line that would connect with an existing SCE 33 kV electrical distribution line, enabling energy delivery to the existing Southern California Edison Inyokern Substation located approximately 0.5 miles to the east of the project site.

3.10 Cumulative Projects

CEQA requires that an EIR evaluate a project's cumulative impacts. Cumulative impacts are the project's impacts combined with the impacts of other related past, present, and reasonably foreseeable future projects. As set forth in the *CEQA Guidelines*, the discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. As stated in CEQA, Title 14, Section 21083(b), "a project may have a significant effect on the environment if the possible effects of a project are individually limited but cumulatively considerable."

According to the *CEQA Guidelines*:

"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable and which compound or increase other environmental impacts.

(a) The individual effects may be changes resulting from a single project or a number of separate projects.

(b) The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (California Code of Regulations [CCR], Title 14, Division 6, Chapter 3, Section 15355).

In addition, as stated in *CEQA Guidelines*, it should be noted that:

"The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the project's incremental effects are cumulatively considerable" (CCR, Title 14, Division 6, Chapter 3, Section 15064(h)(5)).

Cumulative impact discussions for each environmental topic area are provided at the end of each technical analysis presented in Chapter 4 of this EIR. As previously stated, and as set forth in the *CEQA Guidelines*, related projects consist of "closely related past, present, and reasonable foreseeable probable future projects that would likely result in similar impacts and are located in the same geographic area" (CCR, Title 14, Division 6, Chapter 3, Section 15355).

Unless otherwise noted in each chapter, the geographic scope for the cumulative impact analysis is the Indian Wells Valley. The Indian Wells Valley includes portions of the northeast corner of Kern County, the northwest corner of San Bernardino County, and portions of southern Inyo County. The Valley floor encompasses 360 square miles and lies in the northern portion of the Mojave Desert, southeasterly of the Sierra Nevada, and southerly of the Owens Valley (Krieger & Stewart, 2016). This geographic scope is selected because of its relatively uniform terrain, soil conditions, climate, and habitat value; its low population and development density; and the region's common groundwater basin and water supply considerations. However, when appropriate (as determined by the impact being analyzed), a smaller or larger scope was selected.

A list and description of past, present, and reasonably foreseeable projects near the project can be found in **Table 3-5, Cumulative Projects List**. **Figure 3-12, Cumulative Projects**, shows the approximate location of the proposed projects in Kern County considered in the cumulative analysis.

TABLE 3-5: CUMULATIVE PROJECTS LIST

Project Name/ CASE ID	Project Location	Project Description	Case Type	Request	Project Site APN	Acreage/ Square Feet	Project Status
1. Pensco Trust Company	North of Highway 395 at Avenida Del Sol and Buckle Avenue	Single axis solar tracker electricity generation facility	CUP	CUP, Map 46	064-440-20	37 acres	Open
2. East Kern Properties, LLC	Northwest corner of Business East Route 58 and California City Boulevard	350 MW solar energy generation facility	CUP	CUP, Map 46	234-061-01; 234-053-14, -32; 234-032-01; 234-042-25, -26; 234-532-04; 234-041-23; 234-550-11	3,066 acres	Open
3. Mary Cromwell	Southwest of the intersection of Inyokern Road and North Calvert Boulevard	Storage and office	CUP	CUP, Map 47	352-131-22	0.94 acres	Open
4. Challman Engineering by William J. Challman	1699 Airport Road, Inyokern	Aircraft hangar on airport property	CUP	CUP, Map 47	352-085-14	0 acres	Open
5. Verizon Wireless by Complete Wireless	49901 Highway 14, Inyokern	Extension of time for one year	CUP	CUP, Map 69	341-060-14	0 acres	Open
6. Donald Ward	5631 Inyokern Road	Light trucking, storage, landscape rock for xeriscape and salt bagging	General Plan Amendment (GPA), Zone Change Case (ZCC)	GPA, ZCC, Map 47	352-310-11	8.84 acres	Open



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
RB INYOKERN SOLAR PROJECT

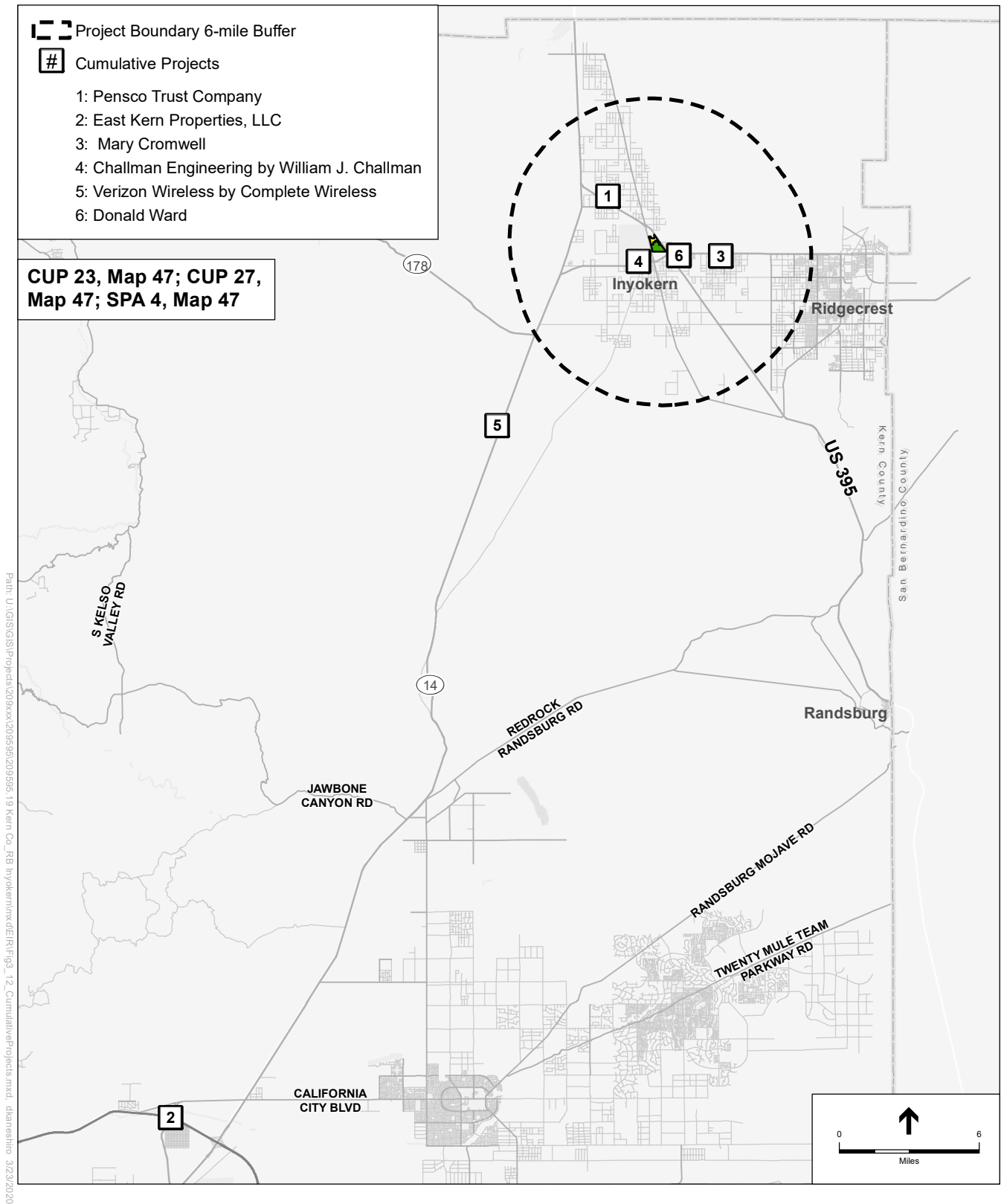


Figure 3-12: CUMULATIVE PROJECTS

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4.1.1 Introduction

This section of the Environmental Impact Report (EIR) discusses impacts associated with the potential for the project to degrade the existing visual character or quality of the project site and its surroundings through changes in the existing landscape. Potential effects are evaluated relative to important visual features (e.g., scenic highways, scenic features) and the existing visual landscape and its users. Degradation of the visual character of a site is addressed through a qualitative evaluation of the changes to the aesthetic characteristics of the existing environment, and the project-related modifications that would alter the visual setting. Visual simulations were created for various views of the project site (VisionScape, 2020). Information from the Glare Study (Power Engineers, 2019), located in Appendix B of this EIR, has been included. The terms and concepts are used in the discussion below are used to describe and assess the aesthetic setting and impacts from the project.

Visual Concepts and Terminology

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Depending on the extent to which a project's presence would alter the perceived visual character and quality of the environment, a visual or aesthetic impact may occur.

Viewshed – defined as the surrounding geographic area from which the project is likely to be seen, based on topography, atmospheric conditions, land use patterns, and roadway orientations. “project viewshed” is used to describe the area surrounding a project site where a person standing on the ground or driving a vehicle can view the project site.

Key observation point (KOP) – one or a series of points on a travel route or at a sensitive use area, such as a residence, where the view of a project would be the most revealing.

Scenic vista – an area identified or known for high scenic quality. Scenic vistas may be designated by a federal, State, or local agency. Scenic vistas can also include an area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing.

Scenic highway – any stretch of public roadway that is designated as a scenic corridor by a federal, State, or local agency.

Sensitive receptors or sensitive viewpoints – viewer responses to visual settings are inferred from a variety of factors, including distance and viewing angle, type of viewers, number of viewers, duration of view, and viewer activities. The viewer type and associated viewer sensitivity are distinguished among project viewers in recreational, residential, commercial, military, and industrial areas. Viewer activities can range from a circumstance that encourages a viewer to observe the surroundings more closely (such as recreational activities), to discouraging close observation (such as commuting in heavy traffic). Residential viewers typically have extended viewing periods and are generally considered to have high visual sensitivity. For this reason, residential views are typically considered sensitive. Viewers from public parks,

recreational trails, and/or culturally important sites also have high visual sensitivities; therefore, such locations are considered sensitive viewpoints. Viewers in commercial, military, and industrial areas are not typically focused on the views and the areas do not promote enjoyment of views; therefore, viewers in these locations are assumed to have low sensitivity.

Viewing distance zones – the landscape is subdivided into three distance zones based on relative visibility from travel routes or observation points. The three zones are: foreground, middleground, and background. The foreground zone includes areas less than one-quarter mile away, the middleground zone includes areas one-quarter mile to 3 miles away, and the background zone includes areas beyond 3 miles (FHWA, 2015).

Visual sensitivity – the overall measure of an existing landscape’s susceptibility to adverse visual changes. When viewing the same landscape, people may have different responses to that landscape and any proposed visual changes, based upon their values, familiarity, concern, or expectations for that landscape and its scenic quality. Because each person’s attachment to and value for a particular landscape is unique, visual changes to that landscape inherently affect viewers differently. Nonetheless, generalizations can be made about viewer sensitivity to scenic quality and visual changes.

Residents and recreational users (e.g., hikers, equestrians, tourists, etc.) are expected to be highly concerned with scenery and landscape character. Local motorists who commute daily through the same landscape may have a moderate concern for scenery, while people who work within highly urbanized areas may generally have a lower concern for scenic quality or changes to existing landscape character.

The visual sensitivity of a landscape is affected by the viewing distances at which it is seen. The visual sensitivity of a landscape also is affected by the travel speed at which a person is viewing the landscape (high speeds on a highway, low speeds on a hiking trail, or stationary at a residence).

The same feature of a project can be perceived differently by people depending on the distance between the observer and the viewed object. When a viewer is closer to a viewed object in the landscape, more detail can be seen, and there is greater potential influence of the object on visual quality because of its form or scale (relative size of the object in relation to the viewer). When the same viewed object is viewed at background distances, details may be imperceptible but overall forms of terrain and vegetation are evident, and the horizon and skyline are dominant. In the middle ground, some detail is evident in the foreground and landscape elements are seen in context with landforms and vegetation patterns in the background. The same levels of sensitivity apply in this case as with close-up and further away views—views from cars at high speeds would be less sensitive to changes than views at low speeds because more details can be drawn from the landscape at lower speeds.

4.1.2 Environmental Setting

Regional Character

The project site is located in the Indian Wells Valley within the Western Mojave Desert in northeastern Kern County. The project site is located in the community of Inyokern, and is approximately 9.4 miles south of Inyo County and approximately 9.3 miles west of San Bernardino County. The unincorporated community of Indian Wells is approximately 3 miles to the west and the City of Ridgecrest is approximately 5.5 miles to the east.

The Indian Wells Valley is located in northeastern Kern County and is surrounded by four mountain ranges: the Sierra Nevada on the west, the Cosos on the north, the Argus Range on the east, and the El Paso Mountains on the south. Topography in the project area is relatively flat; the topographic characteristics of the project site and surrounding region provide open, expansive views of mountains and mountains around the valley.

Land uses in the region include a mix of vacant land, solar energy production, low-density residential development, and other uses. The project area is primarily accessible by existing major north-south roadway United States Highway 395 (US 395). US 395 runs adjacent to the east border of the Phase 1 site. Phase 2 is directly north and adjacent to Phase 1. The project site would be directly accessed by Inyokern Road (SR-178) onto Brown Road. US 395, located adjacent to the project site on the northeast, is an access control restriction; hence, no project site access is proposed from this route. Other major north-south roadways in the region are State Route 14 (SR-14), a four-lane onto approximately 3.2 miles east of the project.

The Pacific Crest National Scenic Trail (commonly known as the Pacific Crest Trail or PCT) is approximately 12.5 miles west of the project site. Forest, parkland, and preserve areas in the vicinity of the project site include the Sequoia National Forest and Red Rock Canyon State Park located approximately 4.5 miles to the west and 20 miles to the southwest of the project site, respectively. A portion of the Los Angeles Aqueduct is approximately 4.5 miles west of the project site.

The Indian Wells Valley region has experienced fluctuating population growth over the last 20 years; the majority of people residing in the region are concentrated in and around the communities of Inyokern, China Lake Acres and the City of Ridgecrest (ESA, 2015). Solar development is sparse within the Indian Wells Valley.

Local Character

The project site is located on approximately 166.5 acres of privately-owned land that is relatively flat, with an approximate elevation ranging from 2,300 to 2,400 feet (700 to 730 meters) above mean sea level (amsl) (Terracon, 2015a; SEI, 2014). As described in more detail in Section 4.4, *Biological Resources*, the project site is undeveloped and comprised of both disturbed and undisturbed native and nonnative habitats. Plant communities on the project site consist of Mojave creosote bush scrub and saltbush scrub. Non-native species include several mustard species and five grass species (Circle Mountain, 2016). There are no structures within the project boundaries. The nearest residence is a small rural residential tract approximately 0.30 miles east of SR-395 and 500 feet southwest of the project site.

Scenic Highways

According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, there are no Designated State Scenic Highways within Kern County (see Section 4.1.3, *Regulatory Setting*, below, for more information on the State Scenic Highway Mapping System). The closest Eligible Scenic Highways are SR-14 (portion north of Business East Route 58) located approximately 3.2 miles to the west of the project site and Business East Route 58 (portion east of SR-14) located 43.2 miles south of the project site (Caltrans, 2017). Prominent views along SR-14 and Business East Route 58 adding to the scenic elements in the landscape for motorists include panoramic views of the open Mojave Desert landscapes and surrounding mountains. In addition to the State Scenic Highway Mapping System, the Kern County General Plan Circulation Element designates scenic routes and defines a scenic route as any

freeway, highway, road, or other public right-of-way, which traverses an area of exceptional scenic quality and must be officially set as a Scenic Route by the Kern County Board of Supervisors or the State of California. As such, Business East Route 58 and SR-14 are not officially designated State Scenic Highways and are not considered State Scenic Highways for this analysis. As part of the Circulation Element goals, policies, and implementation measures, Kern County adopted a Scenic Corridor Combining District to designate areas which contain unique visual and scenic resources as viewed from a major highway or freeway. The project site not within a Scenic Corridor Combining District.

Lighting Environment

The project site does not currently contain any lighting. Minimal offsite fixed lighting in the area immediately surrounding the site includes lighting fixtures associated with the wastewater treatment plant. The Inyokern Airport and scattered residential areas within the project site vicinity also provide some sources of lighting. The main source of nighttime lighting, although insubstantial, is from motorists passing through the area with headlights on.

Solar Panel Glare Potential

A solar panel comprises numerous solar cells. A solar cell differs from a typical reflective surface in that its surface is microscopically irregular and designed to trap the rays of sunlight for the purposes of energy production. The intent of solar technology is to increase efficiency by absorbing as much light as possible (which further reduces reflection and glare).

A common misconception about solar photovoltaic (PV) panels is that they inherently cause or create “too much” glare, posing a nuisance to neighbors and a safety risk for pilots. In certain situations, the glass surfaces of solar PV systems can produce glint (a momentary flash of bright light) and glare (a reflection of bright light for a longer duration); however, light absorption, rather than reflection, is central to the function of a solar PV panel so that it may absorb solar radiation and convert it to electricity. Solar PV panels are constructed of dark-colored (usually blue or black) materials and are covered with anti-reflective coatings. Modern PV panels reflect as little as two percent of incoming sunlight, which is similar to water and less than soil and wood shingles. Some of the concern and misconception is likely due to the confusion between solar PV systems and concentrated solar power (CSP) systems. CSP systems typically use an array of mirrors to reflect sunlight to heat water or other fluids to create steam that turns an electric generator (Palmer and Laurent, 2014).

Despite their low potential to create glare, PV panels can reflect sunlight skyward toward the light source, creating a potential glare impact for aircraft in the area. The effect is similar to what a motorist experiences when the sun is low in the sky and the car passes between the sun and a glass-fronted building that has been treated with an anti-reflective coating. If the motorist is heading directly toward the building, the glare would be in the motorist’s eyes. Otherwise, the motorist would have to rotate his or her head to observe the glare off to the side. Because aircraft typically travel at a higher rate of speed than vehicles, the effect is momentary, lasting only as long as the angle between the sun, water body, and aircraft is maintained. Unless an aircraft were descending at an angle sloped directly at the solar array with the sun directly behind the aircraft, any glare that might occur from solar panels would be below the pilot’s horizon. In the project area, effects on eastbound motorists would likely be greatest in the early evening hours, when the sun is at its lowest arc in the western horizon. Glare would have its greatest impact on westbound travelers in the early morning hours, when the sun is rising in the east.

4.1.3 Regulatory Setting

Federal

National Scenic Byways Program

The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration (FHWA). Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities (FHWA, 2019a). There are no National Scenic Byways or All-American Roads within the vicinity of the project site (FHWA, 2019b).

U.S. Department of the Interior, National Park Service, National Trails System Act

The National Trails System Act of 1969 seeks to preserve scenic and natural qualities along trails. The National Trails System Act assigns management responsibility for trails to various federal resource agencies, depending on which agency holds jurisdiction over the land on which the trail is located in a given area. The PCT was created under the National Trails System Act to provide for outdoor recreation opportunities and the conservation of significant scenic, historic, natural, or cultural qualities (USFS, 2016). PCT's southern terminus is on the U.S. border with Mexico, just south of Campo, California, and its northern terminus on the Canada–US border on the edge of Manning Park in British Columbia; its corridor through the U.S. is in the states of California, Oregon, and Washington. As stated previously, the PCT is located 12.5 miles west of the project site.

State

California Scenic Highway Program

Caltrans manages the California Scenic Highway Program, which was created in 1963 by the California legislature to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. The program includes a list of highways that are designated or eligible for designation as scenic highways. A highway may be designated as scenic based on certain criteria, including how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes on the traveler's enjoyment of the view. State laws governing the Scenic Highway Program are found in Sections 260 through 263 of the Streets and Highways Code.

As described in Section 4.1.2, *Environmental Setting*, there are no Designated State Scenic Highways within Kern County. The closest Eligible Scenic Highways are SR-14 (portion north of Business East Route 58) located approximately 3.2 miles to the west of the project site and Business East Route 58 (portion east of SR-14) located approximately 43.2 miles south of the project site (Caltrans, 2017).

Local

Kern County General Plan

The Land Use, Open Space, and Conservation Element of the Kern County General Plan evaluates the visual and aesthetic setting of Kern County and assess the potential for visual impacts. The Kern County General Plan Energy Element sets forth policies to encourage orderly energy development in visually sensitive areas.

The Kern County General Plan Circulation Element also provides a discussion regarding Scenic Routes. A Scenic Route is defined in the Kern County General Plan as any freeway, highway, road, or other public right-of-way which traverses an area of exceptional scenic quality. A roadway can only be designated as a scenic route by direct action of the Kern County Board of Supervisors or the State of California. A route may not be selected as scenic until a visual assessment of the route has been conducted to determine if the route meets the current scenic highway criteria as mentioned above and to what extent development has encroached on the scenic views. The County also has to prepare and adopt a plan and program for the protection and enhancement of adjacent roadside viewshed land. As such, goals, policies and implementation measures regarding Scenic Routes in the Circulation Element are focused toward the need for the County to further develop their Scenic Route program and measures to protect scenic resources, which are not applicable to the proposed project.

The Kern County General Plan acknowledges the three routes identified as part of the California Scenic Highways Master Plan that are designated “Eligible State Scenic Highway” within the County. Route 1, which begins north of Mojave and continues to the Inyo County Line, consists of State Route 14 and State US 395. Route 2 consists of Business East Route 58 between Mojave and Boron. Route 3 consists of 5 miles of State Route 41 in northwest Kern County. The northern site of the project would be visible from Route 2. The Kern County General Plan provides general goals and policies for design features of development projects in order to reduce their impacts to scenic resources.

As Business East Route 58 and SR-14 are not officially designated, they are not considered scenic highways for this analysis; therefore, no policies regarding development within Scenic Routes would be applicable to the project. However, the Kern County General Plan provides general goals and policies for design features of development projects in order to reduce their impacts to scenic resources. The policies and implementation measures in the Kern County General Plan for aesthetic resources applicable to the proposed project are provided below. The Kern County General Plan contains goals, policies, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1: Land Use, Open Space, and Conservation Element

1.10.7: Light and Glare

Policies

Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.

Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.

Implementation Measures

Measure AA: The County shall utilize CEQA guidelines and the provisions of the Zoning Ordinance to minimize the impacts of light and glare on adjacent properties and in rural undeveloped areas.

Chapter 5: Energy Element

5.4.7: Transmission Lines

Goal

Goal 1: To encourage the safe and orderly development of transmission lines to access Kern County's electrical resources along routes, which minimize potential adverse environmental effects.

Policy

Policy 5: The County should discourage the siting of above-ground transmission lines in visually sensitive areas.

Inyokern Specific Plan

The Inyokern Specific Plan guides development within and surrounding the community of Inyokern. The Inyokern Specific Plan addresses issues of importance in the area by stating goals, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental issues. There are no objectives, policies, or implementation measures in the Inyokern Specific Plan that are applicable to aesthetics. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

Kern County Zoning Ordinance

Chapter 19.81: Dark Skies Ordinance (Outdoor Lighting)

In November 2011, Kern County approved a Dark Skies Ordinance. The purpose of this ordinance is to maintain the existing character of Kern County by requiring a minimal approach to outdoor lighting, recognizing that excessive illumination can create a glow that may obscure the night sky and excessive illumination or glare may constitute a nuisance. The ordinance provides requirements for outdoor lighting within specified unincorporated areas of Kern County in order to accomplish the following objectives:

Objective 1: Encourage a safe, secure, and less light-oriented night-time environment for residents, businesses and visitors.

- Objective 2: Promote a reduction in unnecessary light intensity and glare, and to reduce light spillover onto adjacent properties.
- Objective 3: Protect the ability to view the night sky by restricting unnecessary upward projections of light.
- Objective 4: Promote a reduction in the generation of greenhouse gases by reducing wasted electricity that can result from excessive or unwanted outdoor lighting.

Kern County Development Standards

The Kern County Development Standards have specific regulations pertaining to lighting standards including the requirement that lighting must be designed so that light is reflected away from surrounding land uses so as not to affect or interfere with vehicular traffic, pedestrians, or adjacent properties.

4.1.4 Impacts and Mitigation Measures

This section describes the impact analysis relating to aesthetics for the project. It describes the methods used to determine the impacts of the project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, where applicable.

Methodology

The proposed project's potential impacts to aesthetics have been evaluated using a variety of resources. In general, the potential aesthetic, light, and glare impacts associated with development projects are evaluated on a qualitative basis. This visual impact assessment is being utilized to identify and assess any potential long-term adverse visual impacts on aesthetics and visual resources that might result from implementation of the project during construction and operation. This assessment is based on the approved visual assessment practices employed by the FHWA (FHWA, 1981), the Bureau of Land Management (BLM, 1978), the U.S. Forest Service (USFS, 1995), and other federal regulatory agencies. This method includes:

- Defining the project and its visual setting by assessing the project proponent's submitted project application materials, including plans and descriptions, and reviewing Google Earth Pro aerial photographs and street-level photography, Kern County Geographic Information System (GIS) topographic and land use data, and U.S. Geological Survey (USGS) topographic data;
- Establishing five Key Observation Points (KOPs) within vicinity from which to evaluate potential visual impacts resulting from implementation of the proposed project.
- Preparing visual simulations of post-development views from the KOPs.
- Assessing the project's impacts to sensitive views by applying the visual quality rating system to each of the visual simulations.
- Proposing methods to mitigate any potentially significant visual impacts identified.

Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described in the Thresholds of Significance section. More detailed information on the methodology behind the selection of KOPs and rating Visual Quality is provided below.

Selection of Key Observation Points

To represent views that would be experienced from sensitive viewpoints, KOPs were selected. KOPs are single viewpoints that appropriately reflect the impact implementation of the project would have on one or more sensitive receptors. Sensitive receptors near the site fall into the following categories: motorists, employees and residents. KOPs were identified based on review of available land use data, preliminary viewshed analysis, and a review of aerial maps.

The process of identifying KOPs focused on selecting viewpoints that could be used to accurately represent views from a broader range of viewpoints, particularly viewpoints from area sensitive receptors. The nature of solar fields, with large numbers of nearly identical and relatively low-lying PV panels, means that the views encountered from differing angles would often be quite similar. Sensitive receptors near the site include rural scattered residences including those adjacent to the project site along Brown Road, Inyokern Road, Sunset Avenue, and US 395. In addition, recreational users of the PCT are analyzed as sensitive receptors.

The familiarity with the view also influences how much attention is spent on the visual environment. Regular motorists may be highly familiar with the view and sometimes pay less attention; however, these motorists tend to be much more sensitive to changes in that view. People who are less familiar with the view may spend more time looking at the surrounding land, but would not notice changes in the view. The majority of existing motorists are likely to be residents driving to and from home. There are no designated scenic highways within the viewshed of the project that would attract recreational drivers.

The project site is located in a rural area. As described in Section 4.1.2, *Environmental Setting*, scattered rural residences are found surrounding the site. Among these residents, those with direct views of the site from their homes would tend to be the most sensitive to changes in the view. These residents tend to have much more familiarity with the existing viewshed and a heightened sensitivity to any visual changes within the landscape. Local sensitive receptors are depicted in Section 4.3, *Air Quality*, in Figure 4.3-1.

Four KOPs were selected for visual simulation to create post-development views. The evaluated KOPs are mapped on **Figure 4.1-1, Key Observation Points (KOPs) and Visual Simulation Photograph Locations**, and described below in **Table 4.1-1, Key Observation Points**. The KOPs selected for simulation were chosen because they represent views residents, motorists, and recreational users would experience from their adjacent homes and local roadways, respectively, when viewing the project site. The selected KOPs represent views not only from the selected viewpoints, but also for other sensitive receptors throughout the project's vicinity.

TABLE 4.1-1: KEY OBSERVATION POINTS

KOP	Location	Representative Sensitive Viewers
1	From North Brown Road looking southeast toward the project (Phases 1 and 2)	Residents and motorists to the north of the project (adjacent to Phase 2)
2	From US 395 looking northwest towards the project (Phase 1)	Residents and motorists along the eastern boundary of the project (adjacent to Phase 1)
3	From Brown Road looking north towards the project (Phases 1 and 2)	Motorists near a retail/business area south of the project (south of Phases 1 and 2)
4	From Sunset Avenue looking north toward the project (Phase 1)	Residents and motorists to the south of the project (south of Phase 1)

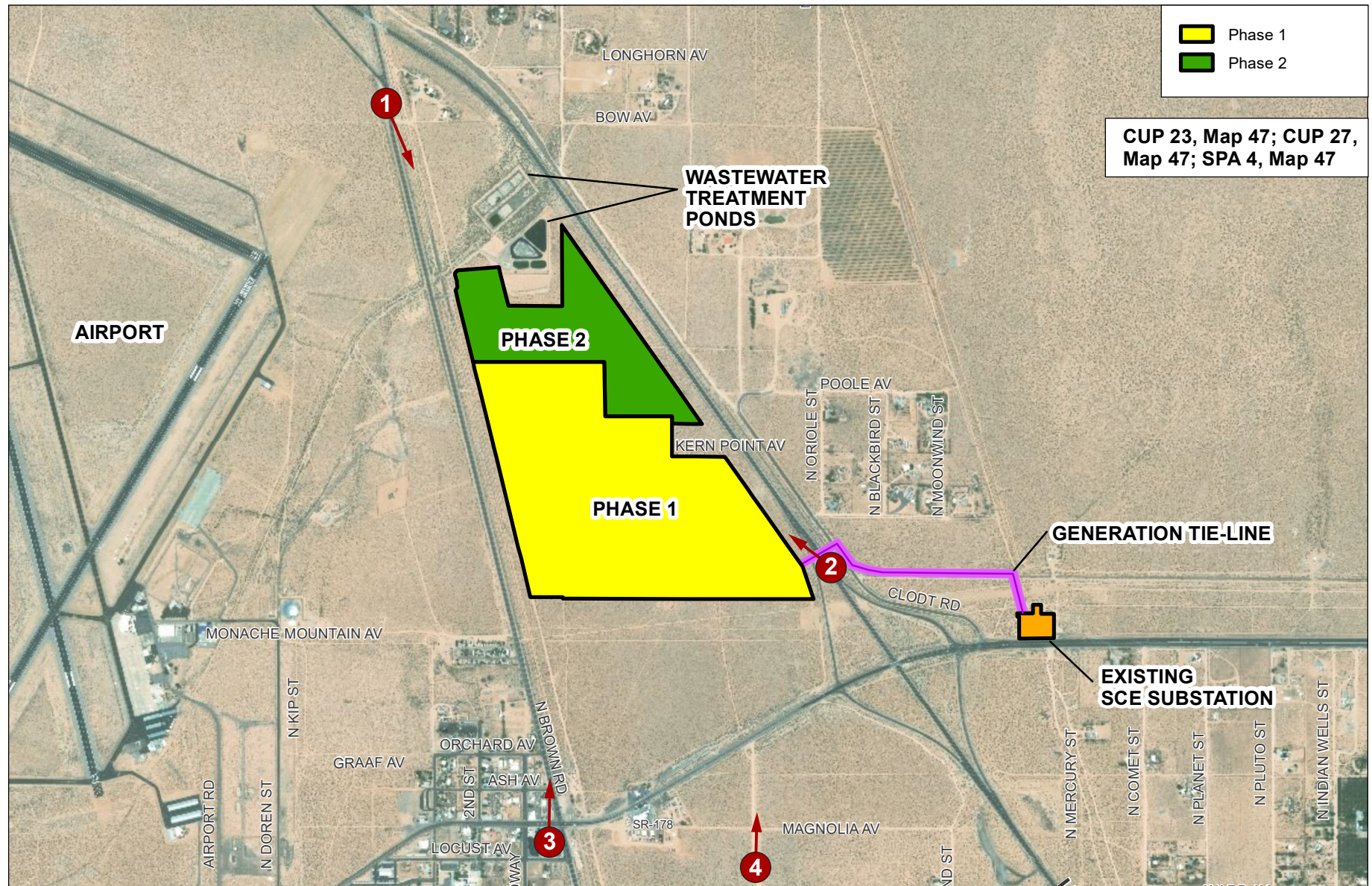


Figure 4.1-1: KEY OBSERVATION POINTS (KOPS) AND VISUAL SIMULATION PHOTOGRAPH LOCATIONS

Simulation Preparation

Visual simulations of the project from the identified KOPs were prepared to provide a comparison of pre- and post-project conditions as well as context for qualitative description of the aesthetic changes that would result from the project. Photographs were taken during a site visit in September 2017 and simulations were prepared (VisionScape, 2020) using the assumptions and methodologies listed below in **Table 4.1-2, *Visual Simulation Methodology and Assumptions***.

TABLE 4.1-2: VISUAL SIMULATION METHODOLOGY AND ASSUMPTIONS

Photography from Key Observation Points	<ul style="list-style-type: none"> • Photos were taken on a sunny/clear day in September 2017 • Visibility: 6 miles plus • Camera: Canon 5D digital camera with a 28 to 52 mm zoom. When possible, 50 to 52 mm was used to simulate the focal length of the human eye.
Visual simulation assumptions	<ul style="list-style-type: none"> • Solar panels are 10 feet tall separated 14 feet (edge to edge) or 19 feet (center to center). • Solar panels are single axis tracking system and are shown at 45-degree rotation. • Fencing is 9 feet in height, including 7.5 feet of chain link topped by 1.5 feet of barbed wire. • Panel setbacks from property line ranges: South 30–430 feet, West 30–230 feet, North 25–190 feet, East 30–350 feet
Methods	<p>Following data gathering phase, the process began with a determination of proposed camera locations and / or station points. Upon review and approval of camera locations, VisionScape coordinated the engineered site photography and scheduled the initial site visit. This included identification of reference points with GPS coordinates and specific fields of vision for each view. Concurrently, the modeling team developed an exact computer model of the proposed solar panels illustrate elevations, natural and finished pads including existing and surrounding contextual elements such as streets, terrain, pads, and adjacent buildings (where applicable) used as reference. Upon completion of the 3D modeling phase, realistic materials, maps, and textures were then applied. The next phase was assembly, during which the modeling was inserted into photographs taken during the field study using a full frame camera and camera match technology. 3D pads and boundary outlines were used to situate the panels to the proposed positions as shown on the cad provided. During this process, a computer model camera was aligned with the onsite photography to depict the project setting within each view. Lastly, a proposed landscape concept was applied (where applicable) and final artistic touches were made to ensure accuracy, as well as the look and feel, was consistent with the vision of the project. GPS and Camera Match Technology included the use of a Trimble GeoXT (Sub-Meter) GPS device and a "Full Frame" digital camera for documenting coordinates at requested station points. The final simulations were then composed in Adobe Photoshop.</p>

SOURCE: VisionScape, 2020

A comparison of existing views from the KOPs with visual simulations depicting visible proposed project features, aided in determining project-related impacts. The simulations present a representative sample of the existing landscape setting contained within the project site, as well as an illustration of how the project may look from the identified KOPs. Solar arrays are visually similar regardless of the manufacturer. Therefore, the solar arrays shown in the visual simulations are not necessarily identical to those that would be developed on the sites, but are similar enough to evaluate project impacts to aesthetics.

Rating Visual Quality

“Visual quality” is a measure of a landscape or view’s visual appeal. While there are a number of standardized methods for rating visual quality, the “Scenic Quality Rating Criteria” method utilized by the Bureau of Land Management (BLM) is believed to be superior because it allows the various landscape elements that comprise visual quality to be easily quantified and rated with a minimum of ambiguity or subjectivity.

According to this method, visual quality is rated according to the presence and characteristics of seven key components of the landscape. These components include landform, vegetation, water, color, adjacent scenery, scarcity and cultural modifications.

1. The **landform** component of the visual quality rating criteria takes into account the fact that topography becomes more interesting visually as it gets steeper or more massive, or more severely or universally sculptured. Outstanding landforms may be monumental, (as found in Yosemite Valley), or they may be exceedingly artistic and subtle (such as certain badlands, pinnacles, arches, and other extraordinary formations).
2. The **vegetation** component of the rating criteria gives primary consideration to the variety of patterns, forms, and textures created by plant life. Short-lived displays are given consideration when they are known to be recurring or spectacular. Consideration is also given to smaller scale vegetation features that add striking and intriguing detail elements to the landscape (e.g., gnarled or wind beaten trees, Joshua trees, etc.).
3. The **water** component of the rating criteria recognizes that visual quality is largely tied to the presence of water in scenery, as it is that ingredient which adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration in selecting the rating score for the water component.
4. The **color** component of the visual quality rating criteria considers the overall color(s) of the basic components of the landscape (e.g., soil, rock, vegetation, etc.). Key factors that are used when rating the color of scenery are variety, contrast, and harmony.
5. The **adjacent scenery** component of the rating criteria takes into account the degree to which scenery outside the view being rated enhances the overall impression of the scenery under evaluation. The distance of influence for adjacent scenery normally ranges from 0 to 5 miles, depending upon the characteristics of the topography, the vegetation cover, and other such factors. This factor is generally applied to views that would normally rate very low in score, but the influence of the adjacent high visual quality would enhance the visual quality and raise the score.
6. The **scarcity** component of the visual quality rating criteria provides an opportunity to give added importance to one or all of the scenic features that appear to be relatively unique or rare within a region. There may also be cases where a separate evaluation of each of the key factors does not give a true picture of the overall scenic quality of an area. Often, it is a number of not so spectacular elements in the proper combination that produces the most pleasing and memorable scenery – the scarcity factor can be used to recognize this type of area and give it the added emphasis it should have.
7. The **cultural modifications** component of the visual quality rating criteria takes into account any man-made modifications to the landform, water, vegetation, and/or the addition of man-made structures. Depending on their character, these cultural modifications may detract from the scenery in the form of a negative intrusion or they may complement and improve the scenic quality of a view.

Based on the above criteria, views are rated numerically and a total score of visual quality can be tabulated. Based on the BLM's rating system, there are a total of 32 points possible. Views that score a total of 19 points or more are typically considered very high in visual quality. Views that score a total of 15 to 19 points are typically considered to have a high level of visual quality. Views that score a total of 12 to 15 points are typically considered to have an above average level of visual quality. Finally, views that score a total of 11 points or less are typically considered to have average visual quality. See **Table 4.1-3, *Visual Quality Rating System***, for the point values associated with the various criteria.

An important premise of this evaluation method is that views with the most variety and most harmonious composition have the greatest scenic value. Another important concept is that man-made features within a landscape do not necessarily detract from the scenic value. In fact, certain man-made features that complement the natural landscape may actually enhance the visual quality. In making this determination, it is therefore important to assess project effects relative to the "visual character" of the project setting. Visual character is qualitatively defined by four primary components: form, line, color, and texture.

Projects that create a high level of contrast to the existing visual character of a project setting are more likely to generate adverse visual impacts due to visual incompatibility. Conversely, projects that create a low level of contrast to the existing visual character are less likely to generate adverse visual impacts due to inherent visual compatibility. On this basis, project modifications are quantified and evaluated for impact assessment purposes.

By comparing the difference in visual quality ratings from the baseline ("before" condition) to post-project ("after" condition) visual conditions, the severity of project related visual impacts can be quantified. However, in some cases, visual changes caused by projects may actually have a beneficial visual effect and may enhance scenic quality. The following designations are used to rank the significance of project impacts according to the pre- and post-project differences in numerical visual quality scores:

- **Potentially Significant Impact:** Any impact that could potentially lower the visual quality of an identified sensitive viewpoint by 2 points, or more, and for which no feasible or effective mitigation can be identified.
- **Less-than-Significant Impact with Mitigation Incorporated:** Any impact that could potentially lower the visual quality of an identified sensitive viewpoint by two points or more, but can be reduced to less than two points with mitigation incorporated. Therefore, specific mitigation measures are provided to reduce the impact to a less-than-significant level.
- **Less-than-Significant Impact:** Any impact that could potentially lower the visual quality of an identified sensitive viewpoint by one point or less. In visual impact analysis, a less-than-significant impact usually occurs when a project's visual modifications can be seen but do not dominate, contrast with, or strongly degrade a sensitive viewpoint.
- **No Impact:** The project would not have an impact from an identified sensitive viewpoint. In visual impact analysis, there is no impact if the project's potential visual modifications cannot be seen from an identified sensitive viewpoint.

TABLE 4.1-3: VISUAL QUALITY RATING SYSTEM

Key Factors	Rating Criteria and Score*		
Landform	High vertical relief as expressed in prominent cliffs, spires, or massive rock outcrops, or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing such as glaciers.	Steep canyons, mesas, buttes, cinder cones, and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional.	Low rolling hills, foothills, or flat valley bottoms; or few or no interesting landscape features.
	Score 5	Score 3	Score 1
Vegetation	A variety of vegetative types as expressed in interesting forms, textures, and patterns.	Some variety of vegetation, but only one or two major types.	Little or no variety or contrast in vegetation.
	Score 5	Score 3	Score 1
Water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape.	Flowing, or still, but not dominant in the landscape.	Absent, or present but not noticeable.
	Score 5	Score 3	Score 1
Color	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields.	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element.	Subtle color variations, contrast, or interest; generally mute tones.
	Score 5	Score 3	Score 1
Influence of Adjacent Scenery	Adjacent scenery greatly enhances visual quality.	Adjacent scenery moderately enhances overall visual quality.	Adjacent scenery has little or no influence on overall visual quality.
	Score 5	Score 3	Score 1
Scarcity	One of a kind; or unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc.	Distinctive, though somewhat similar to others within the region.	Interesting within its setting but fairly common within the region.
	Score 5	Score 3	Score 1
Cultural Modifications	Modifications add favorably to visual variety while promoting visual harmony.	Modifications add little or no visual variety to the area, and introducing no discordant elements.	Modifications add variety but are very discordant and promote strong disharmony.
	Score 2	Score 0	Score -4

NOTES:

* A score greater than 5 can be given but must be supported by written justification

SOURCE: BLM 1986

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in *CEQA Guidelines* Appendix G, to determine if a project could potentially have a significant adverse effect on aesthetic resources.

A project would have a significant impact on aesthetics if it would:

- a. Have a substantial adverse effect on a scenic vista;
- b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;
- c. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage points) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or
- d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Project Impacts

Impact 4.1-1: The project would have a substantial adverse effect on a scenic vista.

Scenic vistas are areas identified or known for high scenic quality. Scenic vistas may be designated by a federal, State, or local agency. Scenic vistas can also include an area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing. As detailed in the IS/NOP, visual impacts would most likely be limited to the small number of persons traveling along US 395, SR-178 and North Brown Road. The project site is not located within an area designated for or identified as having a scenic vista. However, portions of the Pacific Crest Trail (PCT) are approximately 10 miles generally northwest of the project site. The area surrounding the project site are developed with the Inyokern Airport, commercial, and residential uses. While implementation of the project would add new manmade elements to views from the PCT, due to the distance of the project site from the PCT trail, along with intervening topography and the existing visual setting, would result in limited distant views of project components. Distance from the PCT combined with intervening topography and the existing visual setting including the Inyokern Airport and surrounding commercial and residential uses would result in the project producing no noticeable impact to views from the PCT. Therefore, the project would not have a substantial effect on a scenic vista and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.1-2: The project would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

As detailed in the IS/NOP, according to the Caltrans California Scenic Highway Mapping System, the closest eligible scenic highway is SR-14 (portion north of Business East Route 58), which is located 3.2 miles west of the project site. Due to this distance, the proposed project would not be visible from Business East Route 58 or SR-14. Project fencing and solar panels would generally display a low vertical profile and would be located at a lower elevation than motorists on Business East Route 58 and SR-14. As a result, solar panels and fencing would not substantially obstruct or interrupt available views to mountainous terrain or other scenic features. Therefore, construction of the proposed project would not change the viewshed from any Officially Designated State or County Scenic Highway and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.1-3: The project would, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage points) If the project is in an urbanized area, the project would conflict with applicable zoning and other regulations governing scenic quality.

As described in Chapter 3, *Project Description*, and above under Section 4.1.2, *Environmental Setting*, the project site is undeveloped and comprised of both disturbed and undisturbed native and nonnative habitats. Land uses in the region include a mix of vacant land, solar energy production, low-density residential development, and other uses. As the project is located within a nonurbanized area, the analysis below will focus on whether development of the project would substantially change the existing visual character or quality of public views of the site and its surroundings.

Construction

Construction activities associated with the proposed project would result in the presence of construction equipment onsite, including delivery trucks and vehicles used in site preparation, storage areas containing construction materials, and active work areas where construction is taking place. The visual elements associated with construction would be considered out of character with the surrounding rural residential, commercial and industrial areas. However, construction vehicles and equipment would be present onsite for a limited time (a maximum of 10 months) and would be concentrated in certain areas onsite rather than spread across the entire project site at one time. Construction equipment and vehicles would be removed immediately following the end of all construction activities. Construction activities include site preparation (removal and disposal of existing vegetation), grading, trenching, and installation of solar arrays, associated structures, and utilities. Since visual impacts associated with the construction phase would be limited in

duration and would only impact a portion of the project site at any given time, related impacts to visual character or quality would be less than significant.

Operation

In order to determine whether the proposed project would substantially degrade the existing visual quality of the site, this analysis compares the existing visual setting with visual simulations of the post-project visual conditions. As described above, four KOPs were selected for visual simulation. These KOPs are representative of views that would be experienced from numerous sensitive receptor locations.

Visual simulations are provided in **Figures 4.1-2 through 4.1-5**. KOPs are described in Table 4.1-2, *Visual Simulation Methodology and Assumptions*. Impacts associated with operation of the project would vary by viewer location and are discussed below by KOP. The rating system and impacts methodology are discussed in the “Rating Visual Quality” section above.

KOP 1. Figure 4.1-2, KOP 1 Existing and Simulated Views from North Brown Road Looking Southeast toward the Project (Phase 1 and Phase 2), shows views from Brown Road looking southeast toward the project site (adjacent to Phase 2). This KOP accurately reflects views that motorists and residents to the north of the project would experience. The pre-development view from KOP 1 shows that the area is largely flat and has a paved roadway in the foreground, low-lying desert scrub vegetation in the middleground, and distant mountains and limited development in the background. The post-development view from KOP 1 shows that views of the project include solar arrays visible in the middleground view. The solar panels and associated elements would be dark blue to light gray in color; given their distance, solar panels would mostly blend with the existing muted earth tones in the middleground. As discussed in **Table 4.1-4, Visual Quality Rating Analysis – KOP 1**, the pre-development score is 11 and the post-development score is 10. Since the difference in scores would be one point, visual impacts from KOP 1 are less than significant.

KOP 2. Figure 4.1-3, KOP 2 Existing and Simulated Views from US 395 Looking Northwest toward Project (Phase 1), shows views from US 395 looking northwest toward the project site (Phase 1). This KOP accurately reflects views that would be experienced by residents and motorists along the eastern boundary of the project site in that area. The existing view from KOP 2 shows that the area is largely flat and has paved roadway in the foreground, low-lying desert scrub vegetation in the middleground. Large mountains and minor development are visible in the background. The post-development view from KOP 2 would introduce elements across the middleground including solar arrays and fencing. Given the relatively undeveloped view, these solar array facilities would be a dominating feature in the landscape. As shown in **Table 4.1-5, Visual Quality Rating Analysis – KOP 2**, the pre-development score is 12 and the post-development score is 10. Since the difference in scores would be two points, visual impacts from KOP 2 would potentially significant.

KOP 3. Figure 4.1-4, KOP 3 Existing and Simulated Views from a Retail/Business Area Adjacent to the Intersection of West Inyokern Road and North Brown Road Looking North toward the Project (Phases 1 and 2), shows views from an area adjacent to the intersection of West Inyokern Road and North Brown Road looking north toward the project site (Phases 1 and 2). This KOP accurately reflects views that motorists along travelling along West Inyokern Road and North Brown Road would experience. The existing view from KOP 3 shows that the area is largely flat and has manmade features including paved roads and telephone poles. Some low lying vegetation is visible in the middleground along with an area cleared of desert vegetation. Distant mountains are visible in the background. The post-development view from KOP 4 shows that solar arrays would appear as a dark blue/gray horizontal band with silver elements in the distant middleground. This would contribute to a substantial reduction of vegetation visibility and

disharmony in the view's colors. As shown in **Table 4.1-6, Visual Quality Rating Analysis – KOP 3**, the pre-development score is 10 and the post-development score is 2. Since the difference in scores would be eight points, visual impacts from KOP 4 would be potentially significant.

KOP 4. Figure 4.1-5, KOP 4 Existing and Simulated Views from a Residential Area near the Intersection of Nadine Street and Reeves Avenue Looking North toward the Project (Phase 1), shows views from the intersection of Nadine Street and Reeves Avenue looking north toward the project site (Phase 1). This KOP accurately reflects views that residents and motorists travelling along Nadine Street and Reeves Avenue would experience. The existing view from KOP 4 shows that the area is largely flat with desert vegetation seen throughout the middleground view. A dirt road in the center of the view draws the viewer's eye to the mountains which dominate the background view. The post-development view from KOP 4 shows that solar arrays would appear as a dark blue/gray horizontal band with silver elements in the distant middleground. This would contribute to a substantial reduction of vegetation visibility and disharmony in the view's colors. As shown in **Table 4.1-7, Visual Quality Rating Analysis – KOP 4**, the pre-development score was 11 and the post-development score would be 7. Since the difference in scores would be four points, visual impacts from KOP 4 would be potentially significant.



Existing View



Proposed View

**Figure 4.1-2: KOP 1: EXISTING AND SIMULATED VIEWS FROM NORTH BROWN ROAD
LOOKING SOUTHEAST TOWARD THE PROJECT (PHASE 1) AND (PHASE 2)**

TABLE 4.1-4: VISUAL QUALITY RATING ANALYSIS – KOP 1

Sensitive Receptor: Residents and motorists to the north of the project (Phase 1). Pre-development and post-development conditions are depicted in Figure 4.1-2.				
Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Landform	2	2	0	Less than Significant
<i>Explanation:</i>	Relatively flat and broad valley with a very distant, low mountain range in the background.	The project would not modify the area's topography in the view.		
<i>Detail:</i>	In both pre- and post-development views, a paved roadway dominates the foreground, flat landforms dominate the middleground, and mountains are visible in the background. Due to the lack of noteworthy landforms in the foreground, these background views of mountains form an important element of the area's aesthetics. Views of the project include solar arrays visible in the middleground view. The project would not modify landforms in the view. There would be a less-than-significant visual impact to landforms resulting from implementation of the project.			
Vegetation	3	3	0	Less than Significant
<i>Explanation:</i>	Low-lying desert vegetation of the same few species can be seen throughout the view.	The project would not notably remove vegetation within the existing view.		
<i>Detail:</i>	Views of the project include solar arrays visible in the middleground view. Visually discernible vegetation in the pre- and post-development views remain mostly the same; there would be a less-than-significant visual impact to vegetation.			
Water	1	1	0	No Impact
<i>Explanation:</i>	No water is present on the site or in the vicinity.	No water would be introduced to the site or in the vicinity.		
<i>Detail:</i>	Neither pre- nor post-development views include any water features. No impact would occur.			
Color	2	2	0	Less than Significant
<i>Explanation:</i>	Generally muted colors with some variety or contrast. Gray and brown are present in the foreground associated with the roadway. Shades of brown, yellow, and green throughout the middleground associated with soil and vegetation. Shades of white, black, blue, gray and purple associated with the mountains can be seen in the background.	Colors within the majority of the view would not be modified; a small area of blue/gray is barely discernable in the right middleground view given its similarity in color to the mountains in the background.		
<i>Detail:</i>	Both pre- and post-development views show muted tones of brown, green, and yellow in the middleground and little variety or contrast. The project's solar arrays would add a small area of blue/gray that is barely discernable in the left background view; therefore, visual impacts to color would be less than significant in this view.			

TABLE 4.1-4: VISUAL QUALITY RATING ANALYSIS – KOP 1

Sensitive Receptor: Residents and motorists to the north of the project (Phase 1). Pre-development and post-development conditions are depicted in Figure 4.1-2.				
Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Adjacent Scenery	3	3	0	Less than Significant
<i>Explanation:</i>	Adjacent scenery moderately enhances the view through the presence of mountains to the south.	Adjacent scenery, including mountains to the south, would remain visible.		
<i>Detail:</i>	Adjacent scenery consists of flat lands with mixed desert vegetation in the middleground and mountains in the background. The project would not notably modify views of adjacent scenery, resulting in a less-than-significant impact.			
Scarcity	1	1	0	Less than Significant
<i>Explanation:</i>	While the view includes generally open desert landscapes overlooking the valley, there are no unique or unusual aspects from this view because similar viewsheds exist throughout the region.	The open viewshed would not be notably modified.		
<i>Detail:</i>	Open views offered by the pre-development are not unique or unusual. In addition, this view would not be notably modified by the project; visual impacts to scarcity would be less than significant.			
Cultural Modifications	-1	-2	1	Less than Significant
<i>Explanation:</i>	Man-made modifications in this view include the predominant paved roadway in the foreground, along with a few distant small structures and telephone poles in the middleground.	Solar facilities would be seen in the right side of the middle ground.		
<i>Detail:</i>	Cultural modifications currently have a dominating negative influence on the visual quality of the pre-development view in the foreground. A small portion of solar arrays can be seen in the right portion of the middleground view however, the added project facilities would not be a dominating feature in the landscape. Therefore, impacts would be less than significant.			
Totals:	11	10	1	Less than Significant



Existing View



Proposed View

**Figure 4.1-3: KOP 2: EXISTING AND SIMULATED VIEWS FROM US 395
LOOKING NORTHWEST TOWARD THE PROJECT (PHASE 1)**

TABLE 4.1-5: VISUAL QUALITY RATING ANALYSIS – KOP 2

Sensitive Receptor: Residents and motorists along the eastern boundary of the project (adjacent to Phase 1).
Pre-development and post-development conditions are depicted in Figure 4.1-3.

Rated Feature	Pre-Development Score	Post-Development Score	Difference in Scores	Impact Significance
Landform	3	3	0	Less than Significant
<i>Explanation:</i>	Landforms consist of a relatively flat and broad valley with larger, more defined mountain range across the entire background.	The project would not modify the area's topography.		
<i>Detail:</i>	In both pre- and post-development views, pavement dominates the foreground, flat landforms dominate the middleground, and mountains are visible in the background. Due to the lack of noteworthy landforms in the middleground, these background views of the mountains form an important element of the area's aesthetics. The low height of solar arrays would not hinder views of mountains in the background, and there would be a less-than-significant impact to landforms resulting from implementation of the project.			
Vegetation	3	2	1	Less than Significant
<i>Explanation:</i>	Low-lying desert vegetation of the same few species is present throughout the view.	The project would remove existing vegetation in the middleground.		
<i>Detail:</i>	Both the pre- and post-development views show low-lying desert vegetation in the middleground; however, vegetation in the middleground is replaced with solar arrays in the post development view. Since the vegetation does not dominate the pre-development view and vegetation is still visible in the post development view, visual impacts to vegetation would be less than significant.			
Water	1	1	0	No Impact
<i>Explanation:</i>	No water is present on the site or in the vicinity.	No water would be introduced to the site or in the vicinity.		
<i>Detail:</i>	Neither pre- nor post-development views include any water features. No impact would occur.			
Color	2	2	0	Less than Significant
<i>Explanation:</i>	The view includes generally muted colors with some variety or contrast. Shades of gray and brown in the foreground associated with pavement. Shades of brown, yellow, and green throughout middleground associated with soil and vegetation. Shades of, blue, brown, gray and purple associated with the mountains and development can be seen in the background.	The solar arrays would appear as a dark blue/gray horizontal band with silver elements in the middleground.		
<i>Detail:</i>	Both pre- and post-development views show gray and brown tones associated with the paved roadway. The project would add a thin strip of monotone dark			

TABLE 4.1-5: VISUAL QUALITY RATING ANALYSIS – KOP 2

Sensitive Receptor: Residents and motorists along the eastern boundary of the project (adjacent to Phase 1).
Pre-development and post-development conditions are depicted in Figure 4.1-3.

Rated Feature	Pre-Development Score	Post-Development Score	Difference in Scores	Impact Significance
	gray/blue color with elements of silver and light gray in the middleground, but these colors are similar to the colors found on the mountainsides in the background. In addition, the project would not modify colors in the background of the view. There would be a less-than-significant visual impact to color resulting from implementation of the project.			
Adjacent Scenery	3	3	0	Less than Significant
<i>Explanation:</i>	Adjacent scenery moderately enhances the view through the presence of mountains to the northwest.	Adjacent scenery, including mountains to the northwest, would remain visible.		
<i>Detail:</i>	Adjacent scenery consists of flat lands with mixed desert vegetation in the foreground and mountains in the background. The project would not notably modify views of adjacent scenery, resulting in a less-than-significant impact.			
Scarcity	1	1	0	Less than Significant
<i>Explanation:</i>	While the view offers open desert landscapes, there are no unique or unusual aspects from this view. Similar viewsheds exist throughout the region.	The viewshed would be modified by industrial development in the middleground.		
<i>Detail:</i>	Views offered by the pre-development are typical of the Indian Wells Valley, and are not unique or unusual; therefore, modifying the existing conditions to implement the project would result in less-than-significant impacts to scarcity of the view.			
Cultural Modifications	-1	-2	1	Less than Significant
<i>Explanation:</i>	Man-made modifications in this view include dirt and paved roads in the foreground and telephone poles in the middleground.	The project would add manmade modifications to the viewshed.		
<i>Detail:</i>	Cultural modifications currently have a dominating negative influence on the visual quality of the pre-development view in the foreground. The post-development view would include the addition of cultural modifications to the middleground from this point of view; however, the added project facilities would not be a dominating feature in the landscape. Therefore, impacts would be less than significant.			
Totals:	12	10	2	Potentially Significant



Existing View



Proposed View

Figure 4.1-4: KOP 3: EXISTING AND SIMULATED VIEWS FROM A RETAIL/BUSINESS AREA ADJACENT TO THE INTERSECTION OF WEST INYOKERN ROAD AND NORTH BROWN ROAD LOOKING NORTH TOWARD THE PROJECT (PHASES 1 AND 2)

TABLE 4.1-6: VISUAL QUALITY RATING ANALYSIS – KOP 3

Sensitive Receptor: Motorists near a retail/business area south of the project (south of Phases 1 and 2).
Pre-development and post-development conditions are depicted in Figure 4.1-4.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Landform	2	2	0	Less than Significant
<i>Explanation:</i>	Relatively flat and broad valley with a distant mountain range across the entire background.	The project would not modify the area's topography.		
<i>Detail:</i>	In both pre- and post-development views, paved roadways dominate the foreground, flat landforms dominate the middle ground, and distant mountains dominate the background. Due to the lack of noteworthy landforms in the foreground and middleground, these background views of mountains form an important element of the area's aesthetics. The solar arrays would only slightly hinder these views of mountains in the background since views of the solar arrays are found in the distant middleground. Impacts to topography would be less than significant.			
Vegetation	3	1	2	Potentially Significant
<i>Explanation:</i>	Some low-lying desert vegetation is visible throughout the middleground with some taller shrubs.	The project would remove existing vegetation in the distant middleground.		
<i>Detail:</i>	Both the pre- and post-development views show desert vegetation in the middleground. Vegetation in the distant middleground is replaced with solar arrays in the post development view. Therefore, visual impacts to vegetation would be potentially significant.			
Water	1	1	0	No Impact
<i>Explanation:</i>	No water is present on the site or in the vicinity.	No water would be introduced to the site or in the vicinity.		
<i>Detail:</i>	Neither pre- nor post-development views include any water features. No impact would occur.			
Color	2	0	2	Potentially Significant
<i>Explanation:</i>	Generally muted colors with some variety or contrast. Shades of gray, brown and yellow are present in the foreground associate with paved roads. Shades of brown, yellow, and green throughout the middleground associated with soil and vegetation and power poles. Signs and trucks in the middleground are white and gray. Faded shades of brown, blue, gray and purple associated with the mountains and development can be seen in the background.	The solar arrays would appear as a dark blue/gray horizontal band with silver elements in the distant middleground.		

TABLE 4.1-6: VISUAL QUALITY RATING ANALYSIS – KOP 3

Sensitive Receptor: Motorists near a retail/business area south of the project (south of Phases 1 and 2).
Pre-development and post-development conditions are depicted in Figure 4.1-4.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Detail:	Both pre- and post-development views have similar color tones. The project would add a consistent band of dark gray/blue color with elements of silver and light gray in the distant middleground, which contrasts with the light brown and green colors of the vegetation and the more distant light blue mountains in the background. This would create an element of disharmony in this viewshed. Impacts to color would be potentially significant.			
Adjacent Scenery	3	1	2	Potentially Significant
Explanation:	Adjacent scenery moderately enhances the view through the presence of some native vegetation in the middleground and mountains to the north in the background.	A substantial portion of adjacent scenery, including some native vegetation and mountains to the north, would be blocked by project facilities.		
Detail:	Adjacent scenery consists of flat lands with mixed desert vegetation in the middleground and mountains in the background. The project would block portions of native vegetation and mountains, resulting in a potentially significant impact.			
Scarcity	1	1	0	Less than Significant
Explanation:	There are no unique or unusual aspects from this view and similar viewsheds exist throughout the region.	The viewshed would be modified by industrial development in the distant middleground.		
Detail:	Views offered by the pre-development are typical of the Indian Wells Valley and are not unique or unusual; therefore, modifying the existing conditions to implement the project would not result in visually significant impacts to scarcity of the view.			
Cultural Modifications	-2	-4	2	Potentially Significant
Explanation:	Man-made modifications in this view include paved roads, telephone poles, trucks and roadside signs in the middleground, as well as distant development in the middleground.	The project would add manmade modifications to the distant middleground.		
Detail:	Cultural modifications currently dominate the foreground and are discordant in the pre-development view. The post-development view results in additional dominant cultural modifications in the distant middleground from this viewpoint, resulting in potentially significant impacts related to cultural modifications of the view.			
Totals:	10	2	8	Potentially Significant



Existing View



Proposed View

**FIGURE 4.1-5: KOP 4: EXISTING AND SIMULATED VIEWS FROM
A RESIDENTIAL AREA NEAR THE INTERSECTION OF NADINE STREET AND REEVES AVENUE
LOOKING NORTH TOWARD THE PROJECT (PHASE 1)**

TABLE 4.1-7: VISUAL QUALITY RATING ANALYSIS – KOP 4

Sensitive Receptor: Residents and motorists to the south of the project (south of Phase 1).
Pre-development and post-development conditions are depicted in Figure 4.1-5.

Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Landform	2	2	0	Less than Significant
<i>Explanation:</i>	The view consists of a relatively flat and broad valley with a mountain range in the background.	The project would not modify the topography in the view.		
<i>Detail:</i>	In both pre- and post-development views, flat landforms predominate with mountains visible in the background. Due to the lack of noteworthy landforms in the foreground, these background views of mountains form an important element of the area's aesthetics. The project would not notably modify landforms in the view and there would be a less-than-significant visual impact to landforms resulting from implementation of the project.			
Vegetation	3	1	2	Potentially Significant
<i>Explanation:</i>	Low-lying desert vegetation can be seen in the middleground.	The project would remove existing vegetation in the distant middleground.		
<i>Detail:</i>	Both the pre- and post-development views show desert vegetation in the middleground. Vegetation in the distant middleground is replaced with solar arrays in the post development view. Therefore, visual impacts to vegetation would be potentially significant.			
Water	1	1	0	No Impact
<i>Explanation:</i>	No water is present on the site or in the vicinity.	No water would be introduced to the site or in the vicinity.		
<i>Detail:</i>	Neither pre- nor post-development views include any water features. No impact would occur.			
Color	2	1	1	Less than Significant
<i>Explanation:</i>	Generally muted colors with some variety or contrast. Shades of brown, yellow, and green throughout the foreground and middleground associated with dirt roads, soil and vegetation. Shades of brown, blue, and gray associated with the mountains can be seen in the background. Distant shades of white and metal can also be seen in the background associated with development	The solar arrays and would appear as a dark blue/gray horizontal band with silver elements in the distant middleground.		
<i>Detail:</i>	Both pre- and post-development views show muted tones of brown, green, and yellow in the foreground and little variety or contrast. The project would add a dark blue/gray color with element of silver in the distant middleground. This would contrast with the view's existing soil and vegetation color but would remain muted similar to the distant mountains in the background. Therefore, there would be a less-than-significant visual impact to color resulting from implementation of the project.			

TABLE 4.1-7: VISUAL QUALITY RATING ANALYSIS – KOP 4

Sensitive Receptor: Residents and motorists to the south of the project (south of Phase 1). Pre-development and post-development conditions are depicted in Figure 4.1-5.				
Rated Feature	Pre-Development Condition	Post-Development Score	Difference in Scores	Impact Significance
Adjacent Scenery	3	3	0	Less than Significant
<i>Explanation:</i>	Adjacent scenery moderately enhances the view through the presence of mountains to the north.	Adjacent scenery, including mountains to the north, would remain mostly visible.		
<i>Detail:</i>	Adjacent scenery consists of flat lands with mixed desert vegetation in the middle ground and mountains in the background. The project would not notably modify views of adjacent scenery, resulting in a less-than-significant impact.			
Scarcity	1	1	0	Less than Significant
<i>Explanation:</i>	While the view offers generally open views of the mountains, there are no unique or unusual aspects from this view because similar viewsheds exist throughout the region.	The open viewshed would not be notably modified.		
<i>Detail:</i>	Open views offered by the pre-development are not unique or unusual. In addition, this view would not be notably modified by the project; no visual impacts to scarcity would occur.			
Cultural Modifications	-1	-2	1	Potentially Significant
<i>Explanation:</i>	Man-made modifications in this view are limited to a dirt road in the middle of the middleground and foreground of the view, as well as distant development in the middleground.	The project would add manmade modifications to the distant middleground.		
<i>Detail:</i>	Cultural modifications currently dominate the foreground of the view drawing the viewer's eye to the mountains. The post-development view results in additional dominant cultural modifications in the distant middleground from this viewpoint, resulting in potentially significant impacts related to cultural modifications of the view.			
Totals:	11	7	4	Potentially Significant

Factors Reducing Visual Impacts

The following attributes of the project and elements of the existing conditions would reduce visual impacts of the project:

- The land is generally flat, minimizing the need for grading.
- The roads in the immediate project areas do not have scenic designations.
- Solar panels, which are the primary feature of the project and would cover most of the land on the site, would generally be 10 feet in height or less and would therefore not block long-distance views or be visible from beyond a small viewshed.
- Solar panels do not create significant levels of glare as explained further in Impact 4.1-4, below.
- Minimal onsite lighting would be required during operations as explained further in Impact 4.1-4, below. Facilities would not operate at night and no regular nighttime staffing would be required.

Summary

Views that score a total of 19 points or more are typically considered very high in visual quality. Views that score a total of 15 to 19 points are typically considered to have a high level of visual quality. Views that score a total of 12 to 15 points are typically considered to have an above average level of visual quality. Finally, views that score a total of 11 points or less are typically considered to have average visual quality. Using the BLM scale (as discussed in Section 4.1.4 under the Methodology section above) to analyze the scores in Tables 4.1-4 through 4.1-8 above, KOP 2 has an above average visual quality and KOP 1, KOP 3, and KOP 4 have an average visual quality. As shown in Tables 4.1-4 through 4.1-7, implementation of the project would result in potentially significant impacts resulting from a change to the area's visual quality and visual character, particularly from KOP 2.

The nature of solar fields, with large numbers of nearly identical and relatively low-lying PV panels (maximum height of 10 feet), means that the views encountered from differing angles would often be quite similar. Ancillary facilities such as the energy storage facility, O&M buildings would be a similar height as the solar arrays. Since these ancillary facilities would be a similar height to the solar arrays and located within the solar fields, views of them would mostly be obstructed by the solar arrays and fencing; these facilities cannot be seen from the KOPs. As shown in visual simulations, the introduction of the solar panels would significantly alter the visual character of the project site.

The project would also include construction of a new 150-foot-long gen-tie line to that would connect to an existing SCE 33 kV electrical distribution line, enabling energy delivery to the existing SCE Inyokern Substation located approximately 0.5 miles to the east of the project site. The gen-tie line cannot be seen from any of the KOPs. The presence of these vertical elements would add man-made elements in the landscape that currently do not exist, resulting in significant aesthetic impacts.

Although the proposed project would be generally well-sited for efficiency of energy generation and low impacts on neighboring land uses, the contrast of the industrial nature of the facilities with the undeveloped and open desert viewshed present on-site would substantially modify the existing visual character of the landscape as viewed by sensitive receptors for the life of the project. The project facilities would substantially reduce vegetation visibility, create color disharmony, and add cultural modifications to the project site's landscape.

Mitigation Measures MM 4.1-1 and MM 4.1-2 would be incorporated to reduce visual impacts by regular debris clearing to avoid visual impacts from debris collection and color treating all project facilities to reduce color disharmony. Mitigation Measure MM 4.1-3 would require the revegetation of disturbed areas following construction decommissioning, which would help reduce potentially significant aesthetic impacts related to vegetation. However, there are no feasible mitigation measures that can be implemented to preserve the existing open space landscape character at the project site while at the same time developing a solar energy facility. Therefore, impacts to visual character would remain significant and unavoidable despite implementation of these mitigation measures.

Mitigation Measures

MM 4.1-1: Prior to issuance of a grading or building permit, a Maintenance, Trash Abatement, and Pest Management Program shall be submitted to the Kern County Planning and Natural Resources Department. The program shall include, but not be limited to the following:

- a. The project proponent/operator shall clear debris from the project area at least four times per year; this can be done in conjunction with regular panel washing and site maintenance activities.
- b. The project proponent/operator shall erect signs with contact information for the project proponent/operator's maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Natural Resources Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris. Correspondence with such requests and responses shall be submitted to the Kern County Planning and Natural Resources Department.
- c. The project proponent/operator shall implement a regular trash removal and recycling program on an ongoing basis during construction and operation of the project. Barriers to prevent pest/rodent access to food waste receptacles shall be implemented. Locations of all trash receptacles during operation of the project shall be shown on final plans.
- d. Trash and food items shall be contained in closed containers to be locked at the end of the day and removed at least once per week to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

MM 4.1-2: The project proponent shall install metal fence slats or similar view-screening materials, as approved by the Kern County Planning and Natural Resources Department, in all on-site perimeter fencing for any portion of the solar site that is adjacent to parcels zoned for residential use, including E (Estate Residential), R-1 (Low-Density Residential), R-2 (Medium-Density Residential), R-3 (High-Density Residential), or PL (Platted Lands) zoning unless the adjacent property is owned by the project proponent (to be verified by the Kern County Planning and Natural Resources Department) or a public or private agency that has submitted correspondence to the Kern County Planning and Natural Resources Department requesting this requirement to be waived. Should the project proponent sell the adjacent property, slat fencing or similar view-screening materials shall be installed prior to the sale.

The project proponent/operator shall color treat all project facilities including operations and maintenance buildings, gen-tie poles, array facilities, etc. to blend in with the colors

found in the natural landscape. Color treatments shall result in matte or nonglossy finishes. Plans showing color treatments shall be submitted for approval by the Kern County Planning and Natural Resources Department.

MM 4.1-3: The measures detailed below shall be implemented during project construction and decommissioning to protect existing vegetation onsite:

- a. Natural vegetation may be mowed only within the project boundary, along gen-tie and access routes.
- b. Wherever possible, within the proposed project boundary the natural vegetation shall remain undisturbed as permitted by the Fire Code.
- c. Where feasible, root balls shall be maintained during vegetation clearing to maintain soil stability and ultimately vegetation re-growth following construction.
- d. All natural vegetation adjacent to the proposed project boundary shall remain in place.
- e. Prior to the commencement of project operations and decommissioning, the project proponent/operator shall submit a Landscape Revegetation and Restoration Plan for the project site to the Kern County Planning and Natural Resources Department for review and approval. The plan shall include the measures detailed below:
 - i. In areas temporarily disturbed during construction and decommissioning (including grading or removal of root balls resulting in loose soil), the ground surface shall be revegetated with a native seed mix or native plants (including Mohave creosote scrub habitat) and/or allowed to re-vegetate with the existing native seed bank in the top soil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.
 - ii. The plan must include but is not limited to: (1) the approved California native seed mix that will be used onsite, (2) a timeline for seeding the site, (3) the details of which areas are to be revegetated, (4) a list of the consultation efforts completed, (5) the methods and schedule for installation of fencing that complies with wildlife agency regulations, and a clear prohibition of the use of toxic rodenticides.
 - iii. Ground cover shall include native seed mix and shall be spread where earthmoving activities have taken place, as needed to establish re-vegetation. The seed mix or native plants shall be determined through consultation with professionals such as landscape architect(s), horticulturist(s), botanist(s), etc. with local knowledge as shown on submitted resume and shall be approved by the Kern County Planning and Natural Resources Department prior to planting. Phased seeding may be used if a phased construction approach is used (i.e., the entire site need not be seeded all at the same time).
 - iv. Ground cover shall be continuously maintained on the site by the project operator.
 - v. The re-vegetation and restoration of the site shall be monitored annually for a three-year period following restoration activities that occur post-construction and post-decommissioning. Based on annual monitoring visits during these three-year periods, an annual evaluation report shall be submitted to the Kern County Planning and Natural Resources Department for the three-year period. Should

efforts to revegetate with the existing native seed bank in the top soil prove in the second year to not be successful by 75 percent cover rate, re-evaluation of revegetation methods shall be made in consultation with the Kern County Planning and Natural Resources Department and an additional year shall be added to the monitoring program to ensure coverage is achieved. The three-year monitoring program is intended to ensure the site naturally achieve native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.

Level of Significance after Mitigation

Despite implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3, impacts would be significant and unavoidable.

Impact 4.1-4: The project would create a new source of substantial light or glare that could adversely affect day or nighttime views in the area.

Regarding night lighting conditions, “light” refers to artificial light emissions, or the degree of brightness, generated by a given source. Regarding glare conditions, the Illuminating Engineering Society of North America (IESNA, 2000) defines “glare” as the sensation produced by luminance in the visual field that is sufficiently greater than the luminance to which the eye has adapted to cause annoyance, discomfort, or loss of visual performance and visibility.

Construction

Lighting

According to the County’s Noise Ordinance, construction is allowed during the hours of 6 a.m. to 9 p.m. Monday through Friday and 8 a.m. to 9 p.m. on weekends. Construction of the project would generally occur during daytime hours; however, non-daylight hours may be necessary at times to make up for unanticipated schedule delays or to complete critical construction activities. Construction of the project would generally occur during daytime hours between 7 a.m. and 6 p.m. In the event that work is performed outside of this schedule during the evening or early morning, construction crews would use minimal illumination in order to perform the work safely. All lighting would be directed downward and shielded to focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties. During construction, dusk-to-dawn security lighting would be required for the temporary construction staging area, parking area, construction office trailer entries, and project site access points. Lighting is not planned for typical construction activities because construction activities would occur primarily during daylight. As applicable, work in the solar field areas and on the transmission lines during dark hours would be performed using battery or gas-powered light stands that would be directed to the active work area. Per Mitigation Measure MM 4.1-4, any nighttime construction would use lighting designed to provide the minimum illumination needed, thereby minimizing adverse impacts on any nearby residents. As a result, construction of the project would result in less-than-significant impacts to nighttime views.

Glare

Most of the proposed construction activities are planned to occur during daylight hours. Increased truck traffic and the transport of the solar arrays and construction materials to the project site and transmission

lines would temporarily increase glare conditions during construction. However, this increase in glare would be minimal and temporary. Construction activity would occur on focused areas of the project site as construction progresses and any sources of glare would not be stationary for a prolonged period of time. Additionally, the surface area of construction equipment would be minimal compared to the scale of the site. Therefore, construction of the project would not create a new source of substantial glare that would affect daytime views in the area. Impacts would be less than significant.

Operation

Lighting

As described in Chapter 3, *Project Description*, the project would include nighttime security lighting to provide maintenance personnel with illumination for both normal and emergency conditions. Lighting would be installed along the gen-tie line as required by FAA and no lighting is anticipated along the majority of the fence lines around the perimeter of the solar sites. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives. Additionally, lighting would be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. Potential operational impacts associated with new sources of lighting at the solar sites would be minimized through compliance with applicable development standards pertaining to lighting, including Chapter 19.81 (Dark Skies Ordinance), as required with implementation of Mitigation Measure MM 4.1-4, which states that projects would be designed to provide the minimum illumination needed to achieve safety and security objectives. Therefore, implementation of Mitigation Measure MM 4.1-4 and compliance with applicable local development standards and regulations pertinent to lighting would minimize the potential for light trespass onto adjacent properties and roads, and impacts would be less than significant.

Glare

As described under Section 4.1.2, *Environmental Setting*, solar panels have the potential to create glare. However, this potential is much lower than is commonly perceived. Materials used in other structures, including the O&M buildings and the gen-tie line, could also produce glare. In the project area, effects on eastbound motorists would likely be greatest in the early evening hours, when the sun is at its lowest arc in the western horizon. Glare would have its greatest impact on westbound travelers in the early morning hours, when the sun is rising in the east.

An analysis of glare was conducted for the project and is provided in Appendix B of this EIR. As discussed therein, a Solar Glare Hazards Analysis Tool was used to determine the potential for glare as well as identifying the potential effects on the human eye when glare does occur. This tool meets Federal Aviation Administration (FAA) glare analysis requirements. Proposed solar operations were studied for six landing approaches for three runways located at the Inyokern Airport and six landing approaches for three runways and the ATC tower located at NAWS China Lake. As concluded by the Glare Study (Power Engineers, 2019), there would be no glare visible from the proposed solar operations to aircrafts due to the orientation of the panels and their rotational limits. Although the project facilities may produce some glare, the amount of glare produced is not expected cause extreme visual discomfort or impairment of vision for residents as the panels would be designed to absorb as much sunlight as possible for minimal reflectivity. To further reduce glare potential, the project would be required to implement Mitigation Measures MM 4.1-5 and MM 4.1-6, which require the use of non-reflective and non-glare materials when feasible. Impacts would be less than significant.

Mitigation Measures

- MM 4.1-4:** Prior to final activation of the solar facility, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff that the project site complies with the applicable provisions of the *Dark Skies Ordinance* (Chapter 19.81 of the Kern County Zoning Ordinance), and shall be designed to provide the minimum illumination needed to achieve safety and security objectives. All lighting shall be directed downward and shielded to focus illumination on the desired areas only and avoid light trespass into adjacent areas. Lenses and bulbs shall not be exposed or extend below the shields.
- MM 4.1-5:** Prior to the issuance of building permits, the project proponent shall demonstrate the solar panels and hardware are designed to minimize glare and spectral highlighting. Emerging technologies shall be used, such as diffusion coatings and nanotechnological innovations, to effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient with respect to converting incident sunlight into electrical power while also reducing the amount of glare generated by the panels. Specifications of such designs shall be submitted to the Kern County Planning and Natural Resources Department.
- MM 4.1-6:** Prior to final activation of the solar facility, the project operator shall demonstrate that all onsite buildings utilized non-reflective materials, as approved by the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6, impacts would be less than significant.

Cumulative Setting Impacts and Mitigation Measures

Other solar projects have the potential to result in cumulative impacts to aesthetics when considered together with the project. The “scarcity” rating criterion is particularly likely to be significantly impacted by any widespread solar development in the area, as unobstructed views of regional topographical features and undeveloped lands would be less available as acreage is developed with PV panels and new transmission lines are constructed. As shown in Table 3-5, *Cumulative Project List*, in Chapter 3, *Project Description*, two solar projects are proposed within the Indian Wells Valley.

As discussed above, the project would have less-than-significant impacts as visual impacts would most likely be limited to the small number of persons traveling along US 395, SR-178, and North Brown Road. The project site is not located within an area designated for or identified as having a scenic vista. Therefore, the project would not have a substantial effect on a scenic vista and impacts would be less than significant. As such, cumulative impacts would be less than significant and not cumulative considerable.

With regard to impacts related to damaging scenic resources within a scenic highway, the closest eligible scenic highway is SR-14 (portion north of Business East Route 58), which is located 3.2 miles west of the project site. Due to this distance, the proposed project would not be visible from Business East Route 58 or SR-14. Therefore, construction of the proposed project would not change the viewshed from any Officially Designated State or County Scenic Highway and impacts would be less than significant.

As discussed above, the project would result in significant and unavoidable impacts related to visual character despite implementation of mitigation. While other projects in the region would also be required to implement various mitigation measures to reduce impacts, the conversion of thousands of acres in a presently rural area to solar and wind energy production uses cannot be mitigated to a point where visual impacts are no longer significant. Even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3, cumulative impacts associated with visual character would be significant and unavoidable.

The proposed project would result in less-than-significant impacts to related to light and glare; implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6 would minimize any potential impacts. Given the proposed project's distance from the other projects on Table 3-5, *Cumulative Project List*, cumulative impacts to light and glare would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.1-1 through MM 4.1-6.

Level of Significance after Mitigation

Despite implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3, cumulative impacts related to visual character would be significant and unavoidable. Cumulative impacts related to scenic vistas and scenic resources would be less than significant. In addition, with implementation of Mitigation Measures MM 4.1-4 through MM 4.1-6, impacts related to light and glare would be less than significant.

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Section 4.2

Agriculture and Forestry Resources

4.2.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory settings for agriculture and forest resources for the project. It also describes the impacts on agricultural and forest resources that would result from the implementation of the project, and includes mitigation measures that would reduce these impacts, where applicable. Various resources were used in preparation of this section, including the Phase 1 Environmental Site Assessments prepared for the project site (Terracon, 2015a; SEI, 2014) located in Appendix H of this EIR, the Geotechnical Engineering Report prepared for the project site (Terracon, 2015b), the 2018 Kern County Agricultural Crop Report, and other published online resources.

4.2.2 Environmental Setting

Regional Setting

Kern County covers approximately 8,163 square miles (5,224,258 acres) including 1,384 square miles (885,957 acres) of harvested agricultural land and approximately 2,889 square miles (1,849,266 acres) of grazing land. According to the 2018 Kern County Agricultural Crop Report, agriculture in Kern County was worth approximately \$7.4 billion in 2018, which is an increase of 3 percent from the 2017 crop value. The top five commodities for 2018 were grapes, almonds, citrus, milk, and pistachios, which made up more than \$4.4 billion (59 percent) of the total value, with the top twenty commodities making up more than 71 percent of the total value (Department of Agriculture and Measurement Standards, 2018).

Kern County is a growing population and like many agricultural based jurisdictions, must balance urbanization and the loss of farmland. As shown in **Table 4.2-1, *Agricultural Land Use Designation Conversions in 2018***, during 2018, approved amendments re-designated 7.8 acres of agriculturally designated lands for non-agricultural uses. These amendments resulted in a total net conversion of 7.8 acres within unincorporated Kern County (Kern County, 2018). (Note: These various farmland designations are defined in Section 4.2.3, *Regulatory Setting*, below.)

According to Kern Economic Development Corporation (KEDC), it is estimated that the total population of Kern County will reach approximately 1,240,496 individuals in 2040 (KEDC, 2019), growing from today's population of approximately 916,464 (DOF, 2019). The anticipated growth in population will most likely decrease the amount of agricultural land in Kern County even further. However, it is important to note, the conversion of agricultural land is affected by numerous factors other than population growth and urban development. Actual production is dependent on commodity prices, water prices and supply, labor, the proximity of processing and distribution facilities, and pest management. Factors such as weather, trade agreements, and labor disputes can also affect decisions regarding what crops are grown and which lands go in and out of production. Most conversion of Prime or Farmland of Statewide Importance agricultural lands is occurring within the planned development footprint of Metropolitan Bakersfield. Very little conversion of the most productive agricultural lands has occurred in outlying areas of the County.

TABLE 4.2-1: AGRICULTURAL LAND USE DESIGNATION CONVERSIONS IN 2018

Project/Applicant	Case Number	Document	From Map Code	To Map Code	Acreage Converted
Afinar, Inc. by Bernard Salgado	GPA 5, Map 143-41	KCGP	8.1/2.3 (Extensive Agriculture/Shallow Groundwater)	5.7/2.3 (Residential – 5.0 Gross Acres/Dwelling Unit Maximum/Shallow Groundwater)	-7.8
Total Agricultural Acreage Converted (net)					-7.8

SOURCE: Kern County, 2018.

Local Setting

The project site is located in the northeastern portion of Kern County within the administrative boundaries of the Kern County General Plan and the Inyokern Specific Plan. The project site is primarily designated for Service Industrial/Flood Hazard and zoned Medium-Industrial as shown on listed in Table 3-1, *Project Assessor Parcel Numbers – RB Inyokern Phase 1*, and Table 3-2, *Project Assessor Parcel Numbers – RB Inyokern Phase 2*.

The project site is currently undeveloped open space and does not support agricultural uses. A wastewater treatment plant is located adjacent on the northeastern portion of the project site. The Inyokern Airport is located west of the project site. An existing approximate 4.2-acre borrow pit is located on the southeast corner of the Phase 1 portion of the site, which was originally used to build a roadway overpass.

The project site is not under a Williamson Act Land Use contract (DOC, 2013). The project site is not designated by the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) as prime Farmland, Farmland of Statewide Importance, or Unique Farmland. As shown on **Figure 4.2-1, Farmland Mapping and Monitoring Program Designations**, the DOC designates the project site as “Nonagricultural and Natural Vegetation,” “Grazing Land,” and “Vacant or Disturbed Land” (DOC, 2016).

Soils

According to the soils report prepared for the project site, onsite soils consist of well graded sand with clay and poorly-graded sand with silt. Moisture contents of the surface and near-surface native soils onsite range from about 2 to 4 percent, indicating moisture conditioning of the soils would be needed during any proposed construction activities (Terracon, 2015b).

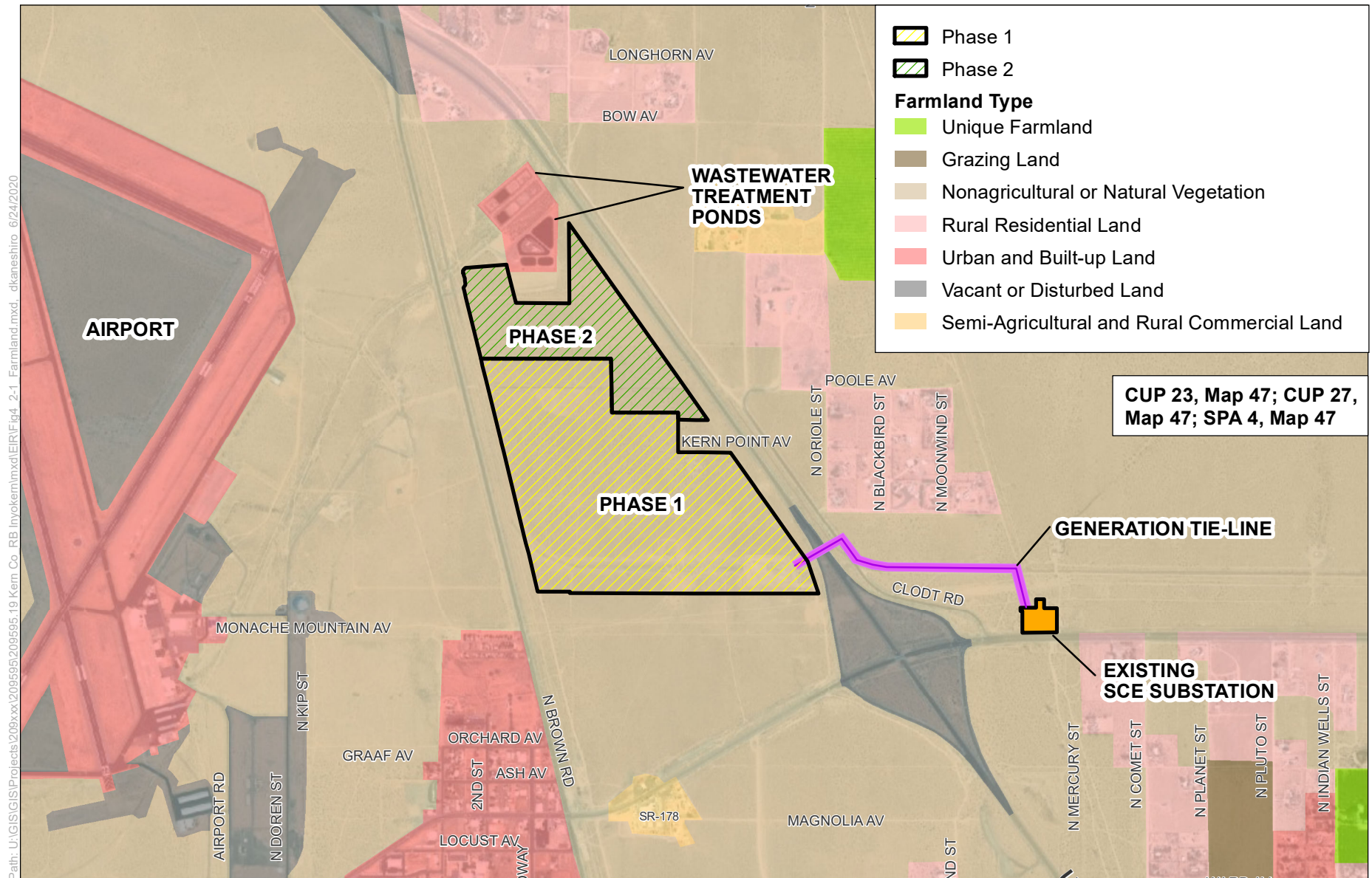


Figure 4.2-1: FARMLAND MAPPING AND MONITORING PROGRAM DESIGNATIONS

4.2.3 Regulatory Setting

Federal

Farmland Protection Policy Act (FPPA) (7 United States Code [USC] Section 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It additionally directs federal programs to be compatible with State and local policies for the protection of farmland. Under the FPPA, the term “farmland” includes Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance. Farmland that is subject to FPPA requirements does not have to be currently used as cropland. It can be forestland, pastureland, or other land but not urban and built-up land or water. FPPA assures that, to the extent possible, federal programs are administered to be compatible with State, and local units of government, and private programs and policies to protect farmland.

In 1981, Congress passed the Agriculture and Food Act (Public Law 97-98) which contained the FPPA, Subtitle I of Title XV, Section 1539-1549. The final rules and regulations were published in the Federal Register on June 17, 1994. Federal agencies are required to develop and review their policies and procedures related to implementing the FPPA every 2 years.

The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or rely on assistance from a federal agency (Natural Resources Conservation Service [NRCS], 2019).

State

California Department of Conservation (DOC), Division of Land Resource Protection

The DOC applies the NRCS soil classifications to identify agricultural lands. These agricultural designations are used in planning for the present and future of California’s agricultural land resources. The DOC uses a minimum mapping unit of 10 acres; parcels that are smaller than 10 acres are absorbed into the surrounding classifications.

The list below describes the categories mapped by the DOC (DOC, 2019a) through the FMMP. Collectively, lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are referred to as “farmland.”

- **Prime Farmland.** Farmland that has the ideal combination of physical and chemical features. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields and long-term agricultural production. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- **Farmland of Statewide Importance.** Farmland that is similar to Prime Farmland but with minor shortcomings, such as greater slopes or lower moisture content. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Unique Farmland.** Land with lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include land that supports non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must have been used for crops at some time during the four years prior to the mapping date.
- **Farmland of Local Importance.** Land that is important to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land.** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups with an interest in grazing activities.
- **Urban and Built-Up Land.** Land that is developed with structures that have been built to a density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land supports residential, industrial, commercial, institutional, public administrative uses; railroad and other transportation yards; cemeteries; airports; golf courses; sanitary landfills; sewage treatment facilities; water control structures; and other developed uses.
- **Other Land.** Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Undeveloped and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act (California Government Code Section 51200-51297.4), is applicable to specific parcels within the State of California. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under a Williamson Act contract. The Williamson Act program is administered by the DOC, in conjunction with local governments that administer the individual contract arrangements with landowners. Participation in the Williamson Act program is dependent on County adoption and implementation of the program and is voluntary for landowners (DOC, 2019b).

Under the Williamson Act, a landowner commits the parcel to a 10-year period, during which time no conversion out of agricultural use is permitted. In return, the land is taxed at a rate based on the actual use (i.e., agricultural production), as opposed to its unrestricted market value. Each year the contract automatically renews unless a notice of nonrenewal or cancellation is filed. However, the application to cancel must be consistent with the criteria of the affected county or city. Nonrenewal or contract cancellation does not change a property's zoning. Participation in the Williamson Act program, which is voluntary for landowners, is dependent on a county's willingness to adopt and implement the program. The Williamson Act states that a board or council will, by resolution, adopt rules governing the administration of agricultural preserves. The rules of each agricultural preserve specify the allowed uses. Generally, any commercial agricultural use would be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted under a permit (DOC, 2019b).

California Government Code Section 51238 states that, unless otherwise decided by a local board or council, the erection, construction, alteration, or maintenance of electric and communication facilities, as well as other facilities, are determined to be compatible uses within any agricultural preserve. Also Section 51238 states that board of supervisors may impose conditions on lands or land uses to be placed within preserves to permit and encourage compatible uses, in conformity with Section 51238.1. Furthermore, under California Government Code Section 51238.1, a board or council may allow any use that without conditions or mitigations would otherwise be considered incompatible. However, this may occur only if that use meets the following conditions:

- The use would not significantly compromise the long-term agricultural capability of the subject contracted parcel or parcels on other contracted lands in agricultural preserves;
- The use would not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping; and
- The use would not result in the significant removal of adjacent contracted land from agricultural or open-space use.

Farmland Security Zone Act

The Farmland Security Zone Act is similar to the Williamson Act. It was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy in the State. Farmland Security Zone Act contracts are sometimes referred to as “Super Williamson Act Contracts.” Under the provisions of this act, a landowner who is already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35 percent reduction in the taxable value of land and improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to develop the property into nonagricultural uses.

Public Resources Code Section 21060.1

Public Resources Code Section 21060.1 uses the FMMP to define agricultural land for the purposes of assessing environmental impacts. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and analyze the conversion of such lands. The FMMP provides analysis pertaining to agricultural land use changes throughout California.

Local

Kern County General Plan

The Kern County General Plan states that agriculture is vital to the future of Kern County and sets goals to protect important agricultural lands for future use and prevent the conversion of prime agricultural lands to

other uses (e.g., industrial or residential). The Kern County General Plan includes four (4) designations for agricultural land:

- **8.1 Intensive Agriculture (minimum parcel size 20 acres gross)** – Lands devoted to the production of irrigated crops or having potential for such use.

Uses shall include, but are not limited to, the following: Irrigated cropland; orchards; vineyards; horse ranches; raising of nursery stock ornamental flowers and Christmas trees; fish farms' bee keeping' ranch and farm facilities and related uses; one single-family dwelling unit; cattle feed yards; dairies; dry land farming; livestock grazing; water storage; groundwater recharge acres; mineral; aggregate; and petroleum exploration and extraction; hunting clubs; wildlife preserves; farm labor housing; public utility uses; and agricultural industries pursuant to provisions of the Kern County Zoning Ordinance, and land within development areas subject to significant physical constraints.

- **8.2 Resource Reserve (minimum parcel size is 20 acres gross, except to a Williamson Act Contract/Farmland Security Zone Contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands devoted to areas of mixed natural resource characteristics including rangeland, woodland, and wildlife habitat which occur in an established County water district.
- **8.3 Extensive Agriculture (minimum parcel size 20 acres gross, except lands subject to a Williamson Act contract/Farmland Security Zone contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands devoted to uses involving large amounts of land with relatively low value-per-acre yields such as livestock grazing, dry-land farming, and woodlands.
- **8.5 Resource Management (minimum parcel size 20 acres gross, except lands subject to a Williamson Act contract/Farmland Security Zone contract, in which case the minimum parcel size shall be 80 acres gross)** – Lands consisting primarily of open space containing important resource values, such as wildlife habitat, scenic values, or watershed recharge areas. These areas may be characterized by physical constraints, or may constitute an important watershed recharge area or wildlife habitat or may have value as a buffer between resource areas and urban areas. Other lands with this resource attribute are undeveloped, non-urban areas that do not warrant additional planning within the foreseeable future because of current population (or anticipated increase), marginal physical development, or no subdivision activity.

Additionally, the designation of 8.5 (Resource Management) can be used for agricultural uses such as dry-land farming and ranch facilities.

The policies, goals, and implementation measures in the Kern County General Plan for agricultural resources applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the proposed project. Therefore, they are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1. Land Use, Open Space, and Conservation Element

1.9 Resource

Goals

- Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from

the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.

- Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.
- Goal 3: Ensure the development of resource areas minimize effects on neighboring resource lands.
- Goal 5: Conserve prime agriculture lands from premature conversion.
- Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

- Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of general plan designation.
- Policy 7: Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.
- Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.

Implementation Measure

- Measure F: Prime agricultural lands, according to the Kern County Interim-Important Farmland 2000 map produced by the Department of Conservation, which have Class I or II soils and a surface delivery water system shall be conserved through the use of agricultural zoning with minimum parcel size provisions.

Kern County Zoning Ordinance

The Kern County Zoning Ordinance establishes basic regulations under which land is developed. This includes allowable uses, building setback requirements, and development standards. Pursuant to State law, the zoning ordinance must be consistent with the Kern County General Plan. The basic intent of the Kern County Zoning Ordinance is to promote and protect the public health, safety, and welfare via the orderly regulation of the land uses throughout the unincorporated area of the County. The zoning ordinance applies to all property in unincorporated Kern county, except land owned by the United States or any of its agencies.

The project site is within the M-2 (Medium Industrial) zoning district. Permitted uses within an M-2 Industrial zone are set forth in Sections 19.38.020 of the Kern County Zoning Ordinance and include residential uses, agricultural uses, recreation, entertainment, and tourist facilities, commercial uses, industrial uses, transportation facilities, utility and communications facilities, resource extraction and energy development uses, institutional, educational institutions, and miscellaneous uses. Two approved Conditional Use Permits (CUPs) would be required in order to allow for the construction and operation of the proposed solar facility in the M-2 Industrial Zone district.

Williamson Act Standard Uniform Rules

Kern County has adopted a set of rules that identify compatible land uses within agricultural preserves established under the Williamson Act. The rules restrict uses on such land to agricultural or other compatible uses. Agricultural uses include crop cultivation, grazing commercial wind farms, livestock breeding, dairies, and uses that are incidental to these uses. Other compatible agricultural uses include those associated with public utilities (e.g., gas, electric, communications, water, and other similar public utilities). For purposes of this analysis, the conversion of agricultural land to a solar facility itself would be incompatible with the farming provisions necessary for projects under Williamson Act contracts.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. There are no specific agriculture-related policies and measures contained in the Inyokern Specific plan that are applicable to the project. In Kern County, specific plans are used to implement goals, objectives, and policies of the General Plan in a more detailed and refined manner unique to a smaller area of the County. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

4.2.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to agriculture and forest resources have been evaluated using a variety of resources, including the Phase 1 Environmental Site Assessments (Terracon, 2015a; SEI, 2014) located in Appendix H of this EIR and the Geotechnical Engineering Report (Terracon, 2015b) located in Appendix G of this EIR. The 2018 Kern County Agricultural Crop Report and other published online resources were also consulted. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on agricultural resources.

A proposed project would have a significant impact on agriculture and forest resources if it would:

- a. 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 uses;
- b. Conflict with existing zoning for agricultural use or a Williamson Act Contract;

- c. 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));
- d. Result in the loss of forestland or conversion of forestland to non-forest use;
- e. Involve other changes in the existing environment, which, because of their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use; or
- f. Result in the cancellation of an open space contract made pursuant to the California Land Conservancy Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15205(b)(3) Public Resources Code).

As lead agency, Kern County determined in the Initial Study/Notice of Preparation (IS/NOP), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to some of these environmental issue areas; these issue areas are thus scoped out of this EIR. It was determined that the project would not:

- b. Conflict with existing zoning for agricultural use or a Williamson Act Contract;
- c. Conflict with existing zoning for, or cause rezoning of, forestland (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));
- d. Result in the loss of forestland or conversion of forestland to non-forest use;
- e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use; or
- f. Result in the cancellation of an open space contract made pursuant to the California Land Conservancy Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15205(b)(3) Public Resources Code).

As detailed in the IS/NOP, the project site would not conflict with existing zoning and is not under a Williamson Act Contract. The closest Williamson Act land is located approximately 16 miles southwest of the project site. Additionally, as discussed in Section 4.10, *Hydrology and Water Quality*, the project site is located within the Indian Wells Valley Groundwater Basin, most of which has been over drafted and is currently an adjudicated area for groundwater management, which limits the availability of water for farming purposes. The project site is not situated on, or in the vicinity of, forestland, timberland, or lands zoned for forest or timberland production and would therefore not conflict or result in rezoning of forestland or timberland or the loss of forestland to non-forest use. The project site is comprised of non-agricultural uses and no agricultural uses are adjacent to the project site and would thus not result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Implementation of the project would not result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Public Resources Code Section 15206(b)(3)). Therefore, no further analysis of these impacts is warranted in the EIR.

Project Impacts

Impact 4.2-1: 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 uses.

The project would not directly or indirectly impact farmland. The project site is vacant, undeveloped, and does not support agricultural uses. The 2016 FMMP designates the project site as Nonagricultural and Natural Vegetation, which includes uses such as grazing land, non-agricultural and natural vegetation, and vacant or disturbed lands (DOC, 2019a). The project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance pursuant to the FMMP and has not been used for agricultural uses within the past 4 years. The project site is within the M-2 (Medium Industrial) zone districts, that includes agricultural as a permitted use as set forth in Sections 19.38.020 of the Kern County Zoning Ordinance. However, there are no agricultural uses in or adjacent to the project site. Therefore, the use of solar facilities in the project site would not result in the direct or indirect conversion of agricultural land to nonagricultural land, and impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative agricultural and forest impacts is considered the Indian Wells Valley. This geographic scope was selected because the land within the region possesses relatively similar agricultural opportunities, soil conditions, climate, and water availability. As shown in Table 3-5, *Cumulative Projects List*, of Chapter 3, *Project Description*, there are approximately six projects proposed throughout the Indian Wells Valley in Kern County. Of these projects, one project (East Kern Properties, LLC) would develop over 3,000 acres into a solar energy generation facility and could result in the substantial conversion of agricultural land to a non-agricultural use.

Although the project would develop a solar facility on undeveloped land, the proposed project would not result in the loss of farmland and is and is unlikely to be farmed in the future due to water availability. Further, the development of solar power generating facilities on the project site is not anticipated to affect the potential for agricultural production to occur in adjacent or distant areas within the Indian Wells Valley. Therefore, the proposed project would have no contribution to cumulative impacts related to agriculture in Kern County. Cumulative impacts to agriculture and forestry resources would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than significant.

4.3.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting of air quality for the project. This section also evaluates the short- and long-term air quality impacts associated with development of the project and, where necessary, mitigation measures are provided to avoid or lessen the impacts of the project.

Information in this section is based primarily on the project's air quality technical report, *Air Quality Impact Analysis* (Insight, 2017, 2019) located in Appendix C of this EIR. The report was prepared in accordance with the Eastern Kern Air Pollution Control District's (EKAPCD) *Guidelines for Implementation of the California Environmental Quality Act (CEQA)* and Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports*.

4.3.2 Environmental Setting

As described in Chapter 3, *Project Description*, the project would include the development of two solar facilities and associated infrastructure with the capacity to generate up to 26.6 megawatts (MW) of renewable electric energy and/or energy storage capacity. Power generated by the project would be transferred directly to Southern California Edison's (SCE's) Inyokern 33-kilovolt (kV) electrical distribution line that connects to the existing SCE Inyokern Substation approximately 0.5 miles east of the project site.

The California Air Resources Board (CARB) has divided California into regional air basins according to topographic drainage features. The project site is located in the northwestern portion of the Mojave Desert Air Basin (MDAB) and is under the jurisdiction of EKAPCD. The MDAB includes the eastern half of Kern County, the northern part of Los Angeles County, most of San Bernardino County except for the southwest corner, and the eastern edge of Riverside County. The MDAB is separated from the South Coast Air Basin to the south by the San Gabriel and San Bernardino Mountains and separated from the San Joaquin Valley to the northwest by the Tehachapi Mountains and the southern end of the Sierra Nevada Mountains.

Topography and Meteorology

Air pollution, especially the dispersion of air pollutants, is directly related to a region's topographic features. Air quality is a function of both the rate and location of pollutant emissions and the meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects ambient air quality.

The project site is located at the western portion of Indian Wells Valley, in the unincorporated community of Inyokern, in the northeastern portion of Kern County. The project site is located approximately 5.5 miles west of the City of Ridgecrest and is within the western Mojave Desert. Indian Wells Valley is bounded by Owens Valley to the north and the Garlock Fault within the El Paso Mountains to the south. The Mojave

Desert is bordered on the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet above mean sea level [amsl]). A lesser valley lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley). The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 feet amsl) between San Bernardino and San Jacinto Mountains.

The MDAB is characterized by hot summers, cold winters, large diurnal ranges in temperature, low relative humidity, and irregular rainfall. The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest, due to the proximity of the MDAB to the Pacific Ocean and the blocking nature of the Sierra Nevada Mountains to the north. Air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet amsl), the passes of which form the main channels for these air masses.

During the summer, the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast to the west, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. Temperatures in the Inyokern community range from a high of 102.7 degrees Fahrenheit in July to a low below freezing of 30.2 degrees Fahrenheit in December. Average rainfall is approximately 4.17 inches annually (WRCC, 2020). The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, which indicates at least three months have maximum average temperatures over 100.4 degrees Fahrenheit.

Sensitive Receptors

Sensitive receptors are locations or people considered to be more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Residences, schools, hospitals, convalescent homes, and parks are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses are also considered sensitive due to greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

The project site is located on approximately 166.5 acres of generally undeveloped land. Existing development in the project vicinity includes a wastewater treatment plant, the Inyokern Airport, single family residences, and undeveloped, open space. Forest, parkland, and preserve areas in the vicinity of the project site include the Sequoia and Kings Canyon National Parks located approximately 20 miles northwest and the Kern River Preserve located approximately 50 miles to the west. The community of Inyokern is located to the southwest of the project site and includes various single-family residences. Scattered residences are also located east of the project site. The China Lake Naval Air Weapons Station, located approximately 8 miles east of the project site, has an existing utility scale solar facility. There are

nearby sensitive receptors, which include residential land uses located near the project site. The Inyokern Elementary School is located approximately 0.22 miles to the southwest of the project site, and the nearest residential receptors are located approximately 500 feet southwest of the project site west of Brown Road and east of the project site across United States Highway 395 (US 395) and Clodt Road. Additional residential receptors are located to the south of the project site north and south of Sunset Avenue/Ward Avenue as shown in **Figure 4.3-1, Nearest Sensitive Receptors to Project Site.**

Ambient Air Quality Standards

National and State Standards

Regulation of air pollution is achieved through both federal and State ambient air quality standards and permitted emission limits for individual sources of air pollutants. As required by the federal Clean Air Act (CAA), the United States Environmental Protection Agency (EPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM) (specifically PM₁₀ and PM_{2.5}), and lead (Pb). These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria.

To protect human health and the environment, EPA has set “primary” and “secondary” ambient standards for each of the criteria pollutants. Primary thresholds were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

Regional and Local Standards

NAAQS establish the level for an air pollutant above which detrimental effects to public health or welfare may result. NAAQS are defined as the maximum acceptable concentrations that, depending on the pollutant, may not be equaled or exceeded more than once per year or in some cases as a percentile of observations. California has generally adopted more stringent ambient air quality standards for the criteria air pollutants (i.e., California Ambient Air Quality Standards [CAAQS]). California has also established CAAQS for sulfates, hydrogen sulfide, and vinyl chloride; however, air emissions of these pollutants are not expected to occur under the proposed project and, thus, these pollutants are not addressed further in this EIR.

Table 4.3-1, National and State Criteria Pollutant Standards and Eastern Kern Air Pollution Control District Attainment Status, presents both sets of ambient air quality standards (i.e., national and State) as well as attainment status for each of these standards within the EKAPCD jurisdiction. If a pollutant concentration in an area is lower than the established standard, the area is classified as being in “attainment” for that pollutant. If the pollutant concentration meets or exceeds the standard (depending on the specific standard for the individual pollutants), the area is classified as a “nonattainment” area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”

As shown in Table 4.3-1, the EKAPCD in the Indian Wells Valley area where the project is located, is currently classified as nonattainment for the one-hour and eight-hour State ozone standard and the 24-hour PM₁₀ standard. All other ambient air quality standards within the project area are currently in attainment and/or unclassified status.



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
RB INYOKERN SOLAR PROJECT

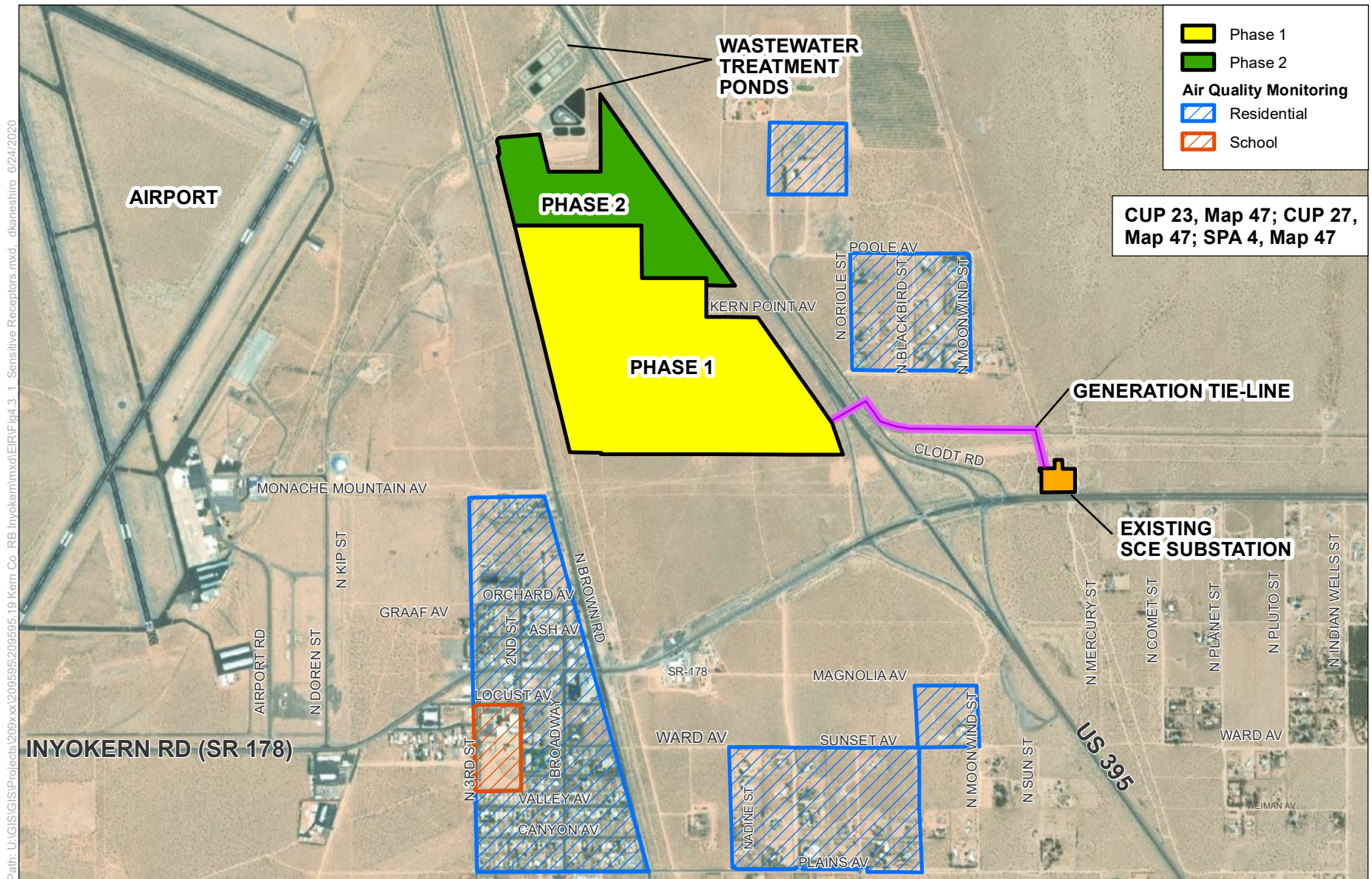


Figure 4.3-1: NEAREST SENSITIVE RECEPTORS TO PROJECT SITE

TABLE 4.3-1: NATIONAL AND STATE CRITERIA POLLUTANT STANDARDS AND EASTERN KERN AIR POLLUTION CONTROL DISTRICT ATTAINMENT STATUS

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Primary	Attainment Status
Ozone (O ₃)	1-hour	0.09 ppm	Nonattainment	—	Attainment
	8-hour	0.070 ppm	Nonattainment	0.070 ppm	Unclassified/Attainment
Particulate Matter (PM ₁₀)	AAM	20 µg/m ³	Nonattainment	—	Attainment Maintenance
	24-hour	50 µg/m ³		150 µg/m ³	
Fine Particulate Matter (PM _{2.5})	AAM	12 µg/m ³	Unclassified	12.0 µg/m ³	Unclassified/Attainment
	24-hour	No Standard		35 µg/m ³	
Carbon Monoxide (CO)	1-hour	20 ppm	Unclassified	35 ppm	Unclassified/Attainment
	8-hour	9.0 ppm		9 ppm	
Nitrogen Dioxide (NO ₂)	AAM	0.030 ppm	Attainment	0.053 ppm	Unclassified
	1-hour	0.18 ppm		0.100 ppm	
Sulfur Dioxide (SO ₂)	AAM	—	Attainment	0.030 ppm	Unclassified
	24-hour	0.04 ppm		0.14 ppm	
	3-hour	—		—	
	1-hour	0.25 ppm		0.075 ppm	
Lead	30-day Average	1.5 µg/m ³	Attainment	—	Unclassified/Attainment
	Calendar Quarter	—		1.5 µg/m ³	
	Rolling 3-Month Average	—		0.15 µg/m ³	
Sulfates	24-hour	25 µg/m ³	Attainment	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m ³)	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (42 µg/m ³)	Unclassified		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

NOTES: AAM = annual arithmetic mean; ppm = parts per million; µg/m³ = micrograms per cubic meter

SOURCES: CARB, 2016; EKAPCD, 2018.

Local Air Quality

To assess localized CO impacts, the significance thresholds are based on the state CO standards, shown previously in Table 4.3-1, which are 20 parts per million (ppm) for 1-hour CO concentration levels and 9 ppm for 8-hour CO concentration levels. If CO concentration levels with the project would be less than the standards, then there would be no significant impact on local air quality. If future CO concentrations with the project would be above the standards, then the increase due to the project would determine if the impact would be significant or less than significant. A project would have a significant impact on local air quality if the project would result in an increase of 1 ppm or more for the 1-hour averaging time or 0.45 ppm or more for the 8-hour averaging time.

Ambient Air Monitoring

CARB has established and maintains a network of sampling stations (called the State and Local Air Monitoring Stations [SLAMS] network) that work in conjunction with local air pollution control districts (APCDs) and air quality management districts to monitor ambient pollutant levels. The SLAMS network in Kern County consists of eight stations that monitor various pollutant concentrations. The locations of these stations were chosen to meet monitoring objectives, which, for the SLAMS network, call for stations that monitor the highest pollutant concentrations, representative concentrations in areas of high population density, the impact of major pollution emissions sources, and general background concentration levels.

The EKAPCD is responsible for monitoring air quality in the Kern County portion of the MDAB to determine whether pollutant concentrations meet State and national air quality standards. The nearest air monitoring station to the project site is the Ridgecrest air monitoring station, located approximately 8 miles northeast of the project site at 100 West California Avenue, Ridgecrest, CA. The Ridgecrest monitoring station monitors ambient concentrations of PM₁₀ and PM_{2.5}. The Trona – Athol and Telegraph monitoring station located approximately 20 miles northwest of the project site, is the station nearest the project site that monitors ambient concentrations of ozone, and NO₂. There are no monitoring stations within the project vicinity that have available measurements for CO and SO₂ for the past three years. Ambient monitoring data obtained for 2016 through 2018 is summarized below in **Table 4.3-2, Air Quality Data Summary (2016–2018)**.

TABLE 4.3-2: AIR QUALITY DATA SUMMARY (2016–2018)

Pollutant	Monitoring Year		
	2016	2017	2018
Ozone (O₃)^a			
Maximum concentration (1-hour/8-hour average)	0.100/0.077	0.084/0.077	0.107/0.090
Number of days State/national 1-hour standard exceeded	1/0	0/0	3/0
Number of days State/national 8-hour standard exceeded	11/10	6/6	7/19
Nitrogen Dioxide (NO₂)^a			
Maximum concentration (1-hour average) (national/State)	223.1/223	46.5/46	43.3/43
Annual average (State)	4	NA	3
Number of days State/national standard exceeded	2/4	0/0	0/0
Suspended Particulate Matter (PM_{2.5})^b			
Maximum concentration (24-hour) (national/State)	25.8/25.8	13.3/13.3	4.5/4.5
Annual Average (national/State)	NA/NA	NA/NA	NA/NA
Number of days national standard exceeded (measured/calculated) ^c	0/NA	0/NA	0/NA
Suspended Particulate Matter (PM₁₀)^b			
Maximum concentration (24-hour) (national/State)	66.2/59.0	48.8/47.1	53.2/51.3
Annual Average (national/State)	23.2/NA	23.5/21.6	15.4/NA
Number of days State standard exceeded (measured/calculated) ^c	1/NA	0/0	1/NA
Number of days national standard exceeded (measured/calculated) ^c	0/0	0/0	0/NA
Carbon Monoxide (CO)			
Maximum concentration (8-hour average)	NA	NA	NA
Number of days State/national 8-hour standard exceeded	NA	NA	NA
Sulfur Dioxide (SO₂)			
Maximum concentration (24-hour)	NA	NA	NA
Annual Average	NA	NA	NA
Number of days State standard exceeded	NA	NA	NA

ppm = parts per million by volume; µg/m³ = micrograms per cubic meter; NA=not available

^a Based on ambient concentrations obtained from the Trona-Athol and Telegraph station.

^b Based on ambient concentrations obtained from the Ridgecrest station.

^c Measured days are those days that an actual measurement was greater than the standard. Calculated days are estimated days that a measurement would have exceeded the standard had measurements been collected every day.

SOURCE: CARB, 2019f.

Criteria Air Pollutants

The following is a general description of the physical and health effects from the governmentally regulated air pollutants shown in Table 4.3-1.

Ozone

Ozone (O₃) occurs in two layers of the atmosphere, the troposphere and the stratosphere. The layer surrounding the earth's surface is the troposphere. At ground level, tropospheric, or “bad,” ozone is an air pollutant that damages human health, vegetation, and many common materials. Ozone is a key ingredient of urban smog. The troposphere extends to a level approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric, or “good,” ozone layer extends upward from approximately 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays (UV-B).

“Bad” ozone is what is known as a photochemical pollutant, which needs reactive organic gases (ROG), oxides of nitrogen (NO_x), and sunlight to form. ROG and NO_x are emitted from various sources throughout Kern County. Ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Ozone is a regional air pollutant, which is generated over a large area and transported and spread by the wind. As the primary constituent of smog, ozone is the most complex, difficult to control, and pervasive of the criteria pollutants. Unlike other pollutants, it is not emitted directly into the air by specific sources but is created by sunlight acting on other air pollutants (the precursors), specifically NO_x and ROG. Sources of precursor gases number in the thousands and include common sources such as consumer products, gasoline vapors, chemical solvents, and combustion byproducts of various fuels. Originating from gas stations, motor vehicles, large industrial facilities, and small businesses such as bakeries and dry cleaners, the ozone-forming chemical reactions often take place in another location, catalyzed by sunlight and heat. Thus, high ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

Health Effects

While ozone in the upper atmosphere protects the earth from UV-B, high concentrations of ground-level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular diseases, are aggravated by exposure to high ozone levels.

Ozone is a powerful oxidant—it can be compared to household bleach, which can kill living cells (such as germs or human skin cells) upon contact. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. Exposure to levels of ozone above the current ambient air quality standard leads to lung inflammation, lung tissue damage, and a reduction in the amount of air inhaled into the lungs. Health effects include potential increased susceptibility to respiratory infections and reduced ability to exercise. Health effects are more severe in people with asthma and other respiratory ailments. People who work or play outdoors are at a greater risk for harmful health effects from ozone. Children and adolescents are also at greater risk because they are more likely than adults to spend

time engaged in vigorous activities. Research indicates that children under 12 years of age spend nearly twice as much time outdoors daily than adults. Teenagers spend at least twice as much time as adults in active sports and outdoor activities. Also, children inhale more air per pound of body weight than adults, and they breathe more rapidly than adults. Children are less likely than adults to notice their own symptoms and avoid harmful exposures. Elevated ozone concentrations also reduce crop and timber yields, damage native plants, and damage materials such as rubber, paints, fabric, and plastics (CARB and ALA, 2007).

Reactive Organic Gases (ROGs) and Volatile Organic Compounds (VOCs)

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including reactive organic gases (ROGs) and volatile organic compounds (VOCs), which include all hydrocarbons except those exempted by CARB. Therefore, ROGs are a set of organic gases based on State rules and regulations. VOCs are similar to ROGs in that they include all organic gases except those exempted by Federal law. Both VOCs and ROGs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of hydrocarbons. Another source of hydrocarbons is evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

Health Effects

The primary health effects of hydrocarbons result from the formation of ozone and its related health effects (see the ozone health effects discussion above). High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate federal or California ambient air quality standards for ROG. Carcinogenic forms of ROG are considered toxic air contaminants (TACs). An example is benzene, which is a carcinogen. The health effects of individual ROGs are described under the “Toxic Air Contaminants” heading below.

Carbon Monoxide

Carbon monoxide (CO) is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. CO is an odorless, colorless, poisonous gas that is highly reactive. CO is a byproduct of motor vehicle exhaust, which contributes more than 66 percent of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

Health Effects

When inhaled, CO enters the bloodstream and binds more readily to hemoglobin, the oxygen-carrying protein in blood, than oxygen, thereby reducing the oxygen-carrying capacity of blood and reducing oxygen delivery to organs and tissues. The health threat from CO is most serious for those who suffer from

cardiovascular disease. Healthy individuals are also affected but only at higher levels of exposure. Exposure to CO can cause chest pain in heart patients, headaches, and reduced mental alertness. At high concentrations, CO can cause heart difficulties in people with chronic diseases and can impair mental abilities. Exposure to elevated CO levels is associated with visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, difficulty performing complex tasks, and, with prolonged enclosed exposure, death.

The adverse health effects associated with exposure to ambient and indoor concentrations of CO are related to the concentration of carboxyhemoglobin in the blood. Exposure to elevated concentrations of CO weakens the heart's contractions and lowers the amount of oxygen carried by the blood. Health effects observed may include an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance of young, healthy men; reduced birth weight; sudden infant death syndrome; and increased daily mortality rate (Fierro et al., 2001).

Oxides of Nitrogen

Oxides of nitrogen (NO_x) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and reacts in the atmosphere to form acid rain. NO_x is emitted from solvents and combustion processes in which fuel is burned at high temperatures, principally motor vehicle exhaust and stationary sources such as electric utilities and industrial boilers. In terms of NO_x emissions, the two principal species of NO_x are nitric oxide (NO) and nitrogen dioxide (NO_2), with the vast majority (95 percent) of the NO_x emissions being comprised of NO. NO is converted to NO_2 by several processes, the two most important of these are: (1) the reaction of NO with ozone; and (2) the photochemical reaction of NO with hydrocarbons. A brownish gas, NO_x is a strong oxidizing agent that reacts in the air to form corrosive nitric acid as well as toxic organic nitrates.

Health Effects

NO_x is an ozone precursor that combines with ROG to form ozone. See the ozone section above for a discussion of the health effects of ozone. Direct inhalation of NO_x can cause a wide range of health effects. Health effects of NO_x include irritation of the lungs, lung damage, and lowered resistance to respiratory infections such as influenza. Short-term exposures (e.g., less than 3 hours) to low levels of NO_2 may lead to changes in airway responsiveness and lung function in individuals with pre-existing respiratory illnesses. These exposures may also increase respiratory illnesses in children. Long-term exposures to NO_2 may lead to increased susceptibility to respiratory infection and may cause irreversible lung damage. Other health effects associated with NO_2 are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. Clinical studies of human subjects suggest that NO_2 exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes as well as hospital admissions for respiratory conditions.

NO_x contributes to a wide range of environmental effects both directly and indirectly when combined with other precursors in acid rain and ozone. NO_x can cause fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to the production of particulate nitrates. Airborne NO_x can also impair visibility. Increased nitrogen inputs to terrestrial and wetland systems can lead to changes in plant species composition and diversity. Similarly, direct nitrogen inputs to aquatic ecosystems such as

those found in estuarine and coastal waters can lead to eutrophication (a condition that promotes excessive algae growth, which can lead to a severe depletion of dissolved oxygen and increased levels of toxins harmful to aquatic life). Nitrogen, alone or in acid rain, also can acidify soils and surface waters. Acidification of soils causes the loss of essential plant nutrients and increased levels of soluble aluminum, which is toxic to plants. Acidification of surface waters creates conditions of low pH and levels of aluminum that are toxic to fish and other aquatic organisms. NO_x also contributes to visibility impairment (California Air Pollution Control Officers Association (CAPCOA), 2016a).

Sulfur Dioxide

Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO₂) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO₂ to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

SO₂ is a colorless, irritating gas with a “rotten egg” smell that is formed primarily by the combustion of sulfur-containing fossil fuels. Historically, SO₂ was a pollutant of concern in Kern County, but with the successful implementation of regulations, the levels have been reduced significantly.

Health Effects

High concentrations of SO₂ can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Health effects from exposure to emissions of SO₂ include aggravation of lung diseases, especially bronchitis, and constricting of breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. Short-term exposures of individuals to elevated SO₂ levels during moderate activity may result in health effects including breathing difficulties that can be accompanied by symptoms such as wheezing, chest tightness, or shortness of breath. Other health effects that have been associated with longer-term exposures to high concentrations of SO₂, in conjunction with high levels of particulate matter, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs’ defenses. SO₂ also is a major precursor to particulate matter that is 2.5 microns or less (PM_{2.5}), which is a significant health concern and a main contributor to poor visibility (see also the discussion of health effects of particulate matter).

SO₂ not only has a bad odor, it can irritate the respiratory system. Exposure to high concentrations for short periods of time can constrict the bronchi and increase mucous flow, making breathing difficult. SO₂ can also, irritate the lung and throat at concentrations greater than 6 ppm in many people; impair the respiratory system’s defenses against foreign particles and bacteria when exposed to concentrations less than 6 ppm for longer time periods; and enhance the harmful effects of ozone (combinations of the two gases at concentrations occasionally found in the ambient air appear to increase airway resistance to breathing).

SO₂ tends to have more toxic effects when acidic pollutants, liquid or solid aerosols, and particulates are also present. Effects are more pronounced among “mouth breathers,” e.g., people who are exercising or who have head colds. These effects include:

- Health problems, such as episodes of bronchitis requiring hospitalization associated with lower-level acid concentrations;

- Self-reported respiratory conditions, such as chronic cough and difficult breathing, associated with acid aerosol concentrations (individuals with asthma are especially susceptible to these effects. The elderly and those with chronic respiratory conditions may also be affected at lower concentrations than the general population);
- Increased respiratory tract infections associated with longer term, lower level exposures to SO₂ and acid aerosols; and
- Subjective symptoms, such as headaches and nausea, in the absence of pathological abnormalities due to long-term exposure.

SO₂ easily injures many plant species and varieties, both native and cultivated. Some of the most sensitive plants include various commercially valuable pines, legumes, red and black oaks, white ash, alfalfa, and blackberry. The effects include:

- Visible injury to the most sensitive plants at exposures as low as 0.12 ppm for eight hours;
- Visible injury to many other plant types of intermediate sensitivity at exposures of 0.30 ppm for eight hours; and
- Positive benefits from low levels in a very few species growing on sulfur-deficient soils.

Increases in SO₂ concentrations accelerate the corrosion of metals, likely through the formation of acids. SO₂ is a major precursor to acidic deposition. Sulfur oxides may also damage stone and masonry, paint, various fibers, paper, leather, and electrical components.

Increased SO₂ also contributes to impaired visibility. Particulate sulfate, much of which is derived from SO₂ emissions, is a major component of the complex total suspended particulate mixture.

Particulate Matter (PM₁₀ and PM_{2.5})

Particulate matter pollution consists of very small liquid and solid particles floating in the air. Some particles are large and dark enough to be seen as soot or smoke. Others are so small they can be detected only with an electron microscope. Particulate matter is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Particulate matter also forms when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. PM₁₀ refers to particles less than or equal to 10 microns in aerodynamic diameter. PM_{2.5} refers to particles less than or equal to 2.5 microns in aerodynamic diameter and are a subset of PM₁₀.

Particulate matter or airborne dusts are the small particles that remain suspended in the air for long periods of time. Particulates of concern are those that are 10 microns or less in diameter (PM₁₀) and those that are 2.5 microns or less in diameter. These are small enough to be inhaled, pass through the respiratory system and lodge in the lungs, possibly leading to adverse health effects.

The composition of PM₁₀ and PM_{2.5} can vary greatly with time, location, the sources of the material and meteorological conditions. Dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes are the main components of PM₁₀ and PM_{2.5}. In addition to those listed previously, secondary particles can also be formed as precipitates from photochemical reactions of gaseous SO₂ and NO_x in the atmosphere to create sulfates (SO₄) and nitrates (NO₃), respectively. Secondary particles are of greatest concern during the winter months when low inversion layers tend to trap the precursors of secondary particulates.

In the western United States, there are sources of PM₁₀ in both urban and rural areas. PM₁₀ and PM_{2.5} are emitted from stationary and mobile sources, including diesel trucks and other motor vehicles; power plants; industrial processes; wood-burning stoves and fireplaces; wildfires; dust from roads, construction, landfills, and agriculture; and fugitive windblown dust. Because particles originate from a variety of sources, their chemical and physical compositions vary widely.

Health Effects

The size of particles is directly linked to their potential for causing health problems. PM₁₀ and PM_{2.5} particles are small enough—about one seventh the thickness of a human hair, or smaller—to be inhaled and lodged in the deepest parts of the lung where they evade the respiratory system’s natural defenses and can be trapped in the nose, throat, and upper respiratory tract. Health effects from exposure to PM₁₀ and PM_{2.5} begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. PM₁₀ and PM_{2.5} can aggravate respiratory disease and cause lung damage, cancer, and premature death. Sensitive populations, including children, the elderly, exercising adults, and those suffering from chronic lung disease such as asthma or bronchitis, are especially vulnerable to the effect of PM₁₀. Of greatest concern are recent studies that link PM₁₀ exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM₁₀ can also damage manmade materials and is a major cause of reduced visibility in many parts of the United States. Non-health related effects include reduced visibility and soiling of buildings.

Premature deaths linked to particulate matter are now at levels comparable to deaths from traffic accidents and secondhand smoke. One of the most dangerous pollutants, fine particulate matter (e.g., from diesel exhaust) not only bypasses the body’s defense mechanisms and becomes embedded in the deepest recesses of the lung but also can disrupt cellular processes. Population-based studies in hundreds of cities in the United States and around the world have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks. Long-term studies of children’s health conducted in California have demonstrated that particulate pollution may significantly reduce lung function growth in children (CARB and ALA, 2007).

A recent study provides evidence that exposure to particulate air pollution is associated with lung cancer. This study found that residents who live in an area that is severely affected by particulate air pollution are at risk of developing lung cancer at a rate comparable to nonsmokers exposed to secondhand smoke. This study also found approximately 16 percent excess risk of dying from lung cancer due to fine particulate air pollution (Dockery and Pope, 2006).

Another study shows that individuals with existing cardiac disease can be in a potentially life-threatening situation when exposed to high levels of fine air pollution. Fine particles can penetrate the lungs and cause the heart to beat irregularly, or can cause inflammation, which could lead to a heart attack (Peters et al., 2001).

Attaining the California particulate matter standards would annually prevent about 6,500 premature deaths, or 3 percent of all deaths. These premature deaths shorten lives by an average of 14 years. This is roughly equivalent to the same number of deaths (4,200 to 7,400) linked to secondhand smoke in 2000. In comparison, motor vehicle crashes caused 3,200 deaths, and 2,000 deaths resulted from homicide. Attaining the California particulate matter and ozone standards would annually prevent 4,000 hospital admissions for

respiratory disease, 3,000 hospital admissions for cardiovascular disease, and 2,000 asthma-related emergency room visits. Exposure to diesel particulate matter (DPM) causes about 250 excess cancer cases per year in California.

Sulfates

Sulfates (SO_4^{2-}) are particulate product that comes from the combustion of sulfur-containing fossil fuels. When sulfur monoxide or SO_2 is exposed to oxygen, it precipitates out into sulfates (SO_3 or SO_4).

Sulfates are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California because of regional meteorological features.

Health Effects

CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in oxygen intake, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. When acidic pollutants and particulates are also present, SO_2 tends to have an even more toxic effect. In addition to particulates, SO_3 and SO_4 are also precursors to acid rain. SO_x and NO_x are the leading precursors to acid rain. Acid rain can lead to corrosion of man-made structures and cause acidification of water bodies. Sulfates are particularly effective in degrading visibility and, because they are usually acidic, can harm ecosystems and damage materials and property (CARB, 2009).

Lead

Lead is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Historically, lead was used to increase the octane rating in automobile fuel. However, because gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels and that use has been mostly phased out, the ambient concentrations of lead have dropped dramatically. EKAPCD no longer monitors ambient levels of atmospheric lead in the MDAB.

Health Effects

Exposure to lead occurs mainly through inhalation of air and ingestion of lead in food, water, soil, or dust. It accumulates in the blood, bones, and soft tissues and can adversely affect the kidneys, liver, nervous system, and other organs. Excessive exposure to lead may cause neurological impairments such as seizures, mental retardation, and behavioral disorders. Even at low doses, lead exposure is associated with damage to the nervous systems of fetuses and young children, resulting in learning deficits and lowered IQ. Recent studies also show that lead may be a factor in high blood pressure and subsequent heart disease. Lead can also be deposited on the leaves of plants, presenting a hazard to grazing animals and humans through ingestion (US EPA, 2018).

This highly toxic metal has been used for many years in everyday products, and has been found to cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. Effects on the nervous systems of children are one of the primary health risk concerns from lead. In high concentrations, children can even suffer irreversible brain damage and death. Children 6 years old and under are most at risk, because their bodies are growing quickly. Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products.

If not detected early, children with high levels of lead in their bodies can suffer from:

- Damage to the brain and nervous system;
- Behavior and learning problems (such as hyperactivity);
- Slowed growth;
- Hearing problems; and
- Headaches.

Lead is also harmful to adults. Adults can suffer from:

- Difficulties during pregnancy;
- Other reproductive problems (in both men and women);
- High blood pressure;
- Digestive problems;
- Nerve disorders;
- Memory and concentration problems; and
- Muscle and joint pain.

Since the 1980s, lead has been phased out in gasoline, reduced in drinking water, reduced in industrial air pollution, and banned or limited in consumer products.

Other Pollutants

Hydrogen Sulfide

Hydrogen sulfide (H₂S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. H₂S in the atmosphere would likely oxidize into SO₂ that can lead to acid rain. At low concentrations H₂S, which has a characteristic “rotten egg” smell, may cause irritation to the eyes, mucous membranes and respiratory system, dizziness and headaches. In high concentrations (800 ppm can cause death) hydrogen sulfide is extremely hazardous, especially in enclosed spaces. Occupational Safety and Health Administrations (OSHA) has the primary responsibility for regulating workplace exposure to H₂S.

Health Effects

Exposure to low concentrations of H₂S may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Exposure to higher concentrations (above 100 ppm) can cause olfactory fatigue, respiratory paralysis, and death. Brief exposures to high concentrations of H₂S (greater than 500 ppm) can cause a loss of consciousness. In most cases, the person appears to regain consciousness without any other effects. However, in many individuals, there may be permanent or long-term effects such as headaches, poor attention span, poor memory, and poor motor function. No health effects have been found in humans exposed to typical environmental concentrations of H₂S (0.00011–0.00033 ppm). Deaths due to breathing in large amounts of H₂S have been reported in a variety of different work settings, including sewers, animal processing plants, waste dumps, sludge plants, oil and gas well drilling sites, and tanks and cesspools.

Vinyl Chloride

Vinyl chloride monomer is a sweet-smelling, colorless gas at ambient temperature. Landfills, publicly owned treatment works, and polyvinyl chloride (PVC) production are the major identified sources of vinyl chloride emissions in California. PVC can be fabricated into several products, such as PVC pipes, pipe fittings, and plastics.

Health Effects

In humans, epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of liver angiosarcoma, which is a rare cancer, and have suggested a relationship between exposure cancers of the lung and brain. There are currently no adopted ambient air standards for vinyl chloride.

Short-term exposure to vinyl chloride has been linked with the following acute health effects (EPA, 2000):

- Acute exposure of humans to high levels of vinyl chloride via inhalation in humans has resulted in effects on the central nervous system, such as dizziness, drowsiness, headaches, and giddiness.
- Vinyl chloride is reported to be slightly irritating to the eyes and respiratory tract in humans. Acute exposure to extremely high levels of vinyl chloride has caused loss of consciousness; irritation to the lungs and kidneys; inhibition of blood clotting in humans; and cardiac arrhythmias in animals.
- Tests involving acute exposure of mice to vinyl chloride have shown high acute toxicity from inhalation exposure to the substance.

Long-term exposure to vinyl chloride concentrations has been linked with the following chronic health effects (EPA, 2000):

- Liver damage may result in humans from chronic exposure to vinyl chloride, through both inhalation and oral exposure.
- A small percentage of individuals occupationally exposed to high levels of vinyl chloride in air have developed a set of symptoms termed “vinyl chloride disease,” which is characterized by Raynaud’s phenomenon (fingers blanch and numbness and discomfort are experienced upon exposure to the cold), changes in the bones at the end of the fingers, joint and muscle pain, and scleroderma-like skin changes (thickening of the skin, decreased elasticity, and slight edema).

- Central nervous system effects (including dizziness, drowsiness, fatigue, headache, visual and/or hearing disturbances, memory loss, and sleep disturbances) as well as peripheral nervous system symptoms (peripheral neuropathy, tingling, numbness, weakness, and pain in fingers) have also been reported in workers exposed to vinyl chloride.

Several reproductive/developmental health effects from vinyl chloride exposure have been identified (EPA, 2000):

- Several case reports suggest that male sexual performance may be affected by vinyl chloride. However, these studies are limited by lack of quantitative exposure information and possible co-occurring exposure to other chemicals.
- Several epidemiological studies have reported an association between vinyl chloride exposure in pregnant women and an increased incidence of birth defects, while other studies have not reported similar findings.
- Epidemiological studies have suggested an association between men occupationally exposed to vinyl chloride and miscarriages during their wives' pregnancies, although other studies have not supported these findings.
- Long-term exposure to vinyl chloride has also been identified as a cancer risk. Inhaled vinyl chloride has been shown to increase the risk of a rare form of liver cancer (angiosarcoma of the liver) in humans. Animal studies have shown that vinyl chloride, via inhalation, increases the incidence of angiosarcoma of the liver and cancer of the liver.

Visibility-Reducing Particles

Visibility-reducing particles is a measure of visibility. CARB does not yet have a measurement method that is accurate or precise enough to designate areas in the State as being in attainment or nonattainment. Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. Except for Lake County (which is designated to be in attainment), California's attainment status with respect to visibility-reducing particles is currently designated as unclassified.

Toxic Air Contaminants (TACs)

Hazardous air pollutants (HAPs) is a term used by the federal CAA that includes a variety of pollutants generated or emitted by industrial production activities. Also known as TACs under the California Clean Air Act of 1988 (CCAA), 10 pollutants have been identified through ambient air quality data as posing the most substantial health risk in California. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to brain and nervous system and respiratory disorders. CARB provides TAC emission inventories for only the larger air basins.

Sources include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners and motor vehicle exhaust. TACs do not have ambient air quality standards. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The requirements of the Air Toxic "Hot Spots" Information and Assessment Act apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of the Act must prepare and submit toxic emission inventory plans and reports to CARB and periodically update those reports. While TACs do result in potential health risks for those exposed, the proposed project

would not emit TACs with the exception of DPM and, therefore, only DPM is described further in this analysis.

Diesel Particulate Matter

DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled engines contribute approximately 24 percent of the statewide total, with an additional 71 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources contribute about 5 percent of total DPM.

Health Effects

Diesel exhaust and many individual substances contained in it (including arsenic, benzene, formaldehyde, and nickel) have the potential to contribute to mutations in cells that can lead to cancer. Long-term exposure to diesel exhaust particles poses the highest cancer risk of any TAC evaluated by the California Office of Environmental Health Hazard Assessment (OEHHA). CARB estimates that approximately 70 percent of the cancer risk that the average Californian faces from breathing TACs stems from diesel exhaust particles.

In its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Using information from OEHHA's assessment, CARB estimates that diesel-particle levels measured in California's air in 2000 could cause 540 "excess" cancers (beyond what would occur if there were no diesel particles in the air) in a population of one million people over a 70-year lifetime. Other researchers and scientific organizations, including the National Institute for Occupational Safety and Health, have calculated similar cancer risks from diesel exhaust as those calculated by OEHHA and CARB.

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks (CARB and ALA 2001).

Airborne Fungus (Valley Fever)

Coccidioidomycosis, commonly referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more

likely to contract Valley Fever. Children and adults whose hobbies or sports activities expose them to wind and dust are also more likely to contract Valley Fever. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

Approximately 60 percent of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Of those who are exposed and seek medical treatment, the most common symptoms include fatigue, cough, loss of appetite, rash, headache, and joint aches. In some cases, painful red bumps may develop on the skin. One important fact to mention is that these symptoms are not unique to Valley Fever and may be caused by other illnesses as well. Identifying and confirming this disease require specific laboratory tests such as: (1) microscopic identification of the fungal spherules in infected tissue, sputum or body fluid sample; (2) growing a culture of CI from a tissue specimen, sputum, or body fluid; (3) detection of antibodies (serological tests specifically for Valley Fever) against the fungus in blood serum or other body fluids; and (4) administering the Valley Fever Skin Test (called coccidioidin or spherulin), which indicate prior exposure to the fungus (Valley Fever Center for Excellence, 2019a). It should be noted that the incident rate for Valley Fever in Kern County within the MDAB is less than the incident rate in Kern County within the San Joaquin Valley Air Basin, where the highest incidence rate within California occurs.

Valley Fever is not contagious and, therefore, cannot be passed on from person to person. Most of those who are infected would recover without treatment within six months and would have a life-long immunity to the fungal spores. In severe cases, especially in those patients with rapid and extensive primary illness, those who are at risk for dissemination of disease, and those who have disseminated disease, antifungal drug therapy is used. The type of medication used and the duration of drug therapy are determined by the severity of disease and response to the therapy. The medications used include ketoconazole, itraconazole and fluconazole in chronic, mild-to-moderate disease, and amphotericin B, given intravenously or inserted into the spinal fluid, for rapidly progressive disease. Although these treatments are often helpful, evidence of disease may persist and years of treatment may be required (Valley Fever Center for Excellence, 2018).

Table 4.3-3, *Range of Valley Fever Cases*, presents the range of Valley Fever cases based on research conducted by the Valley Fever Center for Excellence.

TABLE 4.3-3: RANGE OF VALLEY FEVER CASES

Infection Classification	Percent of Total Diagnosed Cases
Unapparent infections	60 percent
Mild to moderate infections	30 percent
Infections resulting in complications	5–10 percent
Fatal infections	<1 percent
SOURCE: Valley Fever Center for Excellence, 2019b.	

Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. In addition,

naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties associated with the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to information provided by the California Department of Conservation (DOC) Division of Mines and Geology, the project site is not located in an area where naturally occurring asbestos is likely to be present (DOC, 2000).

Coronavirus Disease 2019

Coronavirus Disease 2019 (COVID-19) is a new disease, caused by a novel (or new) human coronavirus that has not previously been seen in humans. The first known case of COVID-19 was confirmed in the United States on January 20, 2020 (Holshue, et al., 2020). There are many types of human coronaviruses, including some that commonly cause mild upper-respiratory tract illnesses. COVID-19 is a respiratory illness that can spread from person to person. According to the Center for Disease Control (CDC), older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes seem to be at higher risk for developing more serious complications from COVID-19 illness. Symptoms may appear 2 to 14 days after the exposure to the virus and may include, but are not limited to: fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea (CDC, 2020a). According to the CDC, COVID-19 is believed to spread between people who are in close contact with one another (within about 6 feet) through respiratory droplets produced when an infected person coughs, sneezes, or talks (CDC, 2020b). COVID-19 research and causality is still in the beginning stages. A nationwide study by Harvard University found a linkage between long-term exposure to PM_{2.5} (averaged from 2000 to 2016) as air pollution and statistically significant increased risk of COVID-19 death in the United States (Harvard 2020).

4.3.3 Regulatory Setting

In California, air quality is regulated by several agencies, including EPA, CARB, and local air districts such as the EKAPCD. Each of these agencies develops rules and/or regulations to attain the goals or directives imposed upon them through legislation. Although EPA regulations may not be superseded, some State and local regulations may be more stringent than federal regulations. The project site is located within the MDAB, which is under the jurisdiction of the EKAPCD.

Federal

U.S. Environmental Protection Agency (USEPA)

The principal air quality regulatory mechanism on the federal level is the CAA and in particular, the 1990 amendments to the CAA, and the NAAQS that it establishes. These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants

considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants include ozone, CO, NO₂ (which is a form of NO_x), SO₂ (which is a form of SO_x), PM₁₀, PM_{2.5}, and lead. EPA also has regulatory and enforcement jurisdiction over emission sources beyond State waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. EPA's primary role at the State level is to oversee the State air quality programs. The USEPA sets federal vehicle and stationary source emission standards and oversees approval of all State Implementation Plans (SIP), as well as providing research and guidance in air pollution programs. The SIP is a State level document that identifies all air pollution control programs within California that are designed to meet the NAAQS.

State

California Air Resources Board (CARB)

CARB, a department of the California Environmental Protection Agency (Cal/EPA), oversees air quality planning and control throughout California by administering the state implementation plan (SIP). Its primary responsibility lies in ensuring implementation of the 1989 amendments to the CCAA, responding to the federal CAA requirements and regulating emissions from motor vehicles sold in California. CARB also sets fuel specifications to further reduce vehicular emissions.

The amendments to the CCAA establish the CAAQS, and a legal mandate to achieve these standards by the earliest practical date. These standards apply to the same criteria pollutants as the federal CAA, and also include sulfates, visibility reducing particulates, hydrogen sulfide and vinyl chloride (there are currently no NAAQS for these latter pollutants). They are also generally more stringent than the national standards in most cases, although recently promulgated NAAQS for 1-hour NO₂ and SO₂ can in some instances be more stringent than the respective CAAQS.

CARB is also responsible for regulations pertaining to TACs. The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into their local air basin. Each ACPD and air quality management districts (AQMDs) in the State ranks the data into high, intermediate and low priority categories. When considering the ranking, the potency, toxicity, quantity, volume and proximity of the facility to receptors are given consideration by an air district.

CARB also has on- and off-road engine emission-reduction programs that would indirectly affect the project's emissions through the phasing in of cleaner on- and off-road engines. Additionally, CARB has a Portable Equipment Registration Program that allows owners or operators of portable engines and associated equipment to register their units under a statewide program to operate their equipment which must meet specified program emission requirements, throughout California without having to obtain individual permits from local air districts. Since the project is not proposing to install any applicable stationary sources, the AB 2588 program would not apply to the project.

In 2007, CARB enacted a regulation for the reduction of DPM and criteria pollutant emissions from in-use off-road diesel-fueled vehicles (13 CCR Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for particulate matter and NO_x emissions for owners of fleets of diesel-fueled off-road

vehicles. It applies to equipment fleets of three specific sizes, and the target emission rates are reduced over time with full implementation by 2023 for large and medium fleets and 2028 for small fleets.

Title V and Extreme Designation

Title V of the CAA, as amended in 1990, creates an operating permit program for certain defined sources. In general, owner/operators of defined industrial or commercial sources that emit more than 25 tons per year (tpy) of NO_x and ROG must process a Title V permit. In “Extreme Designation” areas, the definition of a major source which requires Title V permitting, changes from 25 tpy to 10 tpy. This change results in more businesses having to comply with Title V permitting requirements under the Extreme nonattainment designation.

Title V does not impose any new air pollution standards, require installation of any new controls on the affected facilities, or require reductions in emissions. Title V does enhance public and EPA participation in the permitting process and requires additional record keeping and reporting by businesses, which results in significant administrative requirements.

California Renewables Portfolio Standard

Established in 2002 under SB 1078, and accelerated by SB 107 [2006] and SB 2 [2011], California’s Renewable Portfolio Standard obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent of their electricity from renewable energy sources by 2020. In 2015, SB 350 further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. The California Public Utilities Commission (CPUC) and the California Energy Commission are jointly responsible for implementing the program. In 2015, SCE, electricity provider for Inyokern produced approximately 24.3 percent of its electricity from renewable sources (SCE, 2017; CPUC, 2017). SCE is on track to meeting these obligations, and currently has contracts to generate 41.4 percent of its electricity from renewable resources by the year 2020 (CPUC, 2017). On September 10, 2018, Governor Jerry Brown signed SB 100, which further increased California’s Renewables Portfolio Standard and requires retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045.

Local

Kern County General Plan

The goals, policies, and implementation measures in the Kern County General Plan applicable to air quality, as related to the project, are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the proposed project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1: Land Use, Conservation, and Open Space Element

Air Quality

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Policies

Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.

Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:

1. All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
2. The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.

Policy 21: The County shall support air districts efforts to reduce PM₁₀ and PM_{2.5} emissions.

Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, state, and local standards.

Implementation Measures

Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:

1. Minimizing idling time.
2. Electrical overnight plug-ins.

Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:

1. Pave dirt roads within the development.
2. Pave outside storage areas.
3. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
4. Use of alternative fuel fleet vehicles or hybrid vehicles.
5. Use of emission control devices on diesel equipment.
6. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low-emission natural gas fireplaces.
7. Provide bicycle lockers and shower facilities on site.
8. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
9. The use and development of park and ride facilities in outlying areas.
10. Other strategies that may be recommended by the local Air Pollution Control Districts.

Measure J: The County should include PM₁₀ control measures as conditions of approval for subdivision maps, site plans, and grading permits.

Chapter 5: Energy Element

Solar Energy Development

Goal

Goal 1: Encourage safe and orderly commercial solar development.

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. The Land Use, Open Space, and Conservation Element of the Inyokern Specific Plan has the purpose of identifying physical constraints, public, residential, commercial, and industrial facilities as well as cultural and biological resources within the Plan area. The goals and policies in the Inyokern Specific Plan for air quality applicable to the project are provided below. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are

not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

Land Use, Open Space, and Conservation Element

1.3: Residential

Goal

Goal 1: To accommodate future residential development in an environmentally safe and secure manner while promoting efficient and economical use of land and public expenditures.

Policies

Policy 6: The air quality effects of the proposed land use will be considered when evaluating industrial and commercial development proposals.

Policy 7: Kern County may disapprove projects found to have significant and unmitigable adverse effects on air quality.

1.6: Resource

Goal

Goal 1: To provide for development which does not impair the economic potential of the area, while not diminishing the other amenities which exist within the community.

Policies

Policy 2: The County will maintain and enhance air quality for the health and well-being of County residents by encouraging land uses which promote air quality and good visibility.

Policy 5: Encourage development of alternative energy sources by tailoring County zoning and subdivision ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Kern County Best Management Practices for Dust Management

In 2013, solar developers and planners from Los Angeles and Kern Counties began a series of meetings to discuss the best practices for protecting air quality and minimizing construction impacts from solar projects. The process incorporated feedback from the Mojave Air and Space Port, members of the Mojave Chamber of Commerce, Rosamond Municipal Advisory Council, and numerous other community leaders. Subsequent to these meetings, Kern County has developed a new approach to best control fugitive dust emissions and improve air quality in the high desert. The County's approach recognizes that effective dust control management must be site-specific and cannot be "one-size-fits-all" because standard methods do not adequately meet the challenges of such a unique environment as the Mojave Desert region. An effective strategy has to be based on soil conditions, topography, adjacent land uses, and wind direction.

Conditions imposed on the new solar projects in Kern County are more extensive and rigorous than ever before. These include:

- Development of a Site Specific Dust Control Plan that considers ongoing community stakeholder input, to the extent feasible and practicable.
- Use of Global Positioning System (GPS) or lasers to level posts, generally avoiding grading except when elevation changes exceed design requirements.
- When grading is unavoidable, it is to be phased and done with the application of approved chemical dust palliatives (chemical substances applied to a road surface to reduce airborne dust) that stabilize the earth.
- Use of dust suppression measures during road surface preparation activities, including grading and compaction.
- Final road surfaces must be stabilized to achieve a measurable threshold friction velocity (TFV – the wind speed at which erosion starts) equal to or greater than 100 centimeters per second.
- If ground is cleared, plant roots must be left in place where possible.
- Expanded onsite watering processes.
- Installation of wind barrier fencing or screening.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved (i.e., without asphalt) surface at the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials shall be covered or shall maintain at least 2 feet of freeboard.
- Sending mailings to residents within 1,000 feet of a project site.

Kern County is also carefully monitoring all solar construction activities to ensure that all mitigation measures are followed and are adequate to minimize dust-related health concerns.

Eastern Kern Air Pollution Control District

The EKAPCD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. To this end, the EKAPCD implements air quality programs required by State and federal mandates, enforces rules and regulations based on air pollution laws, and educates businesses and residents about their role in protecting air quality. The EKAPCD is also responsible for managing and permitting existing, new, and modified sources of air emissions within the Mojave Desert portion of Kern County and also established the following rules and regulations to ensure compliance with local, State, and federal air quality regulations:

Rule 201

Rule 201 establishes permitting requirements for stationary sources. Although the proposed project does not involve traditional stationary sources, the EKAPCD adopted rules requiring commercial solar facilities to obtain Authority to Construct and Permit to Operate approval under Rule 201 to address fugitive dust emissions. Under Rule 201, these projects would be required to submit a Fugitive Dust Emissions Control Plan in accordance with Rule 402. In addition, the District is requiring a Fugitive Dust Emissions Monitoring

Plan through which that each facility install upwind and downwind particulate matter air monitoring. The monitoring will be used to demonstrate compliance with the District Rules and Regulations.

Rule 210.1

Rule 210.1 establishes stationary source offset levels for new and modified stationary sources of air pollutants. Under this rule, the EKAPCD has established required offsets for when the emissions from a source exceed the following trigger levels:

- PM_{10} – 15 tpy
- Sulfur oxides (as SO_2) – 27 tpy
- VOCs – 25 tpy
- NO_X (as NO_2) – 25 tpy

Rule 401

Rule 401 states that a person shall not discharge into the atmosphere, from any single source of emissions whatsoever, any air contaminant from any single emissions source for a period or periods aggregating more than 3 minutes in any one hour that is:

- As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection A [of the Rules].

Rule 402

Rule 402 of the EKAPCD's rules and regulations addresses significant man-made dust sources from active operations. An active operation is defined as "Activity capable of generating fugitive dust, including any open storage pile, earth-moving activity, construction/demolition activity, disturbed surface area, and non-emergency movement of motor vehicles on unpaved roadways and any parking lot served by an unpaved road subject to this Rule." Rule 402 applies to specified bulk storage, earthmoving, construction and demolition, and man-made conditions resulting in wind erosion, and includes the following requirements:

- A person shall not cause or allow emissions of fugitive dust from any active operation to remain visible in the atmosphere beyond the property line of the emission source.
- A person shall utilize one or more Reasonably Available Control Measures (RACM) or Bulk Material Control Measures (BMCM) to minimize fugitive dust emissions from each source type that is part of any active operation, including unpaved roadways.
- No person shall conduct a large operation without filing for and obtaining an approved fugitive dust emission control plan. Large operation is defined as "Any construction activity on any site involving 10 or more contiguous acres of disturbed surface area, or any earthmoving activity exceeding a daily volume of 10,000 cubic yards, or relocating more than 2,500 cubic yards per day of bulk materials at least three days per year."
- EKAPCD may require onsite PM_{10} monitoring for any large operation that causes downwind PM_{10} ambient concentrations to increase more than 50 micrograms per cubic meter ($\mu g/m^3$) above

upwind concentrations as determined by utilizing high-volume particulate matter samplers, or other EPA-approved equivalent method(s).

Rule 404.1

Rule 404.1 pertains to Particulate Matter Concentrations – Desert Basin and states:

- A person shall not discharge into the atmosphere from any single source operation, in service on the date this Rule is adopted, particulate matter in excess of 0.2 grains per cubic foot of gas at standard conditions.
- A person shall not discharge into the atmosphere from any single source operation, the construction or modification of which commenced after the adoption of this rule, particulate matter in excess of 0.1 grains per cubic foot of gas at standard conditions.

Rule 419

Rule 419 states that a person shall not discharge from any source whatsoever such quantities of contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health, or safety of such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property.

Rule 423

Rule 423 adopts the EPA's National Emissions Standards for Hazardous Air Pollutants by reference, which grants EKAPCD the ability to ensure that all sources of hazardous air pollution would comply with applicable standards, criteria, and requirements set forth in Title 40, Chapter 1, Parts 61 and 63, of the Code of Federal Regulations that are in effect as of October 10, 2017.

2017 Ozone Attainment Plan

In 2008, EPA adopted a more stringent 8-hour ozone NAAQS of 0.075 ppm. Although the EKAPCD attained the 1997 8-hour ozone NAAQS, and the Indian Wells Valley planning area met the new (2008) ozone NAAQS, the EKAPCD's Design Value was higher than 0.075 ppm. In 2012, a portion of the EKAPCD was classified "marginal" nonattainment pursuant to the 2008, 8-hour Ozone NAAQS Air Quality Designations. However, the EKAPCD failed to meet the 0.075 ppm standard by the applicable attainment date and was reclassified as "moderate" nonattainment, effective June 3, 2016. As a result, the EKAPCD was required to submit a SIP revision for the nonattainment area by January 1, 2017, which showed compliance with statutory and regulatory conditions applicable to the "moderate" designation (EKAPCD, 2017).

The EKAPCD, in partnership with CARB, conducted photochemical modeling along with supplemental analyses to determine whether the EKAPCD could attain the 2008 ozone NAAQS by the "moderate" nonattainment deadline. Modeling indicated the EKAPCD would not meet the 0.075 ppm standard by the moderate deadline but could attain it by 2020, which is the attainment date for "serious" nonattainment areas. Pursuant to Section 181(b)(3) of the CAA "Voluntary Reclassification," the EKAPCD requested CARB formally submit a request to EPA asking for voluntary reclassification of the EKAPCD from "moderate" to "serious" nonattainment for the 2008, 8-hour ozone NAAQS, and revise the attainment date to December 31, 2020 (EKAPCD, 2017). The EPA reclassified the EKAPCD (except for the Indian Wells Valley planning area) as "serious" nonattainment on August 6, 2018 (EPA, 2018).

The 2017 Ozone Attainment Plan was adopted by the EKAPCD on July 27, 2017, and addresses all required elements, emissions reductions, and control measures necessary to demonstrate attainment with the 2008 8-hour ozone NAAQS by 2020. As discussed above, the Indian Wells Valley portion of the EKAPCD was designated as attainment/unclassified for the 2008 ozone NAAQS by EPA in 2011. Therefore, the 2017 Ozone Attainment Plan excludes emissions from the Indian Wells Valley (EKAPCD, 2017). CARB approved the 2017 Ozone Attainment Plan on September 28, 2017, as a revision to the SIP and submitted it to the EPA on October 25, 2017 (CARB, 2017c). The EPA has not yet approved the plan.

Air Quality Conformity Determination for Transportation Plans and Programs

The CAA amendments of 1990 require a finding to be made stating that any project, program, or plan subject to approval by a metropolitan planning organization conforms to air plans for attainment of air quality standards. Kern Council of Governments (COG) is designated the Regional Transportation Planning Agency and Metropolitan Planning Organization for Kern County. In that capacity, Kern COG models air quality projections on population projections in conjunction with current general plan designations and estimated vehicle miles as well as the current Regional Transportation Plan (RTP) and the federal transportation plan for Kern County. These results are compared to pollutant budgets for each basin approved by EPA in the 1999 base year. Kern County is contained within two air basins: San Joaquin Valley Air Basin and the MDAB. Each air basin has its own plans and pollutant budgets. Kern COG makes conformity findings for each air basin.

Kern County recently prepared a draft 8-hour ozone air quality conformity analysis to analyze Kern County's federally approved Federal Transportation Improvement Program (FTIP) and the 2014 RTP. The conformity findings conclude that the FTIP and RTP result in emissions that are less than the emission budgets of baseline emissions for CO, VOC, NO_x, and PM₁₀ (Kern COG, 2016).

Kern County Public Health Services Department

Section 101080 of the California Health and Safety Code authorizes a local health officer to declare a local health emergency in the health officer's jurisdiction, or any part thereof, when the health officer determines that there is an imminent and proximate threat of the introduction of any contagious, infections, or communicable disease, chemical agent, noncommunicable biological agent, toxin, or radioactive agent. On April 2, 2020, the Kern County Health Officer issued an Order that was implemented to garner additional tools to assist with Kern County's compliance with Executive Order N-33-20 issued by the Governor of the State of California and the California Department of Public Health's gathering guidance due to COVID-19. The April 2, 2020 order was rescinded on May 2, 2020 by the Kern County Health Officer. The Kern County Public Health Services Department and the Kern County Health Officer continue to provide guidance and recommendations for residents and business of Kern County to safely conduct business, including construction activities, during this COVID-19 pandemic.

4.3.4 Impacts and Mitigation Measures

This section describes the impact analysis relating to air quality for the project. It describes the methods used to determine the impacts of the project and lists the thresholds used to conclude whether an impact

would be significant. Where warranted, measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Methodology

The proposed project's potential impacts to air quality have been evaluated using a variety of resources, including the Air Quality Impact Analysis located in Appendix C of this EIR. The Air Quality Impact Analysis was prepared in accordance with EKAPCD's *Guidelines for Implementation of the California Environmental Quality Act* (EKAPCD, 1999) and Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports*. The analysis presented within this section is based on both qualitative and quantitative approaches for determining air quality impacts associated with construction, operation, and maintenance of the project.

Air Quality Plan Consistency

As a component of the cumulative impact analysis, the County Air Quality Assessment Guidance states that the following should be included in the consistency determination for existing air quality plans:

- Discuss project in relation to Kern COG conformity and traffic analysis zones (TAZs)
- Quantify the emissions from similar projects in the Ozone Attainment Plan for the applicable basin. Discuss the Ozone Attainment Plan for the applicable air district, development, and relation to regional basin, Triennial Plan, and SIP

Construction and Decommissioning

County guidance states that an air quality assessment should include estimates of short-term construction emissions in tons per year. The estimates must include site grading and building construction emissions, with comparison to the adopted County CEQA thresholds and the applicable air district (EKAPCD) thresholds. Per the County's guidance, all assumptions should be clearly presented, including length of each construction phase, equipment that would be used during each phase, and the amount of soil disturbance, including any import or export of soil. The emission factors used to estimate emissions should be clearly documented, and the model output should be included in the report.

Short-term emissions are primarily generated from the construction phase of a project and are recognized to be short in duration and without lasting impacts on air quality. The California Emissions Estimators Model (CalEEMod) version 2016.3.1 (CAPCOA, 2016b) was used to estimate emissions from construction worker vehicles and onsite construction equipment. Construction equipment was estimated using a default construction fleet mix provided by the neighboring San Joaquin Valley Air Pollution Control District (SJVAPCD) for a 20 MW solar project; this fleet mix was adjusted by factoring the 20 MW solar project equipment to reflect equipment for a 26.6 MW project. The CARB on-road vehicle emissions model, EMFAC2014, emissions factors were used to estimate emissions from solar panel delivery offsite travel on paved surfaces and AP-42 emission factors were used to calculate fugitive dust emissions from travel on onsite unpaved surfaces. Solar panels would be delivered from the Port of Long Beach. Assuming 540 panels per truck trip, there would be approximately 208 heavy duty truck trips delivering the 112,140 solar panels (Insight, 2017).

Many variables are factored into the calculation of construction emissions including length of the construction period, number of each type of equipment, site characteristics, area climate, and construction

personnel activities. All equipment was assumed to be in use for the project in accordance with the adjusted default SJVAPCD provided hours per day for a 26.6 MW solar project. CalEEMod default load factors were used for all construction equipment. Construction assumptions took into account the EKCPCD rules and regulations applicable to the project that reduce emissions of criteria pollutants. Adjustment to the CalEEMod default values were as follows:

- Land use lot acreage was adjusted to match the project description;
- Demolition construction phase was removed as the project location is open land;
- The construction schedule was adjusted to match the anticipated schedule for the project;
- The project specific construction equipment list described above was used;
- Water exposed area 3 times per day; and
- Reduce vehicle speed on unpaved roads to less than 15 miles per hour.

The project has a tentative life of 35 years, after which time the operations can be renewed and onsite technology updated, or the project could be decommissioned. As decommissioning activities would be similar to the construction activities (using the same types of equipment and same general activities), the quantified emissions from construction are used as a surrogate for decommissioning activities. However, it would be anticipated that the decommissioning activities would be reduced from those estimated for the construction activities as the efficiencies of the construction equipment and on-road vehicles would be consistent with the future decommissioning year, which would require full compliance with stringent emissions standards for heavy-duty construction equipment resulting in anticipated substantial reductions in emissions from what is presented for construction activities.

Operation

Operation of the project would generate emissions of ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} that could result in long-term impacts on ambient air quality. Long-term operational emissions are caused by mobile sources from periodic maintenance and cleaning of the solar panels. The project analyzed three categories of mobile sources generating long-term emissions: water trucks, maintenance trucks, and employee vehicles. Operational assumptions took into account the EKCPCD rules and regulations applicable to the project that reduce emissions of criteria pollutants.

Water trucks would be used to clean the solar panels quarterly. The project proponent estimated that water trucks would travel 4 miles from the project site for 56 round trips each quarter. Quarterly maintenance would include three round trip truck trips per quarter. The project estimates five round trips per quarter of employee (i.e., maintenance personnel) travel to the project site. As the make of employee vehicles is not known, a 50:50 split of emissions for light duty autos and light duty trucks was applied when estimating emissions.

EMFAC2014 was used to estimate offsite and onsite water truck emissions. The year 2019 was conservatively applied as project operations are anticipated to start in year 2020, which would result in slightly higher operational emissions estimates as vehicle fleet emissions decrease in future years from the phase-in of newer vehicles that meet more stringent emissions standards. Fugitive dust emissions from water truck travel over onsite unpaved surfaces were estimated using EPA's Compilation of Air Pollutant Emission Factors, AP-42.

Health Risk Assessment

Projects are considered for potential health risks wherein a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. The proposed Project is a photovoltaic solar generation facility and is not anticipated to generate any additional sources of toxic air contaminants with the exception of a minor increase in DPM from construction, facility maintenance and solar panel cleaning activities. As such, health risk is discussed qualitatively in this analysis.

Ambient Air Quality Analysis

Kern County's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* requires a dispersion modeling analysis of the maximum 24-hour average concentrations of PM₁₀ and PM_{2.5} resulting from construction in comparison to applicable ambient air quality standards and thresholds; therefore, an ambient air quality analysis (AAQA) was performed for the project during construction only, as operation of the project would be minimal, consisting of routine inspection and maintenance only. The purpose of the AAQA is to determine whether the project's construction emissions would cause or contribute to exceedances of any CAAQS or NAAQS during construction. The AAQA was performed using a two-step process to determine impacts. Dispersion modeling assumptions and results are provided in Appendix C of this EIR.

CO Hotspots

Heavy traffic congestion can contribute to high levels of CO. Individuals exposed to these CO “hot-spots” may have a greater likelihood of developing adverse health effects. The potential for the proposed project to result in localized CO impacts at intersections resulting from addition of its traffic volumes is assessed based on Kern County's suggested criteria, which recommends performing a localized CO impact analysis for intersections operating at or below level of service (LOS) E.

Valley Fever Exposure

While there are no specific thresholds for the evaluation of potential Valley Fever exposure, the potential for Valley Fever exposure as a result of the project is evaluated based on the anticipated earth-moving activities, and considers applicant-proposed measures and compliance with Rule 8021, Section 6.3, which requires development and implementation of a dust control plan to help control the release of the *Coccidioides immitis* fungus during construction activities.

Visibility Impacts

The County guidance states that potential impacts to visibility should be evaluated for all industrial projects and any other projects, such as mining projects, that have components that could generate dust or emissions related to visibility.

Based on the Kern County guidelines, a visibility analysis not required since the project is not a large industrial stationary-source or mining project, and it would not have long-term operational components that could generate substantial dust or emission plumes related to visibility.

Asbestos

There are no quantitative thresholds related to receptor exposure to asbestos. However, EKAPCD Rule 423 (National Emission Standards for Hazardous Air Pollutants and Source Categories) requires all projects to comply with the provisions of Title 40, Chapter I, Parts 61 and 63 of the Code of Federal Regulations.

COVID-19

There are no definitive quantitative thresholds related to receptor exposure to COVID-19, and the relationship to exposure to PM_{2.5}.

Thresholds of Significance

Kern County

The Kern County CEQA Implementation Document and Kern County Environmental Checklist includes items taken from previous versions of *CEQA Guidelines* Appendix G. However, Appendix G was updated in 2018, resulting in minor changes to the checklist items. The analysis herein is based on the updated *CEQA Guidelines*, which differ slightly from the Kern County CEQA Implementation Document and Kern County Environmental Checklist.

The current *CEQA Guidelines* state that a project could potentially have a significant adverse effect to air quality if it would:

- a. Conflict with or obstruct implementation of the applicable air quality plan;
- b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard. Specifically, if implementation of the project would exceed any of the following adopted thresholds:
 - i. Eastern Kern Air Pollution Control District:
 - a. Operational and Area Sources:
 - 25 tons per year for ROG
 - 25 tons per year for NO_x
 - 15 tons per year for PM₁₀
 - b. Stationary Sources – determined by District Rules:
 - Severe nonattainment: 25 tpy
 - Extreme nonattainment: 10 tpy
 - c. Expose sensitive receptors to substantial pollutant concentrations;
 - d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

As lead agency, Kern County determined in the Initial Study/Notice of Preparation (IS/NOP), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to some of these

environmental issue areas; these issue areas are thus scoped out of this EIR. It was determined that the project would not:

- e. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

As detailed in the IS/NOP, the proposed project would not create other emissions such as those leading to objectionable odors that would adversely affect a substantial number of people. Land uses typically producing objectionable odors include wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The project would not have any stationary sources or equipment located onsite that would generate objectionable odors. During construction activities, only short-term, temporary odors from vehicle exhaust and construction equipment engines would occur. However, these odors would not affect a substantial number of people because the site is located in sparsely inhabited areas, and any odors would be temporary and would be dispersed rapidly. Therefore, further analysis is not warranted in the EIR.

Eastern Kern Air Pollution Control District

The EKAPCD's *Guidelines for Implementation of the California Environmental Quality Act (CEQA) of 1970, As Amended* provided thresholds of significance to supplement provisions in Sections 15064, 15065, 15382, and *CEQA Guidelines* Appendix G. These thresholds of significance were captured in the Kern County CEQA Implementation Document, as shown above. As discussed therein, a project is determined to not have significant (as defined by CEQA, Section 21068) air quality impact on the environment, if operation of the project would (EKAPCD, 1999):

1. Emit construction, operational, or area source emissions that do not exceed 25 tpy of ROG or NO_x; 15 tpy of PM₁₀; or 27 tpy of SO_x.
2. Emit less than 25 tpy of stationary source pollutants within a severe nonattainment area or 10 tpy of stationary source pollutants within an extreme nonattainment area.
3. Emit (from all project sources subject to KCAPCD Rule 201) less than offsets trigger levels set forth in Subsection III.B.3. of KCAPCD's Rule 210.1 (New and Modified Source Review Rule);
4. Emit less than 137 pounds per day of NO_x or Reactive Organic Compounds (ROG) from motor vehicle trips (indirect sources only);
5. Not cause or contribute to an exceedance of any California or National Ambient Air Quality Standard;
6. Not exceed the District health risk public notification thresholds adopted by the EKAPCD Board; and
7. Be consistent with adopted federal and state Air Quality Attainment Plans. Also see EKCAPCD Rule 208.2 (Criteria for Finding of No Significant Environmental Impact [California Environmental Quality Act])
8. Expose sensitive receptors to substantial pollutant concentrations:
 - Cancer risk impacts – Maximum Exposed Individual (MEI) exceeds 10 in 1 million;
 - Chronic non-cancer risk impacts – Chronic Hazard Index (HIC) exceeds 1.0;
9. Create objectionable odors affecting a substantial number of people.

Project Impacts

Impact 4.3-1: The project would conflict with or obstruct implementation of the applicable air quality plan.

In general, a project would not interfere with the applicable air quality plan if it is consistent with growth assumptions used to form the applicable air quality plan and if the project implements all reasonably available and feasible air quality control measures. The consistency with the Air Quality Management Plan (AQMP) is discussed below for construction and operation.

Air quality impacts are controlled through policies and provisions of the EKAPCD, the Kern County General Plan, and the Kern County Code of Building Regulations. The CCAA requires APCDs and AQMDs with severe or extreme air quality problems to provide for a 5 percent reduction in nonattainment emissions per year. The Attainment Plans prepared for the EKAPCD complies with this requirement. CARB reviewers approve or amend the document and forward the plan to EPA for final review and approval within the SIP.

Required Evaluation Guidelines

CEQA Guidelines and the CAA (Sections 176 and 316) contain specific references regarding the need to evaluate consistencies between the project and the applicable AQMP for the projects. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQMP:

1. *Determination that an AQMP is being implemented in the area where the project is being proposed.* EKAPCD's most recently adopted air quality management plan is its Ozone Air Quality Attainment Plan (AQAP) that is approved by CARB and EPA. Additionally, EKCAPCD has implemented the current, modified AQAP as approved by CARB and is under review by the EPA.
2. *The project must be consistent with the growth assumptions of the applicable AQMP.* The project, as a solar facility, would not introduce land uses that would generate vehicle trips or promote growth in the project area beyond what is projected in the Kern County General Plan.
3. *The project must contain in its design all reasonably available and feasible air quality control measures.* The project incorporates various policy and rule-required implementation measures that would reduce related emissions.

Because implementation of the project would not result in additional growth beyond what was anticipated by the Kern County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

- The findings of the analysis conducted using review of Traffic Analysis Zones (TAZ) data show that sufficient population and household increases are planned for the project area;
- That, by definition, the proposed emissions from the project are below EKAPCD's established emissions impact thresholds; and
- That the primary source of emissions from the project would be motor vehicles which would be licensed through the State of California and whose emissions are already incorporated into CARB's Eastern Kern County's Emissions Inventory.

Construction

The project would comply with all applicable EKAPCD rules and regulations, such as EKAPCD Rule 401 (Visible Emissions) and EKAPCD Rule 402 (Fugitive Dust). The project would not conflict with or propose to change existing land uses or result in population growth. As discussed in detail under Impact 4.3-3 below, Table 4.3-4, *Project Construction Emissions*, shows that construction of the project would not exceed the annual tons per years EKAPCD significance thresholds for any criteria pollutant. Therefore, the project would not result in emissions of a magnitude that would obstruct the air quality planning goals set forth by EKAPCD and would have less than significant impacts.

While this impact would be less than significant, implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9 would ensure that all readily available and feasible air quality control measures that are in conformance with applicable air quality plans would be implemented. Mitigation Measures MM 4.3-1 through MM 4.3-9, which would reduce both construction fugitive dust and equipment emissions, would be implemented in conformance with the applicable EKACPD plans and regulations and Kern County General Plan Policies 20 and 21.

Operation

In general, a project would not interfere with the applicable air quality plan if it is consistent with growth assumptions used to form the applicable air quality plan. The project would be consistent with the existing land use designations in the current Kern County General Plan and Inyokern Specific Plan and would not introduce a land use that would induce population or housing growth that could result in a substantial increase in vehicle miles traveled and associated criteria pollutant emissions. The only source of long-term operational emissions associated with the project would be those generated from mobile sources traveling to and from the project area. As no onsite maintenance and operations staff are proposed, long-term emissions from the project would consist of sporadic vehicular emissions from employees, which would be minimal and would not result in a substantial increase in emissions. As shown below in **Table 4.3-5, Annual Project Operational Emissions**, under Impact 4.3-3, the project's long-term operational emissions would be well below EKAPCD's applicable significance thresholds.

Furthermore, the solar power generation system of the project would also function to reduce the air pollutant emissions within the MDAB to the extent that the power generated is used to offset power production from fossil fueled power plants within (or contributory to) the MDAB. This power production is not projected within the existing air quality plans, and so the project would further aid in reducing air pollutant emissions and increase the potential for attainment of the *Ozone Attainment Plan*. Therefore, the project would not conflict with the EKAPCD's *Ozone Attainment Plan*. As project operational emissions would also not exceed the EKAPCD's significance thresholds, implementation of the project would not obstruct implementation of an air quality plan during operation. Therefore, operational impacts would be less than significant.

Decommissioning

The project is anticipated to operate for 35 years, after which time it will either be updated to then current solar power technologies, or would be converted to other uses in accordance with applicable land use regulations in effect at that time if its CUPs are not extended. The project will be required to develop a decommissioning plan and financial assurances for review and approval by the Kern County Planning and Natural Resources Department. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations.

At such time as the facility is decommissioned, equipment operation and site restoration activities would result in impacts to air quality. Given the fact that much of the construction equipment necessary to construct the project would also be required to decommission the site, it is reasonable to assume that decommissioning activities would be similar in nature to activities associated with construction of the project. Mitigation measures related to the decommissioning of utility sized solar facilities are included as a requirement of all proposed solar projects in Kern County, not just this project, in order to establish safeguards to ensure the maintenance of the health, safety, and welfare of the citizens of the County.

Decommissioning would be anticipated to be reduced from those estimated for construction activities as future year equipment would be required to fully comply with stringent emissions standards for heavy-duty construction equipment. As discussed in Impact 4.3-2 below, construction emissions would not exceed the EKAPCD thresholds adopted by Kern County. Therefore, as decommissioning emissions would be less than the values reported, emissions associated with decommissioning would also not exceed the applicable EKAPCD thresholds adopted by Kern County. Therefore, decommissioning impacts would be less than significant. Although impacts are less than significant, to further reduce impacts, mitigation measures MM 4.3-1 through MM 4.3-9 would be implemented to further reduce emissions.

Mitigation Measures

MM 4.3-1: The project proponent/operator shall ensure construction of the project shall be conducted in compliance with applicable rules and regulations set forth by the Eastern Kern Air Pollution Control District. Dust control measures outlined below shall be implemented where they are applicable and feasible. The list shall not be considered all-inclusive and any other measures to reduce fugitive dust emissions may be required by appropriate agencies to respond to urgent issues on site:

- a. **Land Preparation, Excavation, and/or Demolition.** The following dust control measures shall be implemented:
 - i. All soil being actively excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas. Watering shall take place a minimum of three times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust suppressant.
 - ii. After active construction activities, soil shall be stabilized with a non-toxic soil stabilizer or soil weighting agent, or alternative approved soil stabilizing methods.
 - iii. All unpaved construction and operation/maintenance site roads, as they are being constructed, shall be stabilized with a non-toxic soil stabilizer or soil weighting agent.
 - iv. All clearing, grading, earth moving, and excavation activities shall cease during periods 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 or as identified in a plan approved by the Eastern Kern Air Pollution Control District.
 - v. All trucks entering or leaving the site shall cover all loads of soils, sands, and other loose materials, or be thoroughly wetted with a minimum freeboard height of 6 inches.

- vi. Areas disturbed by clearing, earth moving, or excavation activities shall be minimized at all times.
 - vii. Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.
 - viii. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.
 - ix. Prior to construction, wind breaks (such as chain-link fencing including a wind barrier) shall be installed where appropriate.
 - x. Where acceptable to the Kern County Fire Department, weed control shall be accomplished by mowing instead of disking, thereby, leaving the ground undisturbed and with a mulch covering.
 - xi. The project proponent/operator shall use Global Positioning System or lasers to level posts, generally avoiding grading except when elevation changes exceed design requirements.
 - xii. When grading is unavoidable, it is to be phased and done with the application of approved chemical dust palliatives that stabilize the earth.
 - xiii. Where ground is cleared, plant roots must be left in place where possible to stabilize the soil.
- b. **Site Construction.** After active clearing, grading, and earth moving is completed within any portion of the site, the following dust control practices shall be implemented:
- i. Dust suppressant shall be used on the same day or day immediately following the cessation of activity for a particular area where further activity is not planned.
 - ii. Dependent on specific site conditions (season and wind conditions), revegetation shall occur in those areas where planned after installation of the solar panels.
 - iii. All unpaved road areas shall be treated with a dust suppressant or graveled to prevent excessive dust.
 - iv. The project proponent/operator shall use dust suppression measures during road surface preparation activities, including grading and compaction.
 - v. Final road surfaces must be stabilized to achieve a measurable threshold friction velocity equal to or greater than 100 centimeters per second.
 - vi. Wind barrier fencing or screening shall be installed, when appropriate.
- c. **Vehicular Activities.** During all phases of construction, the following vehicular control measures shall be implemented:
- i. Onsite vehicle speed shall be limited to 10 miles per hour on unpaved areas within the project site. Vehicles may travel up to 25 miles per hour on stabilized unpaved roads (application of palliatives, gravel, etc. that reduces the erosion potential of the soil) as long as such speeds do not create visible dust emissions.
 - ii. Visible speed limit signs shall be posted at main ingress point(s) onsite.

- iii. All areas with vehicle traffic such as the main entrance roadway to the project site shall be graveled or treated with dust palliatives so as to prevent track-out onto public roadways.
- iv. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.
- v. Streets adjacent to the project site shall be kept clean, and project-related accumulated silt shall be removed on at a minimum of once daily, or as necessary to prevent substantial offsite fugitive dust releases. The use of either dry rotary brushes (unless prior wetting) or blower devices is prohibited.
- vi. Access to the site shall be by means of an apron into the project site from adjoining surfaced roadways. The apron shall be surfaced or treated with dust suppressants. If site soils cling to the wheels of the vehicles, then a grizzly, wheel-washer, or other such device shall be used on the road exiting the project site, immediately prior to the pavement, to remove most of the soil material from vehicle tires.

MM 4.3-2: Prior to the issuance of grading or building permits, the project proponent/operator shall provide a comprehensive Phased Grading Plan for review by the Kern County Planning and Natural Resources Department to reduce fugitive dust emissions resulting from wind erosion at the site. The Phased Grading Plan shall:

- a. Identify a comprehensive grading schedule for the entire project site which demonstrates the measures described below.
 - i. Grading shall be minimized to limit the removal of topsoil and creation of loose soils. Only in areas where drainage improvements, structural foundations (e.g., inverter/transformer pads), service roads, and leveling of severe grades need to occur will grading that removes and recompacts the soil surface occur. Dust palliatives and water shall be immediately applied following any grading.
 - ii. Application of dust palliatives shall be applied throughout project construction to help reduce dust, especially during periods of high winds, and shall include use of: (1) an eco-safe, biodegradable, liquid copolymer shall be used to stabilize and solidify any soil; and (2) A hydro mulch mixture composed of wood fiber mulch and an Environ-Mend binder may also be applied, where real-time weather conditions dictate that additional measures are necessary.
 - iii. Water trucks shall transit across the project site and construction access roads to suppress the fugitive dust from disturbed soils on roads and active working areas on a regular and as needed basis.
- b. Minimize all grading activities to those areas necessary for project access and installation of solar panels and other associated infrastructure associated with the solar facility. Construction shall commence on areas that have undergone initial grading within 20 calendar days.
- c. Identify, in addition to those measures required by the Eastern Kern Air Pollution Control District, all measures being undertaken during construction activities and

operational activities to ensure dust being blown off site is minimized. Measure may include, but are not limited to:

- i. Increased use of water and or use of dust suppressant;
 - ii. Pre-seeding and/or use of wood chips as permitted by the Eastern Kern Air Pollution Control District; and
 - iii. Construction of dust screening around the project site.
- d. A Revegetation Plan shall be submitted for approval to the Kern County Planning and Natural Resources Department. To minimize long-term dust issues from the project, the project site shall be revegetated (consistent with existing site conditions). Root balls shall be maintained during vegetation clearing to maintain soil stability and ultimately vegetation re-growth following construction, where feasible. Following construction completion, the project area shall be re-seeded with native vegetation. See Mitigation Measure MM 4.1-3 for plan specifications.

MM 4.3-3: Implement Diesel Emission Reduction Measures during Construction. To control PM emissions during construction, the project proponent/operator and/or its contractor(s) shall implement the following measures during construction of the project, subject to verification by the County:

- a. All equipment shall be maintained in accordance with the manufacturer's specifications.
- b. Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 10 minutes.
- c. Electric equipment shall be used whenever feasible in lieu of diesel or gasoline-powered equipment.
- d. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce oxides of nitrogen emissions.
- e. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines.
- f. Prohibit the use of heavy-equipment during first- or second-stage smog alerts and suspend all construction activities during second-stage smog alerts.
- g. Utilize existing power sources (i.e., power poles) when available. This measure would minimize the use of higher polluting gas or diesel generators.
- h. Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use to the extent feasible.
- i. Require that trucks and vehicles in loading or unloading queues have their engines turned-off when not in use.
- j. Off-road equipment engines over 50 horsepower shall be Tier 2 certified or higher (unless Tier 2 equipment has been determined to not be available).

- k. Provide notification to trucks and vehicles in loading or unloading queues that their engines shall be turned-off when not in use for more than 10 minutes.

MM 4.3-4: The project proponent/operator shall implement the following wind erosion reduction measures to comply with Eastern Kern Air Pollution Control District Rules 401 and 402 during strong wind events.

- a. Sand fences shall be used to capture sand deposits caused by wind erosion in the southwest portion of the project site. Sand fences should be placed to protect structures, including residences, and other amenities from wind-blown sand. In particular, sand fencing should be placed during Phase 1 on the eastern boundary of Phase 1, the southwest corner of Phase 1, and during Phase 2 on the western boundary and southern boundary of Phase 2.
- b. Install permanent fencing with a minimum 50 percent porosity and at least 6 feet in height in those areas immediately west, north, and east of permanent existing residences prior to vegetation removal/soil disturbance within 1,000 feet of the residence.
- c. In areas where grading will occur, temporary construction fences (with minimum 50 percent porosity and at least 4 feet high) shall be installed every 200 to 300 feet perpendicular to the prevailing wind in a manner to reduce fugitive dust from leaving the area being graded. Depending on the use and effectiveness of water and dust suppressants, install additional temporary fencing with tighter spacing as necessary.

MM 4.3-5: The project proponent/operator shall continuously comply with the measures described below during construction and operations to control fugitive dust emissions.

- a. The unpaved main access road for employees and deliveries to the maintenance complex shall be paved or effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation.
- b. The other unpaved roads at the project site shall be stabilized using water or soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes.
- c. Traffic speeds on unpaved roads shall be limited to no more than 10 miles per hour, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s) from the project site.
- d. The construction contractor shall ensure that all on-road construction vehicles are properly tuned and maintained in accordance with the manufacturer's specifications.

MM 4.3-6: The project proponent/operator shall continuously comply with the measures described below to control fugitive dust emissions during project operations and construction activities.

- a. Increase handling moisture content of graded soils from the typical of 15 percent to 20 percent.

- b. Reduce speed of road grading by motor graders and rollers from typical 7.1 miles per hour to 5 miles per hour.
- c. Prior to construction, onsite roads that will have the greatest extent of onsite travel shall be graveled.
- d. Use a dust suppressant such as magnesium chloride, polymer, or similar, to the extent feasible, including on gravel roads.

MM 4.3-7: The project proponent/operator shall continuously comply with the measures described below during construction and operations to control emissions from onsite dedicated equipment (equipment that would remain onsite each day).

- a. All onsite off-road equipment and on-road vehicles for operation and maintenance shall meet the recent California Air Resources Board engine emission standards or alternatively fueled construction equipment, such as compressed natural gas, liquefied gas, or electric, as appropriate.
- b. All equipment shall be turned off when not in use, where feasible. Engine idling of all equipment shall be minimized.
- c. All equipment engines shall be maintained in good operating condition and in tune per manufacturer's specification.

MM 4.3-8: The project proponent/operator shall continuously comply with the measures described below during operation to control wind erosion.

- a. Install permanent fencing with a minimum 50 percent porosity and at least 6 feet in height along the project boundary within 1,000 feet of permanent residences along the eastern boundary of Phase 1, the southwest corner of Phase 1, and the western boundary and southern boundary of Phase 2. If significant sand movement is observed onsite, additional sand fences should be placed within the site to reduce movement and protect onsite structures, including photovoltaic arrays, from wind-blown sand. As sand deposits grow, the sand deposits shall be planted with vegetation to reduce further erosion. (This can take the place of Mitigation Measure MM 4.3-4(3) assuming installed prior to construction activities.)
- b. Prepare a Fugitive Dust Emission Monitoring Plan, which shall include installation of onsite particulate matter—10 air monitors for a minimum of 5 years to ensure effectiveness of dust mitigation measures. Per Eastern Kern Air Pollution Control District guidelines, the project proponent of a facility may petition to cancel particulate monitoring, in the event that 5 years of data demonstrate (upwind/downwind concentration difference is $50 \mu\text{g}/\text{m}^3$ or less [based on one-hour averages]).

MM 4.3-9: Prior to the issuance of any grading or building permit, the project proponent shall establish a “construction coordinator” and submit written documentation which includes their phone number, email address and mailing address. The construction coordinator shall be responsible for the following:

- a. Responding to any local complaints about construction activities. The construction coordinator shall determine the cause of the construction complaint and shall be required to implement reasonable measures such that the complaint is resolved.

- b. Ensuring all appropriate construction notices have been made available to the public and that all appropriate construction signs have been installed.
- c. Maintaining an ongoing up-to-date log of all construction related complaints (i.e., blowing dust, inability to access parcels, etc.) during project construction activities. The log shall include the nature of the complaint and the measures that were undertaken to address the concerns. Upon request, the construction coordinator shall provide the log to the Planning and Natural Resources Department no later than three business days from request.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9, impacts would be less than significant.

Impact 4.3-2: The project would expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors are persons who may be particularly sensitive to air pollution because they are ill, elderly, or have lungs that are not fully developed. Locations where such persons reside, spend considerable amount of time, or engage in strenuous activities are also referred to as sensitive receptors. Typical sensitive receptors include inhabitants of long-term healthcare facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers, and athletic facilities. As discussed previously, sensitive receptors located in the vicinity of the project site include residential land uses and the Inyokern Elementary School.

Toxic Air Contaminants (TACs)

Projects are considered for potential health risks wherein a new or modified source of TACs is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to TACs.

The primary TAC of concern for this project would be DPM emitted during construction and maintenance activities, as discussed below. The project would not be anticipated to generate any additional sources of TACs. The proposed project is a photovoltaic solar generation facility and, as such, would not generate any additional sources of TACs with the exception of the aforementioned DPM emissions from heavy-duty vehicle operations and construction equipment during the grading and building phases of the project. DPM emissions are primarily comprised of particles 2.5 microns in aerodynamic diameter and smaller (i.e., PM_{2.5}) and as such are a subset of the PM₁₀ exhaust emissions, and as detailed in the emissions analysis above, the onsite PM₁₀ from project construction and operational emissions are well below screening levels for typical air toxins. Given the low DPM emissions of less than one-half pound per day expected from this project (less than 0.0407 tons/year, as shown in Table 4.3-10, which is equivalent to an average of approximately 0.4 pounds/day over the nine-month construction duration), the project risk threshold would not exceed the significant risk thresholds of 1 in a million for cancer risk and 0.2 HIC for acute and chronic non-cancer risk. Therefore, the project is not anticipated to result in health risk impacts due to its size and activity. Impacts with respect to health risk are less than significant and no other health risk assessment is required (Insight, 2017). Implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7 would further reduce DPM emissions and health risk with respect to construction and operation of the project.

Criteria Air Pollutants

Sierra Club vs. County of Fresno (December 24, 2018)

In *Sierra Club v. County of Fresno* (S219783) (*Sierra Club*) the Supreme Court held that CEQA requires environmental impact reports to either (i) make a “reasonable effort” to substantively connect the estimated amount of a given air pollutant a project will produce and the health effects associated with that pollutant, or (ii) explain why such an analysis is infeasible (6 Cal.5th at 1165-66). However, the Court also clarified that CEQA “does not mandate” that EIRs include “an in-depth risk assessment” that provides “a detailed comprehensive analysis ... to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations and to assess and quantify both the individual and population wide health risks associated with those levels of exposure.” *Id.* at 1665. However, correlating the project’s criteria air pollutant to specific health impacts, particularly with respect to O₃ is not possible because there is no feasible or established scientific method to perform such analysis. This conclusion is supported by both the SJVAPCD and the South Coast Air Quality Management District who have determined that this type of analysis is speculative and infeasible and there are no unique issues for the EKAPCD that would make this analysis invalid.

Writing as amicus curiae in *Sierra Club*, the SJVAPCD explained that “[t]he health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the National Ambient Air Quality Standards (NAAQS). Accordingly, while the type of individual facility/health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task” (SJVAPCD 2015).

Instead, the SJVAPCD explained that it assesses a project’s potential to exceed NAAQS by evaluating the project’s compliance with district thresholds of significance, which are measured in mass emissions (SJVAPCD 2015). As explained by SJVAPCD, its thresholds are based on factual, scientific data and have been set at a level that ensures that NAAQS will not be exceeded, taking into consideration all cumulative emission sources (SJVAPCD 2015). The SJVAPCD explained that attempting to connect criteria pollutant emissions to localized health impacts will “not yield reliable information because currently available modeling tools are not well suited for this task” (SJVAPCD 2015). Available models are only equipped to model the impact of all emissions sources on an air basin-wide or regional basis, not on a project-level basis, and “[r]unning the photochemical grid model used for predicting ozone attainment with emissions solely from one project would thus not be likely to yield valid information given the relative scale involved” (SJVAPCD 2015).

This inability to “accurately ascertain local increases in concentration” of mass emissions and then to further link emissions with health effects is particularly true for O₃ and its precursors NO_x and ROG and VOC; O₃ is not directly emitted into the air, but is instead formed as ozone precursors undergo complex chemical reactions through sunlight exposure (SJVAPCD 2015). Given the complex nature of this process, and the fact that O₃ can be transported by wind over long distances, “a specific tonnage amount of NO_x or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area” (SJVAPCD 2015). For this reason, the photochemical analysis for O₃ is done on a regional scale and it is inappropriate to analyze O₃ impacts at a local or project-level basis because a localized analysis would at most be speculative, and at worst be misleading. Speculative analysis is not required by CEQA (*CEQA Guidelines* Section 15145; *Laurel Heights Improvement Association v. Regents of the University of California* 1988).

The SJVAPCD also explained that the disconnect between the tonnage of precursor pollutants and the concentration of O₃ or particulate matter formed in a particular area is especially important to understand in considering potential health effects because it is the concentration, not the tonnage, that causes health effects (SJVAPCD 2015). The SJVAPCD explained that even if a model were developed that could accurately assess local increases in concentrations of pollutants like O₃ and particulates, it would still be “impossible, using today’s models, to correlate that increase in concentration to a specific health impact” (SJVAPCD 2015). The SJVAPCD stated that even a project with criteria pollutant emissions above its CEQA thresholds does not necessarily cause localized human health impacts as, even with relatively high levels of emissions, the SJVAPCD cannot determine “whether and to what extent emissions from an individual project directly impact human health in a particular area” (SJVAPCD 2015). The SJVAPCD explained that this is particularly true for development projects like the Project, where most of the criteria pollutants derive from mobile and area sources and not stationary sources. The SCAQMD also, as amicus curiae in *Sierra Club*, made similar points, reiterating that “an agency should not be required to perform analyses that do not produce reliable or meaningful results” (SCAQMD 2015). SCAQMD agrees that it is very difficult to quantify health impacts with regard to O₃, opining that the only possible means of successfully doing so is for a project so large that emissions would essentially amount to *all* regional increases (SCAQMD 2015). With regard to particulate matter, the SCAQMD noted that while the CARB has created a methodology to predict expected mortality from large amount of PM_{2.5}, the primary author of the methodology has reported that it “may yield unreliable results due to various uncertainties” and CARB staff has been directed by its Governing Board to reassess and improve it, which factor “also counsels against setting any hard-and-fast rule” about conducting this type of analysis (SCAQMD 2015). The amicus briefs filed by SJVAPCD and SCAQMD in *Sierra Club* are attached as Appendix C.

Ambient Air Quality Standards

The USEPA and CARB have established NAAQS at levels above which concentrations could be harmful to human health and welfare, with an adequate margin of safety. Further, California air districts, like the EKAPCD, have established emission-based thresholds that provide project-level estimates of criteria air pollutant quantities that air basins can accommodate without affecting the attainment dates for the NAAQS. Accordingly, elevated levels of criteria air pollutants as a result of a project’s emissions could cause adverse health effects associated with these pollutants. The EKAPCD is designated as attainment area for O₃ (1 hour), PM₁₀, and PM_{2.5} and nonattainment for O₃ (8 hours) under the NAAQS, and nonattainment for O₃, PM₁₀, and PM_{2.5} under the CAAQS.

Project Health Effects of Criteria Air Pollutants

A receptor can be hypothetically exposed to a substance through several different pathways. Typically, the primary environmental exposure pathway is direct inhalation of gaseous and particulate air pollutants. However, there is the potential for exposure via non-inhalation pathways due to the deposition of particulate pollutants (DPM) in the environment.

Aside from DPM, heavy-duty vehicle operations and construction equipment during the grading and building phases of construction can produce substantial amounts of criteria air pollutants, primarily precursor ozone pollutants (ROG and NO_x), CO, NO₂, and particulate matter. Since none of these criteria air pollutants from project implementation would be emitted in sufficient quantity to potentially exceed both the NAAQS and CAAQS, and the emissions are considered minimal, an ambient air quality analysis was not warranted.

However, regarding health effects of criteria air pollutants, the project's potential to result in regional health effects associated with ROG, NO_x, PM₁₀, and PM_{2.5} on specific vulnerable populations cannot be calculated given existing scientific constraints. A scientific method to calculate the exact number of individuals in a vulnerable population that will get sick has not been developed, and therefore, it is assumed localized health effects associated with NO_x, PM₁₀, and PM_{2.5} emissions from project implementation could occur. The project proposes the construction and operation of a large-scale utility solar project that would require dust-generating construction activities such as pile-driving, mowing, and grading, over a large area. Due to the open nature of the project site, blowing dust could occur and result in the dispersal of criteria air pollutants such as PM_{2.5} and potentially contribute to the transmission of respiratory diseases like COVID-19. While COVID-19 is thought to spread mainly through close contact from person-to-person, the CDC is still learning how the virus spreads and the severity of the illness it causes (CDC, 2020b). COVID-19 research and causality is still in the beginning stages. A nationwide study by Harvard University found a linkage between long-term exposure to PM_{2.5} as air pollution and statistically significant increased risk of COVID-19 death in the United States (Harvard 2020). While construction dust suppression measures would be implemented in Mitigation Measures MM 4.3-1 through MM 4.3-9, exposure to dust during construction could still occur which could increase the health susceptibility and increase the severity of the disease. There is no vaccine to date for COVID-19. In addition to implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9, the project would implement Mitigation Measure MM 4.3-10, which requires implementation of a COVID-19 Health and Safety Plan in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates.

Therefore, implementation of Mitigation Measures MM 4.3-1 through MM 4.3-10 would be required to reduce the project's regional and localized health effects associated with criteria air pollutants and COVID-19; however, the exact reduction from implementation of these mitigation measures cannot be quantified given existing scientific constraints.

CO Hotspots

A CO "hotspot" can occur when vehicles are idling at highly congested intersections. CO hotspots can adversely affect nearby sensitive receptors. The Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (2006) states that CO hotspots must be analyzed when one of the following conditions occur: (a) a project increases traffic at an intersection or roadway that operates at LOS E or worse; (b) a project involves adding signalization and/or channelization to an intersection; or (c) sensitive receptors such as residences, schools, hospitals, etc., are located in the vicinity of the affected intersection or signalization.

According to the traffic study prepared for the project site (Appendix K), nearby intersections would continue to operate at LOS C or better even with the inclusion of project related trips. Therefore, CO hotspot analysis is not warranted for the project and this impact would be less than significant.

Valley Fever

The proposed project has the potential to generate substantial amounts of fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. The Kern County Public Health Services Department found that *Coccidioides* ssp. frequently occurs in the soil in the following areas (KCPHSD, 2017):

- Sites with many animal burrows;

- (Prehistoric) Native American campsites;
- Areas with sparse vegetation;
- Areas adjacent to arroyos;
- Packrat middens;
- Upper 12 inches of undisturbed soil; and
- Sandy well aerated soil with high water holding capacity.

As compared to these conditions, the aridity of the site will limit small mammal populations to some extent. The site contains sparse vegetation, the soil is sandy and well aerated, and the site could be home to packrats. Nonetheless, given the fact that they live in an area where the fungus can exist, nearby residents have likely already been exposed to this fungus during their current residency. Therefore, construction would not be anticipated to result in an increased exposure to the spores.

Nonetheless, during project construction, it is possible that onsite workers could be exposed to Valley Fever as fugitive dust is generated during construction. However, dust minimizing techniques would be employed, such as maintaining natural vegetation where possible, utilizing “mow-and-roll” vegetation clearance strategy, placement of wind control fencing, application of water, and application of dust suppressants would substantially reduce potential exposure to the fungus within the soil as compared to full grading/blading of the site. Additionally, implementation of dust control measures throughout the construction period compliant to EKCAPCD rules and regulations to reduce fugitive dust emissions would also limit the exposure of both onsite workers and offsite residents.

It is possible that onsite workers could be exposed to valley fever as fugitive dust is generated during construction. Mitigation Measure MM 4.3-11; would provide training and personal protective respiratory equipment to construction workers and provide information to all construction personnel and visitors about Valley Fever, thus minimizing exposure to Valley Fever. Mitigation Measure MM 4.3-12 would require a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of \$3,200 for Valley Fever public awareness programs. With the implementation of the mitigation measures, dust from the construction of the proposed project would not add significantly to the existing exposure level of people to this fungus, including construction workers, and impacts would be reduced to less-than-significant levels.

Visibility Impacts

As discussed above under Methodology, Kern County has established criteria to determine if a project would potentially result in a visibility impact. Visibility at off-site locations may also be impacted by emissions of airborne PM from short-term construction activities. Federally designated Class I areas are of particular concern. These include many wilderness areas and national parks. In addition, military aircraft use areas within the Upper Mojave Desert region, such as Edwards Air Force Base, Fort Irwin, China Lake Naval Weapons Station and the R-2508 Airspace Complex are also sensitive to reduced visibility from airborne PM.

Visibility impact analyses are intended for stationary sources of emissions which are subject to the PSD requirements in 40 CFR Part 60; they are not usually conducted for area sources. 40 CFR Section 52.21(b)(23)(i) establishes the Significant Emission Rate for PM₁₀ at 15 tons/year. Because the Project’s PM₁₀ emissions increase are predicted to be less than the PSD threshold levels, an impact at any

Class 1 area within 100 kilometers of the project (including Edwards Air Force Base, China Lake Naval Weapons Station and the entire R-2508 Airspace Complex, and Death Valley National Monument) is extremely unlikely. Therefore, based on the project's predicted less-than significant PM₁₀ emissions, the project would be expected to have a less than significant, short-term construction impact to visibility at any Class 1 Area. Compliance with EKAPCD Rule 402, including implementation of a dust control plan, is sufficient mitigation to reduce air quality effects from construction-related PM₁₀ emissions to a less-than-significant level.

Short-term construction may result in increased emissions of fugitive dust that, if uncontrolled, could potentially affect visibility in the project vicinity. The project's potential to expose sensitive receptors to substantial pollutant concentrations associated with visibility impacts would be less than significant with the mitigation measures described above (Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-4 through MM 4.3-6, and MM 4.3-8), and no additional mitigation is required. Long-term project operations would not include activities or emission sources that would contribute to decreased visibility. Therefore, adherence to EKAPCD rules and regulations would result in less than significant impacts regarding fugitive dust and reduced visibility.

Asbestos

Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading of development projects, and at mining operations.

As described above, according to information provided by the DOC Division of Mines and Geology, the project site is not located in an area where naturally occurring asbestos is likely to be present (DOC, 2000). Therefore, impacts associated with exposure of construction workers and nearby sensitive receptors to asbestos would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9.

MM 4.3-10: At the time of project implementation, a COVID-19 Health and Safety Plan should be prepared in accordance with the Kern County Public Health Services Department and Kern County Health Officer mandates. A copy shall be submitted to the Kern County Planning Department for review and approval.

MM 4.3-11: Minimize Exposure to Potential Valley Fever–Containing Dust. Prior to ground disturbance activities, the project proponent shall implement the following Valley Fever Provisions:

- a. Provide evidence to the Kern County Planning and Natural Resources Department that the project operator and/or construction manager has developed a “Valley Fever Training Handout”, training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s) and schedule shall be submitted to the Kern County Planning and Natural Resources Department within 24 hours of the first training session. Multiple training sessions may

be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The training may be administered using video or other electronic media. The evidence submitted to the Kern County Planning and Natural Resources Department regarding the “Valley Fever Training Handout” and Session(s) shall include the following:

- i. A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session.
 - ii. Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and Valley Fever.
 - iii. Training on methods that may help prevent Valley Fever infection.
 - iv. A demonstration to employees on how to use personal protective equipment, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs.
- b. The project proponent also shall consult with the Kern County Health Services Department to develop a Valley Fever Dust Management Plan that addresses the potential presence of the *Coccidioides* spore and mitigates for the potential for *Coccidioidomycosis* (Valley Fever). Prior to issuance of permits, the project operator shall submit the Plan to the Kern County Public Health Department for review and approval. The Plan shall include a program to evaluate the potential for exposure to Valley Fever from construction activities and to identify appropriate safety procedures that shall be implemented, as needed, to minimize personnel and public exposure to potential *Coccidioides* spores. Measures in the Plan shall include the following:
- i. Provide High-Efficiency Particulate Air filters for heavy equipment equipped with factory enclosed cabs capable of accepting the filters. Require contractors utilizing applicable heavy equipment to furnish proof of worker training on proper use of applicable heavy equipment cabs, such as turning on air conditioning prior to using the equipment.
 - ii. Provide communication methods, such as two-way radios, for use in enclosed cabs.
 - iii. Require National Institute for Occupational Safety and Health- approved half-face respirators equipped with minimum N-95 protection factor for use during worker collocation with surface disturbance activities, as required per the hazard assessment process.
 - iv. Cause employees to be medically evaluated, fit-tested, and properly trained on the use of the respirators, and implement a full respiratory protection program in accordance with the applicable California Occupational Safety and Health

Administration Respiratory Protection Standard (8 California Code of Regulations Section 5144).

- v. Provide separate, clean eating areas with hand-washing facilities.
- vi. Install equipment inspection stations at each construction equipment access/egress point. Examine construction vehicles and equipment for excess soil material and clean, as necessary, before equipment is moved off site.
- vii. Train workers to recognize the symptoms of Valley Fever, and to promptly report suspected symptoms of work-related Valley Fever to a supervisor.
- viii. Work with a medical professional to develop a protocol to medically evaluate employees who develop symptoms of Valley Fever.
- ix. Work with a medical professional, in consultation with the County Health Services Department, to develop an educational handout for on-site workers and surrounding residents within 3 miles of the project site, and include the following information on Valley Fever: what are the potential sources/ causes, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and where testing for exposure is available. Prior to construction permit issuance, this handout shall have been created by the project operator and reviewed by the project operator and reviewed by the County. No less than 30 days prior to any work commencing, this handout shall be mailed to all existing residences within 3 miles of the project boundaries.
- x. When possible, position workers upwind or crosswind when digging a trench or performing other soil-disturbing tasks.
- xi. Prohibit smoking at the worksite outside of designated smoking areas; designated smoking areas will be equipped with handwashing facilities.
- xii. Post warnings on-site and consider limiting access to visitors, especially those without adequate training and respiratory protection.

MM 4.3-12: Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of \$3,200 for Valley Fever public awareness programs.

Level of Significance

Even with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-12, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project level impacts.

Cumulative Setting, Impacts, and Mitigation Measures

In accordance with Kern County's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports*, geographic scope for cumulative air quality impacts includes related projects considered within a 6-mile radius of the project site. Kern County's Guidelines require three steps

for estimating the potential significance of cumulative impacts: (1) evaluate localized impacts, (2) evaluate consistency with existing air quality plans, and (3) summarize CARB air basin emissions.

Impact 4.3-3: Construction and operation of the project would result in a cumulatively considerable net increase of any criteria pollutant for which the projects' region is nonattainment under applicable federal or state ambient air quality standards.

Construction Emissions

For construction activities associated with the project, pollutants would be generated from equipment, vehicle exhaust, and fugitive dust. Construction emissions were calculated based on the assumption of two phases occurring over nine months.

In analyzing the project's construction emissions, construction activities are anticipated to occur in two main phases at the project site: (1) panel delivery from Port of Long Beach and (2) site preparation/panel installation. **Table 4.3-4, Mitigated Project Construction Emissions**, summarizes construction emissions and provides the EKAPCD thresholds of significance for the criteria pollutants. As shown, temporary construction emissions would not exceed the applicable EKAPCD thresholds adopted by Kern County without mitigation. As such, this impact would be less than significant.

TABLE 4.3-4: MITIGATED PROJECT CONSTRUCTION EMISSIONS

Emission Type	Source	Criteria Pollutant Emissions (tons per year)					
		ROG	NO _x	SO _x	CO	PM ₁₀	PM _{2.5}
Exhaust	Panel Delivery from Port of Long Beach	0.012	0.455	0.001	0.046	0.012	0.007
	Construction Equipment & Worker Travel	0.190	2.121	0.003	1.275	0.395	0.141
Fugitive	Panel Delivery – onsite fugitive dust	NA	NA	NA	NA	0.059	0.006
Total Project Annual Emissions^{a,b}		0.202	2.576	0.004	1.322	0.466	0.153
<i>EKAPCD Threshold</i>		25	25	27	—	15	15
Exceed Threshold?		No	No	No	NA	No	No

NOTES:

The analysis incorporates compliance with EKAPCD rules and regulations for emissions reductions including Fugitive Dust.

— = no established emission limits; NA = non-applicable

^a Particulate emissions (i.e., PM₁₀ and PM_{2.5}) do not include effect of wind erosion because of the high variability associated with such estimates.

^b Emissions based on all construction activities occurring in one year.

SOURCE: Insight, 2017.

While the estimated PM₁₀ emissions shown in Table 4.3-4 accounts for dust generation during construction activities, they do not directly address wind erosion issues associated with unworked barren soil after the removal of vegetation. The actual amount of wind erosion possible is highly dependent on the season of initial construction, the length of time until the solar modules are installed, the amount of disturbance to the barren surface, and the effectiveness of the type of dust suppressant used (if any is used). Eventually, the

placement of the solar modules themselves will tend to reduce wind erosion at the site because the solar panels shelter the soil and limit the extent to which wind can move surface particles. Implementation of Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-4 through MM 4.3-6, and MM 4.3-8 include the provision of control wind erosion measures. Furthermore, the proposed project would be required to comply with applicable fugitive dust control measures and best management practices pursuant to EKAPCD Rule 402 (Fugitive Dust), which would minimize the generation of fugitive dust. Control measures and best management practices in EKAPCD Rule 402 include the application of water or dust suppressants, use of wind breaks such as fencing, barriers, or berms, enclosures or covers for storage piles, minimizing vehicle speeds, and maintaining at least six inches of freeboard or covering loads in haul trucks. Implementation of control measures and best management practices consistent with EKAPCD Rule 402 requirements would assist in reducing project-related fugitive dust emissions.

As shown in Table 4.3-4, emissions of NO_x, CO, and PM₁₀ during construction of the project would be below the EKAPCD's significance thresholds with the implementation of Mitigation Measures MM 4.3-1 through MM 4.3-12. However, as explained earlier, given existing scientific constraints, it is not feasible to analyze health risks associated with criteria pollutant emissions and impacts from construction activities and specifically with a new coronavirus (COVID-19), which has limited research; therefore, the impacts on air quality and health for both project and cumulatively would remain significant and unavoidable.

Decommissioning Emissions

The project has an expected lifetime of 35 years, after which time it will either be updated to then current solar power technologies, or would be decommissioned and converted to another land use. Assuming that the facility will be torn down and the onsite materials recycled, emissions associated with such actions are anticipated to be similar to the construction activities. However, emissions from decommissions activities have the potential to have reduced exhaust emissions as the equipment anticipated to be used at that time would be required to meet more stringent emissions requirements.

Similar to project construction, the decommissioning emissions associated with the project would not exceed the applicable EKAPCD thresholds adopted by Kern County. Therefore, decommissioning impacts would be less than significant, and no mitigation would be required.

Operational and Maintenance Emissions

Operational emissions would be limited to maintenance activities and vehicle travel by employees to the project site. The O&M buildings would be unmanned and monitored remotely 24 hours per day, 7 days a week. Maintenance personnel are expected to visit the project site several times per year for routine maintenance. PV panel washing may occur up to 4 times per year and is expected to take 10 days to complete per washing activity. Minimal personnel would be required during panel washing. Therefore, this facility would not generate operational traffic and associated exhaust emissions on a daily basis. In general, maintenance vehicles are expected to visit the project site a maximum of 12 times per year for routine activities, with up to three trucks in use on any particular visit. The project's PV modules may be cleaned up to four times annually, requiring up to approximately 56 trips per quarter for water trucks, resulting in approximately 224 trips per year. Employee trips are estimated at approximately 5 per quarter or approximately 20 for the year. **Table 4.3-5, *Unmitigated Annual Project Operational Emissions***, summarizes the estimated air pollutant emissions associated with operations and maintenance of the project. As shown in Table 4.3-5 operational exhaust and fugitive dust emissions generated by the proposed project would not exceed the thresholds established by the EKAPCD and adopted by Kern County. Even when

conservatively assuming the worst-case maximum daily trips of 50 trips on a day with maintenance activity, as assumed in the traffic analysis prepared for the project, operational emissions would clearly remain substantially below the thresholds given that maintenance activities would not occur on a daily basis, but only occur periodically during the year. Therefore, impacts would be less than significant and no mitigation is required.

TABLE 4.3-5: UNMITIGATED ANNUAL PROJECT OPERATIONAL EMISSIONS

Emission Type	Source	Criteria Pollutant Emissions (tpy)					
		ROG	NO _x	SO _x	CO	PM ₁₀	PM _{2.5}
Exhaust	Water Trucks	<0.001	0.005	<0.001	0.001	<0.001	<0.001
	Maintenance Trucks	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Employee Vehicles	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Fugitive Dust	Water Trucks	—	—	—	—	0.036	0.004
	Maintenance Trucks	—	—	—	—	0.002	<0.001
	Employee Vehicles	—	—	—	—	0.003	<0.001
Total Annual Project Emissions (tons/year)		<0.001	0.005	<0.001	0.002	0.041	0.004
<i>EKAPCD Threshold (tons/year)</i>		25	25	27	—	15	15
Exceed Threshold?		No	No	No	NA	No	No
Total (annualized lbs./day)		<0.01	0.3	—	—	—	—
<i>EKAPCD Threshold (lbs./day)</i>		137	137	—	—	—	—
Exceed Threshold?		No	No	NA	NA	NA	NA
NOTES:							
The analysis incorporates compliance with EKAPCD rules and regulations for emissions reductions including Fugitive Dust. Columns may not add exactly due to rounding.							
tpy = tons per year; — = no established emission limits; NA = non-applicable							
SOURCE: Insight, 2017.							

It should be noted that, even with implementation of all available dust controls, the Mojave Desert is subject to high-wind events that result in dust being blown offsite. Large portions of the project site are unvegetated, and site soils have moderately high to high erodibility. Long-term operation of the project would involve revegetation that would improve soil stability, and the installation of PV panels that would reduce wind fetch and, therefore, would reduce fugitive dust generation.

Additionally, the operation of the solar facilities would also create renewable energy over their respective planned 35-year lifespan. There is the potential that the energy generated by the solar facilities would displace the criteria pollutant emissions which would otherwise be produced by existing business-as-usual power generation resources (including natural gas, coal, and renewable combustion resources) that are higher pollutant emitters. If non-renewable resources within the MDAB are taken offline, the project would contribute to the beneficial reduction in regional emissions.

To ensure that project would be in compliance with all applicable EKAPCD rules and regulations and emissions are further reduced, the applicant would be required to implement and comply with a number of

measures by regulation and would result in further emission reductions through their inclusion in project construction and long-term design. These measures are described above under Impact 4.3.1.

Cumulative Analysis

The project is located within the Kern County portion of the MDAB, which is an area that is designated as non-attainment for federal and State ozone standards as well as State PM_{10} standards, and is under the jurisdiction of the EKAPCD. The EKAPCD's approach for assessing cumulative impacts is based on the forecasts of attainment and ambient air quality standards in accordance with requirements of the federal and State clean air acts.

Localized Impacts

Although development of cumulative solar projects in the desert region of Kern County may have overall positive long-term air quality impacts, it should be noted that the displacement of criteria air pollutant emissions may not occur within the same air basin as the proposed project and would depend upon the location of the fossil fuel facility(ies) that the cumulative projects would displace. No estimated operational emissions associated with the non-solar cumulative projects are available, so it cannot be determined whether the net reduction in criteria pollutant emissions associated with the cumulative solar projects would be sufficient to negate the net increase in criteria pollutant emissions associated with the cumulative non-solar projects. Consequently, because it cannot be definitively known how much pollutant emissions would be displaced in the MDAB alone by the cumulative solar projects, this analysis conservatively assumes that a net increase in criteria pollutant emissions resulting from cumulative (solar and non-solar) project operations in the MDAB may occur.

The air quality technical study was conducted in 2016 and at that time there were fourteen related cumulative projects within a 6-mile radius of the project site. As four years have passed, the number of cumulative projects has decreased to six related cumulative project within a 6-mile radius of the project site. At this time, there are no cumulative significance thresholds established by the EKAPCD, CARB or other regulatory authority. Therefore, regardless of the number of cumulative projects that have been identified and analyzed, the project's cumulative impacts are based on the project's incremental contributions to emissions. Accordingly, cumulative emissions were evaluated in conjunction with the fourteen projects identified within a 6-mile radius from the project site in the original year of evaluation, 2016. These geographic scopes of analysis are appropriate for determining air quality impacts because of the statewide, regional, and localized nature of air quality impacts, which could occur cumulatively with the project. **Table 4.3-6, *Cumulative Construction Emissions near Project***, and **Table 4.3-7, *Cumulative Operational Emissions near Project***, show the maximum construction and annual operational emissions, respectively, which would result from cumulative projects within 6 miles of the project. A list of the cumulative projects is included in Appendix C of this EIR.

TABLE 4.3-6: CUMULATIVE CONSTRUCTION EMISSIONS NEAR PROJECT

	Emissions For One Construction Year (tons)					
	ROG	NO _x	SO _x	CO	PM ₁₀	PM _{2.5}
Project Maximum Annual Emissions	0.202	2.576	0.004	1.322	0.466	0.153
<i>EKAPCD Threshold (tons per year)</i>	25	25	27	—	15	15
Is Threshold Exceeded?	No	No	No	NA	No	NA
Total Emissions within 6 miles	8.562	40.576	0.045	27.778	4.073	3.134
Cumulative Plus Project	8.764	43.152	0.049	1.322	4.539	3.287
<i>EKAPCD Threshold (tons per year)</i>	25	25	27	—	15	15
Is Threshold Exceeded?	No	Yes	No	NA	No	NA

SOURCE: Insight, 2017.

TABLE 4.3-7: CUMULATIVE OPERATIONAL EMISSIONS NEAR PROJECT

	Annual Operational Emissions (tons)					
	ROG	NO _x	SO _x	CO	PM ₁₀	PM _{2.5}
Project Maximum Annual Emissions	<0.001	0.005	<0.001	0.002	0.041	0.004
<i>EKAPCD Threshold (tons per year)</i>	25	25	27	—	15	—
Is Threshold Exceeded?	No	No	No	—	No	—
Total Emissions within 6 miles	8.530	40.171	0.044	27.570	4.006	3.158
Cumulative Plus Project	8.530	40.175	0.044	27.570	4.047	3.162
<i>EKAPCD Threshold (tons per year)</i>	25	25	27	—	15	—
Is Threshold Exceeded?	No	Yes	No	—	No	—
Cumulative Pounds per Day Annualized ^a	65.615	309.039	0.338	212.0769	31.131	24.323
<i>EKAPCD Pounds/Day Threshold</i>	137	137	—	—	—	—
Is Threshold Exceeded?	No	Yes	NA	NA	NA	NA

^a Annualized at 260 working days per year.

SOURCE: Insight, 2017; ESA, 2018.

As details regarding the various projects listed above were not readily available, the emissions estimates presented were modeled using the CalEEMod computer model to predict cumulative impacts using default model settings. The modeling does not include potential reduction from implemented mitigation measures and emissions were based on the number of lots or square footage for maximum project build-out. Therefore, the presented emissions are conservative. As shown in Table 4.3-6, substantial construction emissions could result if all cumulative projects are built concurrently. However, the number of these projects that would undergo concurrent construction, if any, is unknown. Kern County has determined that the EKAPCD's project-level thresholds are defined, for purposes of determining cumulative effects, as the

baseline for “considerable.” The project could potentially overlap with construction of other projects in the proximity that could further contribute to the exceedance of NO_x. Thus, the project, combined with other local projects, could have a significant cumulative air quality impact with respect to localized construction emissions. However, as noted above, the project would not exceed the applicable EKAPCD thresholds for emissions during the construction phase. Therefore, temporary cumulative impacts would be less significant with respect to localized construction emissions due to the incremental increase in criteria pollutants. The project’s incremental contribution to construction impacts would not be cumulatively considerable.

As shown in Table 4.3-7, the cumulative operational emissions generated during the concurrent operation of the related projects within 6 miles of the project site and the project would exceed the EKAPCD threshold levels for NO_x. However, as described above, the project would generate NO_x emissions below EKAPCD thresholds, and therefore by definition the project’s incremental effect would not be cumulatively considerable. It should also be noted that operation of the project could result in a positive cumulative benefit related to air quality in the region because the renewable energy created by the project could also displace the criteria pollutant emissions that emanate from the existing power generation sources (including natural gas, coal, hydro, nuclear, and other renewable resources). Thus, operation of the project could result in an overall net reduction of emissions by providing electricity that would displace energy produced from fossil fuels. Operation of the project does not exceed the project level regulatory thresholds and, therefore, would not contribute to a long-term cumulative increase in criteria pollutants. The project’s incremental contribution to operational impacts would not be cumulatively considerable.

Operation Localized Health Impacts from Regional Emissions (Friant Ranch Case)

Regulatory agencies have been evaluating impacts of criteria pollutants emissions from a regional level, and today’s environmental models are designed to support such regional analysis. As discussed previously, converting project-level (local) criteria pollutants’ air quality impact to a resulting human health impact is not practical with today’s environmental science models. While operation of the project would emit ozone precursor emissions of ROG and NO_x, because of the complexity of ozone formation and the non-linear relationship of ozone concentration with its precursor gases, and given the state of environmental science modeling in use at this time, it is infeasible to meaningfully convert specific project emissions levels of NO_x or ROG emitted in a particular area to a particular concentration of ozone and resulting human health impact in that area. The same is true for secondary PM, which like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides and NO_x. Therefore, a general description of the adverse health effects resulting from the project-level criteria pollutants is all that can be feasibly provided at this time.

With respect to emissions of the criteria pollutants of ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}, project operation would not exceed the EKAPCD significance thresholds, and would be substantially below by an order of magnitude or more; thus, it is not expected that project operational emissions would result in a substantial increase in criteria pollutant concentrations and their related health effects in the air basin and impacts would be less than significant.

Additionally, as shown above in Table 4.3-7, the cumulative operational emissions generated during the concurrent operation of the related projects within 6 miles of the project site and the project would exceed the EKAPCD threshold levels for NO_x. However, because: (1) the cumulative projects are already approved; (2) these projects are in conformance with the regional AQAP and/or the Kern County General Plan; and (3) the project’s incremental contribution is less than significant under the EKAPCD’s thresholds

for project-specific impacts; the project's incremental contribution to a cumulative effect is considered less than significant (*CEQA Guidelines* Section 15064(h)(3) (Insight, 2017)).

Consistency with Existing Air Quality Plans

Consistency with the air quality plan, even at the cumulative level, is based on a comparison of project-generated growth in employment, population, and vehicle miles traveled within the region. As stated under Impact 4.3-1, above, construction of the project would have minimal emissions and would not exceed any established EKAPCD significance thresholds for criteria pollutants and would not obstruct EKAPCD's ability to achieve further progress toward attainment or maintenance of the State standards. Impacts during construction and decommissioning were considered less than significant temporary impacts.

With regard to operation, the project is not expected to induce growth or result in trips or criteria pollutant emissions during operation that would conflict with EKAPCD's Ozone Air Quality Management Plan as the project is not expected to exceed thresholds for any nonattainment pollutant. Therefore, the project's incremental contribution to cumulative air quality impacts related to construction and operation would not be cumulatively considerable and would not compromise existing air quality plans. Cumulative impacts would be less than significant.

The power produced by the project would serve to reduce air pollutant emissions within the MDAB, to the extent that the power is used to offset power production from fossil fueled power plants within (or contributory to) the MDAB. This power production is not projected within the existing air quality plans; thus, the solar facilities could further aid in reducing air pollutant emissions and increase the potential for attainment of the 1993 Ozone Attainment Plan.

Cumulative Toxic Air Contaminants

Combined TACs emission impacts from the project and other existing and planned projects are considered cumulatively significant when air quality standards are exceeded. Since the project would not be a significant source of TACs, it is not expected to pose a significant cumulative TAC impact. Since the majority of the projects are also solar plants, TACs would not be considered a significant impact for those projects either. Therefore, TACs impacts would not be cumulatively considerable and impacts would be less than significant.

Cumulative Carbon Monoxide (CO) – Mobile Sources

Traffic increases and added congestion caused by a project can combine to cause a CO "Hotspot". According to the traffic study prepared for the project site (Appendix K), nearby intersections would continue to operate at LOS C or better even with the inclusion of project related trips. Therefore, cumulative CO "Hotspot" Modeling was not conducted for this project and no concentrated excessive CO emissions are expected to be caused once the proposed project is completed. Additionally, as the majority of the other projects are also solar plants, traffic would be minimal and would not result in CO "Hotspots." Therefore, CO impacts would not be cumulatively considerable and impacts would be less than significant.

California Air Resources Board Air Basin Emissions

To evaluate the contribution of the project's operational emissions relative to the cumulative air quality conditions in Kern County and the MDAB, the project's specific emissions are compared to the 2020

projected emissions of the MDAB and Kern County portion of the MDAB. **Table 4.3-8, *Emissions Inventory – Kern County Portion of the MDAB 2020 Projection***, and **Table 4.3-9, *Emissions Inventory – MDAB 2020 Projection***, provide the projected 2020 emissions for Kern County and the MDAB, respectively. **Table 4.3-10, *Proposed Project, Kern County Portion of the MDAB, and the MDAB***, provides the emissions comparison of the project with Kern County and the MDAB.

TABLE 4.3-8: EMISSIONS INVENTORY – KERN COUNTY PORTION OF THE MDAB 2020 PROJECTION

	Emissions (tons per year)		
	ROG	NO _x	PM ₁₀
Total Emissions	14,746	12,629	9,819
Percent Stationary Sources	3.22%	60.69%	17.84%
Percent Area-Wide Sources	3.96%	0.87%	29.37%
Percent Mobile Sources	16.34%	37.57%	12.64%
Percent Natural Sources	76.49%	0.87%	40.15%
Total Stationary Source Emissions	475	7,665	1,752
Total Area-Wide Source Emissions	584	110	2,884
Total Mobile Source Emissions	2,409	4,745	1,241
Total Natural Source Emissions	11,279	110	3,942

SOURCE: Insight, 2017.

TABLE 4.3-9: EMISSIONS INVENTORY – MDAB 2020 PROJECTION

	Emissions (tons per year)		
	ROG	NO _x	PM ₁₀
Total Emissions	41,501	57,415	59,459
Percent Stationary Sources	21.37%	52.89%	26.21%
Percent Area-Wide Sources	13.46%	1.14%	58.81%
Percent Mobile Sources	23.31%	45.33%	5.16%
Percent Natural Sources	41.86%	0.70%	9.82%
Total Stationary Source Emissions	8,870	30,368	15,586
Total Area-Wide Source Emissions	5,585	657	34,967
Total Mobile Source Emissions	9,673	26,025	3,066
Total Natural Source Emissions	17,374	402	5,840

SOURCE: Insight, 2017.

TABLE 4.3-10: PROPOSED PROJECT, KERN COUNTY PORTION OF THE MDAB, AND THE MDAB

	Emissions (tons per year)		
	ROG	NO _x	PM ₁₀
2020 Emissions			
Proposed Project	<0.001	0.0047	0.0407
Kern County Mojave Desert Air Basin	14,746	12,629	9,819
Mojave Desert Air Basin	41,501	57,415	59,459
Proposed Project's percent of Kern County EKAPCD	<0.0001%	<0.0001%	0.0004%
Proposed Project's percent of Mojave Desert Air Basin	<0.0001%	<0.0001%	0.0001%
2012 Emissions			
Proposed Project	<0.001	0.0047	0.0407
Kern County Mojave Desert Air Basin	15,148	13,140	9,746
Mojave Desert Air Basin	41,282	63,839	53,728
Proposed Project's percent of Kern County EKAPCD	<0.0001%	<0.0001%	0.0004%
Proposed Project's percent of Mojave Desert Air Basin	<0.0001%	<0.0001%	0.0001%
SOURCE: Insight, 2017.			

As the most recent certified MDAB Emissions Inventory was gathered in 2012, Table 4.3-10 also includes an analysis compared to both the 2012 and 2020 inventory. Compared to both years, operational emissions associated with the project would be negligible compared to total projected emissions for Kern County and the MDAB. In addition, the power produced by the project could serve to reduce air pollutant emissions within the MDAB to the extent that the power is used to offset power production from fossil fueled power plants within (or contributory to) the MDAB, and also by providing power to allow the displacement of fossil-fueled engines (such as agricultural pumps) with electrical power units. Thus, the project's incremental contribution to the MDAB Emissions Inventory would not be cumulatively considerable.

However, to ensure that project would be in compliance with all applicable EKAPCD rules and regulations and emissions are further reduced, the applicant would be required to implement and comply with a number of measures by regulation and would result in further emission reductions through their inclusion in project construction and long-term design. These measures are described above under Impact 4.3.1.

Cumulative Impacts Summary

The discussion provided above evaluates localized impacts, including projects located within a 1- and 6-mile radius; evaluates consistency with existing air quality plans; and compares project emissions to CARB emission projections for the region, consistent with the criterion provided in Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports*.

Mitigated emissions for construction related to ambient air quality impacts are summarized in Table 4.3-8. As shown therein, emissions for NO_x, CO, and PM₁₀ during construction of the project would be reduced

below the EKAPCD's significance threshold with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9. As such, it was determined that the project would not obstruct SJVAPCD's ability to achieve further progress toward attainment of the state standards.

With respect to emissions of NO_x, CO, SO_x, PM₁₀, and PM_{2.5}, cumulative project operation would exceed the EKAPCD NO_x significance thresholds, all other criterial pollutants would be below the applicable thresholds. However, the project's NO_x emissions would be substantially below by an order of magnitude or more; thus, it is not expected that project operational emissions would be cumulatively considerable. Additionally, the project is not anticipated to result in health risk impacts due to its size and activity.

The project would not be a significant source of TACs and is not expected to pose a significant cumulative TAC impact. Additionally, the majority of the projects are also solar plants, TACs would not be considered a significant impact for those projects either. Impacts with respect to health risk are less than significant and no other health risk assessment is required. Therefore, TACs impacts would not be cumulatively considerable and impacts would be less than significant.

According to the traffic study prepared for the project site (Appendix K), nearby intersections would continue to operate at LOS C or better even with the inclusion of project related trips. Therefore, no concentrated excessive CO emissions are expected to be caused once the proposed project is completed. Furthermore, the majority of the cumulative projects are also solar plants, traffic would be minimal and would not result in CO "Hotspots." Therefore, CO impacts would not be cumulatively considerable and impacts would be less than significant.

However, potential cumulative impacts to air quality could occur from construction and operation of the proposed Project in combination with regional growth projections in the same air basin. It is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health impacts mentioned. The Air District is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the Mojave Desert Air Basin at the present time and it has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health.

Mitigation Measures

Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-12 would be required.

Level of Significance after Mitigation

Cumulative impacts would be less than significant during temporary construction and decommissioning of the project after implementation of Mitigation Measures MM 4.3-1 through MM 4.3-12 due to the incremental effects of the project. Cumulative impacts related to operation would be less than significant. The uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable cumulative level impacts.

4.4.1 Introduction

This section describes the affected environment and regulatory setting for biological resources that have been confirmed present, as well as those that have the potential to be present, on the project site. The physical and regulatory setting for the project are described, as well as an evaluation of the existing biological conditions on the project site and its vicinity. The criteria used to evaluate the significance of potential impacts on biological resources are indicated and the methods used in evaluating these potential impacts are described. The analysis presented in this section is based on a review of relevant literature as well as two biological reports prepared for this project (Circle Mountain Biological Consultants, 2015; Circle Mountain Biological Consultants, 2016). The 2015 report included focused biological surveys for desert tortoise (*Gopherus agassizii*) and Mohave ground squirrel (*Xerospermophilus mohavensis*), a habitat assessment for burrowing owl (*Athene cunicularia*), and a general biological resource assessment for the project site. The 2016 report included a reconnaissance survey for desert tortoise, habitat assessments for burrowing owl and Mohave ground squirrel, and a general biological resource assessment for the project site. Both the 2015 and 2016 reports are located in Appendix D of this Environmental Impact Report (EIR).

The literature reviewed to support the analysis of potential impacts to biological resources includes peer-reviewed journals and standard reference materials and relevant databases, which include the California Natural Diversity Database (CNDDB) (CDFW, 2020a), the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS, 2017), and the U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal. The Special Animals List (CDFW, 2019) and Special Vascular Plants, Bryophytes, and Lichens List (CDFW, 2020b) also were reviewed to identify other special-status species with potential to occur in the vicinity of the project site based on the habitats that exist. Other sources of information reviewed include the most recent and available aerial photographs (Google Earth, 2020), United States Geological Society (USGS) 7.5-minute Inyokern quadrangle topographic maps, soil survey maps (NRCS, 2020a), climatic data (WRCC, 2020 and project site plans).

4.4.2 Environmental Setting

Regional Setting

The project site is located in the community of Inyokern in northeastern Kern County. Inyokern is within the Indian Wells Valley, located in the Mojave Desert, which occupies the eastern-third of the County. Land uses in the vicinity of the project site include a mix of undeveloped land, residential and industrial uses. The project site is located within the boundaries of the Desert Renewable Energy Conservation Plan areas, specifically within a Development Focus Area (DFA) (DRECP, 2017). The nearest designated park areas are the Sequoia National Forest located 6 miles to the west and the Red Rock State Park located 24 miles to the southwest.

Climate

The climate in the Mojave Desert region where the project is located consists of a warm-temperature desert situated between the subtropical Sonoran Desert to the south and the milder climate of the Great Basin to the north. The Mojave Desert is characterized by dramatic variations in daily temperatures with more arid conditions than other North American desert regions. Freezing temperatures regularly occur during winter months, particularly at higher elevations, while the summer months are typically hot, dry and windy. Precipitation in the region ranges from 3 to 5 inches per year, and almost all precipitation arrives in the winter, but the region also experiences rare, intense summer monsoonal thunderstorms. The temperature in the region of the project ranges from a high of 102.7 degrees Fahrenheit in July to a low of 30.2 degrees Fahrenheit in December. Average rainfall is 4.17 inches annually (WRCC, 2017).

Vegetation

Vegetation in the region is influenced by climate, topography and soils, as well as past land uses, such as agriculture. Four native plant communities as defined by Sawyer et al. (2009) primarily occur within the region: Mojave creosote bush scrub (*Larrea tridentata* alliance), allscale scrub (*Atriplex polycarpa* alliance), and non-native grassland (Dudek, 2015). However, anthropogenic disturbances and development activities in the region have altered much of the native vegetation by converting it for agricultural production, residential and commercial developments, as well as associated infrastructure (e.g., roads and energy distribution) and livestock grazing. Though these converted areas have been disturbed and support several ruderal and invasive plant species such as salt cedar (*Tamarix* spp.) and brome grasses (*Bromus* spp.), they can provide habitat for various wildlife and plants in the region. The project site is predominantly Mojave creosote bush scrub with allscale scrub along the western margins in the south. Because of past disturbances, the project site has a high proportion of non-native species, including red-stemmed filaree (*Erodium cicutarium*), Saharan mustard (*Brassica tournefortii*), London rocket (*Sisymbrium irio*), Russian thistle (*Salsola tragus*), red brome (*Bromus madritensis* ssp. *rubens*), and cheat grass (*B. tectorum*).

Mojave creosote bush scrub is the most widespread and abundant desert alliance in California. This plant community covers approximately 58 percent of the Mojave Desert in California and is estimated to cover more than 70 percent of the Colorado and Sonoran Deserts of California (Sawyer et al., 2009).

Allscale scrub is the most widespread of the saltbush scrub plant communities in the Mojave Desert (Holland, 1986). Allscale (*Atriplex polycarpa*) is a facultative phreatophyte (deep-rooted plant that obtains water from the water table) and occurs in moderately saline conditions, just above the water table and on xeric, non-saline upland sites. It has limited salt tolerance, but is very drought-tolerant. Soil characteristics of this community are typical to those of dissected alluvial fans, alluvial terraces, rolling hammocks, bajadas and alkaline soils.

Wildlife

The Mojave Desert supports a variety of reptiles, birds and mammals. Reptile species commonly occurring in the desert portion of Kern County include Great Basin whiptail (*Aspidoscelis tigris tigris*), desert iguana (*Dipsosaurus dorsalis*), and side-blotched lizard (*Uta stansburiana*), zebra-tailed lizard (*Callisaurus draconoides*), and Mojave rattlesnake (*Crotalus scutulatus*). Bird species common to the region include red-tailed hawk (*Buteo jamaicensis*), horned lark (*Eremophila alpestris*), common raven (*Corvus corax*), and mourning dove (*Zenaida macroura*). Mammal species typical of the area include white-tailed antelope ground

squirrel (*Ammospermophilus leucurus*), coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beechyi*), and bat species including California myotis (*Myotis californicus*), western small-footed myotis (*Myotis ciliolabrum*) and western pipistrelle (*Pipistrellus hesperus*).

Sensitive Natural Communities

Sensitive natural communities are designated by the California Department of Fish and Wildlife (CDFW), or occasionally in local policies and regulations, and these communities are generally considered to have important functions or values for wildlife and/or are recognized as declining in extent and/or distribution. These communities are considered threatened enough to warrant some level of protection. For example, federal, State, and most local agencies consider wetlands and riparian habitat as sensitive communities. CDFW tracks communities it believes to be of conservation concern through the California Natural Diversity Database (CNDDDB), and the plant alliances or associations with a State rank of S1–S3 are considered to be sensitive communities. Of the plant communities occurring within Mojave Desert region of Kern County, a total of eight are designated as sensitive by CDFW. These include: alkali seep, stabilized interior dunes, valley needlegrass grassland, valley sacaton grassland, valley saltbush scrub, valley sink scrub, valley oak woodland and wildflower fields.

Surface Hydrology and Jurisdictional Waters

Within the arid and semi-arid western United States, limited precipitation restricts wetland and riparian resources to 1 to 5 percent of the land surface, a relatively low proportion compared to other systems globally. The proportion of wetland resources is even lower (<1 percent) in extremely arid areas such as the Mojave Desert and the Great Basin. The Indian Wells Valley is bounded on the east by the Argus Range, on the south by the El Paso Mountains, on the north by a low ridge and the Coso Range, and on the southeast by low bedrock hills, and the valley is an entirely internal surface drainage area (Berenbrock and Martin, 1991).

The Indian Wells Valley is an internally-drained basin with an arid climate that comprises approximately 600 square miles in the Mojave Desert. Runoff from the surrounding mountains drains towards dry lake beds in the lower parts of the valley (Dawson and Belitz, 2012). The project site is located in the South Lahontan Hydrologic Region within the Indian Wells Valley Groundwater Basin (DWR, 2004). The Indian Wells Valley Groundwater Basin is located east of the southern Sierra Nevada Range. The basin is bounded by outcrop of igneous and metamorphic basement rock complexes. The Sierra Nevada Range bounds the basin on the west, the Coso Range on the north, the Argus Range on the east, and the El Paso Mountains on the south. China Lake, typically a dry lake, is situated in the central northeastern valley and is the primary natural groundwater discharge point (DWR, 2004).

Wildlife Movement Corridors

The Indian Wells Valley is located within the Mojave Desert and is generally characterized as mostly an undeveloped desert landscape. Land use is approximately 97 percent natural, 0.4 percent agricultural, and 2.6 percent urban. The largest urban area is the City of Ridgecrest (Dawson and Belitz, 2012). The Naval Air Weapons Station (NAWS) China Lake represents another development in the project area. The overall minimal development in the western Mojave Desert allows opportunities for wildlife movement between the desert areas and the Sierra Nevada Mountains to the west. Consequently, the surrounding region facilitates wildlife movement, with the foothills and canyons surrounding the project area providing wildlife movement corridors for small to large mammal species and other terrestrial vertebrates.

Local Setting

The project site contains a total of approximately 166.5 acres of land divided into two sites: Phase 1 and Phase 2. The Phase 1 site is approximately 124.56 acres in area, bordered by Brown Road on the west, about 0.3 miles north of West Inyokern Road (State Route 178 [SR-178]), Phase 2 site to the north, and United States Highway 395 (US 395) to the east. The approximate 41.93-acre Phase 2 site is located to the north of the Phase 1 site, and borders the wastewater treatment pond on the western, south and eastern boundaries. It is bound to the west by Brown Road and to the east by US 395. Both the Phase 1 and 2 areas (i.e., project site) are located on undeveloped privately-owned land in the community of Inyokern. The project site is relatively flat and has an elevation that ranges from approximately 2,390 to 2,440 feet (700 to 730 meters) above mean sea level (amsl). Existing development in the project vicinity includes a wastewater treatment plant, a gasoline station, a mobile home and RV park, and the Inyokern Airport; otherwise open space is prevalent in the vicinity.

Plant Communities

A total of 92 plant species were identified on the project site during the biological surveys conducted by Circle Mountain Biological Consultants in 2015 and 2016. Phase 1 is vegetated mostly by Mojave creosote bush scrub, which tends more towards allscale (saltbush) scrub in the north portion of Phase 1. Phase 2 is mainly dominated by allscale (saltbush) scrub. Non-native species on the project site are in highest concentrations in disturbed areas. A complete list of plant species identified on the project site during site surveys is provided in **Table 4.4-1, Plant Species Observed**.

TABLE 4.4-1: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
EUDICOTS		
Apiaceae – Carrot family		
<i>Lomatium</i> sp.	Lomatium	
Asteraceae – Sunflower family		
<i>Acamptopappus sphaerocephalus</i>	Rayless goldenhead	
<i>Ambrosia acanthicarpa</i>	Annual bur-sage	
<i>Ambrosia dumosa</i>	White bur-sage	
<i>Ambrosia salsola</i>	Cheesebush	
<i>Baccharis emoryi</i>	Emory baccharis	
<i>Chaenactis carphoclinia</i>	Pebble pincushion	
<i>Ericameria nauseosa</i> ^a	Rubber rabbitbrush	
<i>Eriophyllum pringlei</i>	Pringle's woolly sunflower	
<i>Eriophyllum wallacei</i>	Wallace's woolly daisy	
* <i>Lactuca serriola</i>	Prickly lettuce	
<i>Leptosyne bigelovii</i> ^a	Bigelow's tickseed	
<i>Leptosyne calliopsidea</i> ^a	Leafy stemmed coreopsis	
<i>Malacothrix glabrata</i>	Desert dandelion	
* <i>Matricaria discoidea</i> ^a	Pineapple weed	
<i>Rafinesquia neomexicana</i>	Desert chicory	

TABLE 4.4-1: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
<i>Stephanomeria extigua</i>	Small wire-lettuce	
<i>Stephanomeria pauciflora</i>	Few flower wire-lettuce	
<i>Stylocline</i> sp.	Nest-straw	
Boraginaceae – Borage family		
<i>Amsinckia tessellata</i>	Bristly fiddleneck	
<i>Cryptantha angustifoli</i>	Narrow-leaved Forget-me-not	
<i>Cryptantha barbigera</i>	Bearded Forget-me-not	
<i>Cryptantha dumetorum</i>	Flexous Forget-me-not	
<i>Cryptantha micrantha</i>	Redroot cryptantha	
<i>Cryptantha nevadensis</i>	Nevada Forget-me-not	
<i>Heliotropium curassavicum</i>	Desert heliotrope	
<i>Nama demissum</i>	Purple mat	
<i>Pectocarya linearis</i>	Sagebrush combseed	
<i>Pectocarya penicillata</i>	Winged pectocarya	
<i>Pectocarya recurvata</i>	Curvenut combseed	
<i>Phacelia distans</i>	Common phacelia	
<i>Phacelia fremontii</i>	Fremont's phacelia	
<i>Phacelia tanacetifolia</i>	Tansy leafed phacelia	
<i>Plagiobothrys arizonicus</i>	Arizona popcornflower	
Brassicaceae – Mustard family		
* <i>Brassica tournefortii</i>	Saharan mustard	
<i>Caulanthus cooperi</i>	Cooper's jewel flower	
<i>Caulanthus lasiophyllus</i> ^a	California mustard	
<i>Descurainia pinnata</i>	Yellow tansy mustard	
<i>Lepidium fremontii</i>	Desert peppergrass	
<i>Lepidium lasiocarpum</i>	Shaggyfruit pepperweed	
* <i>Sisymbrium altissimum</i>	Tumble mustard	
* <i>Sisymbrium irio</i>	London rocket	
<i>Thysanocarpus curvipes</i>	Common fringe pod	
Cactaceae – Cactus family		
<i>Cylindropuntia echinocarpa</i>	Silver cholla	RP
<i>Opuntia basilaris</i>	Beavertail cactus	RP
Chenopodiaceae – Goosefoot family		
<i>Atriplex canescens</i>	Four-wing saltbush	
<i>Atriplex polycarpa</i>	Allscale saltbush	
<i>Grayia spinosa</i>	Spiny hopsage	
<i>Krascheninnikovia lanata</i>	Winter fat	
* <i>Salsola tragus</i>	Prickly Russian thistle	

TABLE 4.4-1: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
Cucurbitaceae – Gourd family		
<i>Marah macrocarpa</i>	Large fruit wild cucumber	
Fabaceae – Legume family		
<i>Astragalus layneae</i>	Layne's milkvetch	
<i>Lupinus arizonicus</i>	Arizona lupine	
<i>Lupinus concinnus</i>	Bajada lupine	
<i>Senna armata</i>	Desert senna	
Geraniaceae – Geranium family		
* <i>Erodium cicutarium</i>	Red-stemmed filaree	
Lamiaceae – Mint family		
<i>Salvia carduacea</i>	Thistle sage	
Loasaceae – Loasa family		
<i>Mentzelia albicaulis</i>	White stemmed blazing star	
<i>Petalonyx thurberi</i>	Sandpaper plant	
Montiaceae – Miner's Lettuce family		
<i>Calyptidium monandrum</i>	Common pussypaws	
Onagraceae – Evening Primrose family		
<i>Camissonia boothii</i>	Booth's suncup	
<i>Chylismia brevipes</i> ^a	Yellow cups	
<i>Chylismia claviformis</i> ^a	Clavate fruited primrose	
Papaveraceae – Poppy family		
<i>Eschscholzia glyptosperma</i>	Desert gold poppy	
<i>Eschscholzia minutiflora</i>	Pygmy poppy	
Polemoniaceae – Phlox family		
<i>Eriastrum sapphirinum</i>	Sapphire woollystar	
<i>Gilia latiflora</i>	Broad flowered gilia	
<i>Gilia stellata</i>	Star gilia	
<i>Loeseliastrum matthewsii</i>	Desert calico	
<i>Loeseliastrum schottii</i>	Schott gilia	
<i>Linanthus aureus</i>	Golden linanthus	
<i>Linanthus parryae</i>	Parry's linanthus	
Polygonaceae – Buckwheat family		
<i>Centrostegia thurberi</i>	Red triangles	
<i>Chorizanthe brevicornu</i>	Brittle spineflower	
<i>Chorizanthe rigida</i>	Rigid spiny herb	
<i>Eriogonum fasciculatum</i>	California buckwheat	
<i>Eriogonum maculatum</i>	Spotted buckwheat	

TABLE 4.4-1: PLANT SPECIES OBSERVED

Scientific Name	Common Name	Special Status
<i>Eriogonum viridescens</i>	Bright green buckwheat	
Ranunculaceae – Buttercup family		
<i>Delphinium parishii</i>	Parish's larkspur	
Solanaceae – Nightshade family		
<i>Datura wrightii</i>	Wright's jimsonweed	
<i>Lycium andersonii</i>	Anderson's box-thorn	
<i>Lycium cooperi</i>	Cooper's box-thorn	
Tamaricaceae – Tamarisk family		
* <i>Tamarix ramosissima</i>	Tamarix	
Zygophyllaceae – Caltrop family		
<i>Larrea tridentata</i>	Creosote bush	
MONOCOTS		
Poaceae – Grass family		
* <i>Bromus berterioanus</i> ^a	Chilean chess	
* <i>Bromus madritensis</i> ssp. <i>rubens</i>	Foxtail brome	
* <i>Bromus tectorum</i>	Cheat grass	
* <i>Hordeum murinum</i>	Foxtail barley	
* <i>Schismus</i> sp.	Split-grass	
<i>Triticum aestivum</i>	Common wheat	
Themidaceae – Tea family		
<i>Dichelostemma capitatum</i> ^a	Blue dicks	
LEGEND:	CRPR – California Rare Plant Rank	
* Non-native or invasive species	1A. = Presumed extinct in California and elsewhere	
^a Scientific Name and/or family have been updated per CNPS	1B. = Rare or Endangered in California and elsewhere	
Special Status:	2A. = Presumed extinct in California, more common elsewhere	
<u>Federal:</u>	2B. = Rare or Endangered in California, more common elsewhere	
FE = Endangered	3. = Plants for which we need more information – Review list	
FT = Threatened	4. = Plants of limited distribution – Watch list	
<u>State:</u>	Threat Ranks	
SE = Endangered	.1 = Seriously endangered in California	
ST = Threatened	.2 = Fairly endangered in California	
RP = Regulated plant species covered under the California Desert Native Plants Act	.3 = Not very endangered in California	
SOURCE: Circle Mountain Biological Consultants, 2016.		

Mojave Creosote Bush Scrub

Mojave creosote bush scrub is the dominant vegetation community on the project site. Dominant species include creosote bush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), and allscale (*Atriplex polycarpa*), which is particularly common to the north on the Phase 1 site and within

Phase 2 site (Circle Mountain Biological Consultants, 2015; Circle Mountain Biological Consultants, 2016). Silver cholla (*Cylindropuntia echinocarpa*) and beavertail cactus (*Opuntia basilaris*) have a prominence on the project site. Other commonly observed species in this community include narrow leaved cryptantha (*Cryptantha angustifolia*), red triangles (*Centrostegia thurberi*), spotted buckwheat (*Eriogonum maculatum*), distant phacelia (*Phacelia distans*), Booth's sun cup (*Eremothera boothii*), sagebrush combseed (*Pectocarya linearis*), and Bigelow's coreopsis (*Leptosyne bigelovii*). Non-native species were observed within this community in areas adjacent to disturbance; most commonly Saharan mustard (*Brassica tournefortii*), red brome (*Bromus madritensis* ssp. *rubens*) and red-stemmed filaree (*Erodium cicutarium*).

Disturbed Habitat

Native plant cover and diversity is typically low within disturbed areas on the project site. There are disturbances in several locations on the Phase 1 site, particularly within the southern half that have resulted in conditions that promote the growth of non-native species. Twelve of the 75 species observed on both phases of the project site are not native to California (i.e., exotic), and the remaining are native species that thrive in degraded habitats. The non-native species include several mustard species (*Brassica tournefortii*, *Descurainia pinnata*, *Sisymbrium altissimum*, and *Sisymbrium irio*), five grass species (*Bromus madritensis* ssp. *rubens*, *Bromus tectorum*, *Bromus trinii*, *Hordeum murinum*, and *Triticum aestivum*), wild lettuce (*Lactuca serriola*) and red-stemmed filaree (*Erodium cicutarium*). Some of the native opportunistic species include annual bur-sage (*Ambrosia acanthicarpa*), pineapple weed (*Matricaria discoidea*), rubber rabbitbrush (*Ericameria nauseosa*), bristly fiddleneck (*Amsinckia tessellata*) and jimsonweed (*Datura wrightii*). The most abundant weed is Russian thistle (*Salsola tragus*) (i.e., "tumble weed"), which was observed on both phases of the project site (Circle Mountain Biological Consultants, 2016).

Wildlife Species

Wildlife species observed or otherwise detected on the project site included four reptiles, 26 birds, and nine mammal species. These species commonly occur in the Indian Wells Valley. Reptiles observed on the project site included desert iguana, side-blotched lizard, Great Basin whiptail, and long-nosed leopard lizard (*Gambelia wislizenii*). Other locally common reptile species that may occur, but were not detected during surveys, include zebra-tailed lizard, desert horned lizard (*Phrynosoma platyrhinos*), red racer (*Masticophis flagellum*), glossy snake (*Arizona elegans*), gopher snake (*Pituophis melanoleucus*), and long-nosed snake (*Rhinocheilus lecontei*). Avian species observed include mourning dove and horned lark. Other residents that may occur on the project site include black-throated sparrow (*Amphispiza bilineata*), sage sparrow (*Amphispiza belli*), house finch (*Carpodacus mexicanus*), Say's phoebe (*Sayornis saya*), house sparrow (*Passer domesticus*), rock dove (*Columba livia*), Eurasian collared dove (*Streptopelia decaocto*), European starling (*Sturnus vulgaris*), northern mockingbird (*Mimus polyglottos*), and American kestrel (*Falco sparverius*). Additionally, American avocets (*Recurvirostra americana*) are known to occur in the vicinity of the project site.

A number of small mammals were observed on the project site such as kangaroo rat (*Dipodomys* sp.), white-tailed antelope ground squirrel, and desert woodrat (*Neotoma lepida*), the middens of which were most common in the dense vegetation along the northern stream, and particularly among the creosote bushes surrounding the sewage ponds on Phase 2. Medium-sized mammals observed or detected include Audubon cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit, coyote, bobcat (*Lynx rufus*), and kit fox (*Vulpes macrotis*), although no kit fox dens were observed onsite and only a few scat were observed.

Special-Status Species

Special-status species are defined as those plants and wildlife that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, State, or local agencies as being under threat from development pressures as well as natural causes. Some of these species receive specific protection that is defined by the Federal or State Endangered Species Acts. Other species have been designated as special-status on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities and/or special districts to meet local conservation objectives. If the species has no special-status designation, it was labeled as “none” under the corresponding columns in the tables below. Special-status species include the following:

- Species listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA).
- Species that meet the definitions of rare or endangered under California Environmental Quality Act (CEQA) *Guidelines* Section 15380.
- All of the plants constituting California Rare Plant Rank (CRPR) 1B and Rank 2B meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act [NPPA]) or Sections 2062 and 2067 (CESA) of the Fish and Game Code, and are eligible for State listing. Many CRPR 4 species do not meet the definitions of special-status plants but may be significant locally and are recommended for consideration under CEQA (CNPS, 2001).
- Species covered under an adopted Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP).
- Wildlife designated by the CDFW as “species of special concern” or “special animals.”
- Wildlife “fully protected” in California (Fish and Game Code Sections 3511, 4700, and 5050).
- Wildlife species protected as “fur-bearing mammals” (Fish and Game Code Section 4000 et seq.).
- Native desert plants protected under the California Desert Native Plant Protection Act (California Food and Agriculture Code, Sections 80001–80006, Division 23).

The special-status plant and wildlife species that have the potential to occur on the project site are described under the following subsections. **Table 4.4-2, *Special-Status Plant Species with the Potential to Occur on the Project Site***, and **Table 4.4-3, *Special-Status Wildlife Species with the Potential to Occur on the Project Site***, summarize the special-status plant and wildlife species, respectively, that were evaluated for their potential to occur within the project site. Species with no potential to occur on the project site were excluded from further analysis. The “Potential to Occur” categories indicated in Tables 4.4-2 and 4.4-3 are defined as follows:

- **Unlikely:** The project site and/or immediate area do not support suitable habitat for a particular species, and therefore the project is unlikely to impact this species.
- **Low:** The project site and/or immediate area only provide limited habitat for the species. In addition, the known range of the species may be outside of the immediate project site.
- **Moderate:** The project site and/or immediate area provide suitable habitat for the species, and proposed development may impact the species.

- **High:** The project site and/or immediate area provide ideal habitat conditions for the species and/or known populations occur in the immediate area.
- **Present:** Species observed on the site during focused surveys or other site visits.

Special-Status Plants

Based on the literature review and database search, 14 special-status plant species have been recorded within the vicinity of the project site, which includes the Inyokern USGS 7.5-minute quads and the eight surrounding quads, Ninemile Canyon, Pearsonville, White Hills, Owens Peak, Ridgecrest North, Freeman Junction, Inyokern SE, and Ridgecrest South. These species are listed and described in Table 4.4-2, which identifies the regulatory status, habitat requirements, and blooming period for each plant species, as well as the potential for the species to occur on the project site based on recent survey results.

TABLE 4.4-2: SPECIAL-STATUS PLANT SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status	State Status	CRPR Status ^a	Habitat Requirements	Potential to Occur
<i>Carlquistia muirii</i>	Muir's tarplant	None	None	1B.3	Inhabits chaparral and montane coniferous forest. Occurs between 1,100 and 2,500 meters. Blooms from June to October.	Unlikely. Species prefers forest areas, which is not present onsite. Not observed during project surveys.
<i>Cylindropuntia echinocarpa</i>	silver cholla	None	None	None	Occurs in desert environments with the following vegetation communities: Creosote Bush Scrub, Joshua Tree Woodland, Pinyon-Juniper Woodland	Present. This species was observed on the project site during surveys in 2015 and 2016.
<i>Deinandra mohavensis</i>	Mojave tarplant	None	SE	1B.3	Occurs in open moist areas within chaparral, coastal scrub, and riparian scrub. Occurs between 460 and 1,600 meters. Blooms from May to January.	Low. The project site contains marginally suitable habitat. Species has been observed in Short Canyon approximately 5 miles from the project site. Species not found during project surveys.
<i>Delphinium purpusii</i>	rose-flowered larkspur	None	None	1B.3	Located in rocky or often carbonate areas within chaparral, cismontane woodland, and pinyon and juniper woodland between 300 and 1,340 meters. Blooms from March to May.	Unlikely. No suitable habitat occurs onsite. This species was not observed during project surveys.

TABLE 4.4-2: SPECIAL-STATUS PLANT SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status	State Status	CRPR Status ^a	Habitat Requirements	Potential to Occur
<i>Ericameria gilmanii</i>	Gilman's goldenbush	None	None	1B.3	Inhabits carbonate or granitic, rocky areas within upper montane and subalpine forests. Occurs between 2,100 and 3,400 meters. Blooms from August to September.	Unlikely. No suitable habitat occurs onsite. This species was not observed during project surveys.
<i>Eriophyllum mohavense</i>	Barstow woolly sunflower	None	None	1B.2	Occurs in chenopod scrub, Mojavean desert scrub, and playas between 500 and 960 meters. Blooms from March to May.	Low. Suitable habitat is marginally present onsite. This species was not observed during project surveys.
<i>Erigeron aequifolius</i>	Hall's daisy	None	None	1B.3	Occurs in rocky, or granitic soils in pinyon and juniper woodland and upper montane coniferous forest. Occurs between 1,500 and 2,100 meters. Blooms in July to August.	Unlikely. No suitable habitat occurs onsite. This species was not observed during project surveys.
<i>Layia heterotricha</i>	pale yellow layia	None	None	1B.1	Found in alkali or clay soils within cismontane woodland, coastal scrub, pinyon and juniper woodland, and Valley and foothill grassland. Occurs between 200 and 1,800 meters. Blooms from April to June.	Low. Suitable habitat is marginally present onsite. This species was not observed during project surveys.
<i>Lomatium shevockii</i>	Owens Peak lomatium	None	None	1B.2	Inhabits upper and lower montane coniferous forest. Found on rocky areas. Occurs between 2,200 and 2,500 meters.	Unlikely. Suitable habitat (montane coniferous forest) is not present onsite.
<i>Monardella beneolens</i>	sweet smelling monardella	None	None	1B.3	Alpine boulder and rock fields and subalpine coniferous forest. Occurs between 2,500 and 3,600 meters. Blooms from April to September.	Unlikely. Suitable habitat is not present onsite. This species was not observed during project surveys.

TABLE 4.4-2: SPECIAL-STATUS PLANT SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status	State Status	CRPR Status ^a	Habitat Requirements	Potential to Occur
<i>Opuntia basilaris</i>	beavertail cactus	None	None	None	Found in arid environments associated with the following vegetation communities: Creosote Bush Scrub, Joshua Tree Woodland, Chaparral, Southern Oak Woodland, Coastal Sage Scrub, Pinyon-Juniper Woodland, Valley Grassland.	Present. This species was observed on the project site during surveys in 2016.
<i>Phacelia nashiana</i>	Charlotte's phacelia	None	None	1B.2	Found in granitic and sandy soil. Inhabits, Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland. Occurs below 2,400 meters. Blooms from February to June.	Low. Suitable habitat is present on the project site. Species has been observed approximately 4 miles northwest of the project site but was not observed during appropriately timed surveys.
<i>Phacelia novemmillensis</i>	Nine Mile Canyon phacelia	None	None	1B.2	Occurs in sandy or gravelly soils often in leaf litter under <i>Quercus chrysolepis</i> within broadleafed upland forest, cismontane woodland, pinyon and juniper woodland, and upper montane coniferous forest. Occurs between 1,645 and 2,640 meters and blooms from February to June.	Unlikely. No suitable habitat occurs onsite. This species was not observed during project surveys.
<i>Saltugilia latimeri</i>	Latimer's woodland gilia	None	None	1B.2	Found in rocky or sandy area and sometimes dry washes within chaparral, Mojavean desert scrub, Pinyon and juniper woodland. Occurs between 400 and 1,900 meters. Blooms from March to June.	Low. Suitable habitat is present on the project site. Species has been observed approximately 5 miles northwest of the project site but was not observed during appropriately timed surveys.

TABLE 4.4-2: SPECIAL-STATUS PLANT SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status	State Status	CRPR Status ^a	Habitat Requirements	Potential to Occur
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^a Description of Status Codes:

CRPR 1B.1= Eligible for State listing, CEQA review; seriously threatened in California.

CRPR 1B.2= Eligible for State listing, CEQA review; moderately threatened in California.

CRPR 1B.3= Eligible for State listing, CEQA review; not very threatened in California

SE = State endangered.

SOURCE: CNDDDB, 2020.

Of the 14 special-status plant species identified in Table 4.4-2, two species are present on the project site: silver cholla (*Cylindropuntia echinocarpa*) and beavertail cactus (*Opuntia basilaris*) (Circle Mountain Biological Consultants, 2016). Five species have a low potential to occur based on marginally suitable habitat and/or known occurrences in the vicinity of the project site: Latimer's woodland gila (*Saltugilia latimeri*), Charlotte's phacelia (*Phacelia nashiana*), Barstow woolly sunflower (*Eriophyllum mohavense*) pale yellow layia (*Layia heterotricha*), and Mojave tarplant (*Deinandra mohavensis*). Species that are present are described further below. The remaining species were determined to be unlikely to occur because suitable habitat is not present.

Silver cholla is a native cactus species that is not listed on any State or federal lists as threatened or endangered. This native desert plant is protected under the California Desert Native Plant Act (CNDPA) from harvesting or selling. Approximately 69 silver cholla were observed on both phases of the project site (Circle Mountain Biological Consultants, 2016). Therefore, this species is widely abundant on the project site.

Beavertail cactus is a native cactus species that is not listed on any State or federal lists as threatened or endangered. This native desert plant is protected under the CNDPA from harvesting or selling. A focused rare plant survey has not been conducted for this species to determine the exact number present on the project site; however, this species was observed on the project site.

Special-Status Wildlife

Based on the literature review and database search, 15 special-status wildlife species (three reptiles, eight birds, and four mammals) have been recorded within the vicinity of the project site, which includes the Inyokern USGS 7.5-minute quads and the eight surrounding quads. These species are listed and described in **Table 4.4-3, *Special-Status Wildlife Species with the Potential to Occur on the Project Site***, which identifies their regulatory status and habitat requirements, as well as the potential for the species to occur on the project site or immediate vicinity based on recent survey results.

TABLE 4.4-3: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status	State ^a Status	Habitat Requirements	Potential to Occur
Reptiles					
<i>Anniella campi</i>	southern Sierra legless lizard	None	SSC ^b	Occurs in moist warm loose soil with plant cover. Occurs in sparsely vegetated areas of chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	Moderate. Suitable habitat is present throughout the project site.
<i>Gopherus agassizii</i>	desert tortoise	FT	ST ^b	Prefers creosote bush habitat with annual wildflower blooms. Requires friable soils for burrow and nest construction. Occurs in most desert habitats.	Moderate. Suitable habitat is present throughout the project site. Protocol-level surveys conducted for the species identified single shell crushed by highway traffic approximately 8 years ago. No live tortoises were observed.
<i>Phrynosoma blainvillii</i>	coast horned lizard	None	SSC ^b	Frequents in lowlands along sandy washes with scattered low bushes. Prefers open areas for sunning, bushes for cover, patches of soil for burial, and abundant supply of ants and other insects.	Low. Elements of suitable habitat are present onsite. The project site is on the fringe of the species' range and was not observed during project surveys.
Birds					
<i>Aquila chrysaetos</i>	golden eagle	BGEPA	FP ^b	Species typically nests in canyons on cliffs and large trees in open habitats. Forages for mammalian prey in grasslands and over open areas.	Moderate. Suitable nesting habitat (cliffs and large trees) is not present in the project site. The site consists of predominantly low-quality foraging habitat. There is a potential for the species to occasionally use the site for foraging.

TABLE 4.4-3: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status	State ^a Status	Habitat Requirements	Potential to Occur
<i>Athene cunicularia</i>	burrowing owl	None	SSC ^b	Typically inhabits open, dry habitats including annual or perennial grasslands, agricultural fields, deserts, and scrublands characterized by low-growing vegetation. Known to occupy existing canid and squirrel burrows.	Moderate. Suitable habitat is present throughout the project site. Protocol-level surveys conducted for the species identified sign of the species, though no burrowing owls were observed during project surveys.
<i>Buteo regalis</i>	ferruginous hawk	None	WL ^b	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, and agricultural areas; requires adjacent suitable foraging habitat such as grasslands, alfalfa or grain fields supporting rodent populations.	Moderate (foraging). Species is not known to nest within the region. Suitable winter foraging habitat is present on the project site. Not observed during project surveys.
<i>Buteo swainsoni</i>	Swainson's hawk	None	ST ^b	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, and agricultural areas; requires adjacent suitable foraging habitat such as grasslands, alfalfa or grain fields supporting rodent populations.	Low (nesting). Lack of suitable nesting habitat on project site. Due to lack of nesting Swainson's hawk occurrence records, and lower quality foraging habitat, this species has a low potential to nest onsite.
<i>Circus hudsonius</i>	northern harrier	None	SSC ^b	Species nests (on ground) and forages in grasslands and shrubby vegetation, usually at marsh edges in coastal salt and freshwater marsh habitats.	Moderate (foraging). Marginally suitable nesting habitat (open desert scrub) is present on the project site. Not observed during project surveys, but species may occasionally use the site for foraging.

TABLE 4.4-3: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status	State ^a Status	Habitat Requirements	Potential to Occur
<i>Falco mexicanus</i>	prairie falcon	None	WL ^b	Species inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	Moderate (foraging). Elements of suitable foraging habitat (dry, open terrain) present. Cliffs required for nesting not present onsite.
<i>Lanius ludovicianus</i>	loggerhead shrike	None	SSC ^b	Occurs in open habitats utilizing shrubs, trees, pots, fences, and low utility lines for perches, specifically prefers open foothill and valley woodlands with some canopy and foraging perches. Forages in edge habitats, and in particular prefers shrubs adjacent to grasslands.	Moderate (foraging). Elements of suitable foraging habitat (desert scrub) onsite. There are no suitable trees or large shrubs for nesting habitat.
<i>Toxostoma lecontei</i>	Le Conte's thrasher	None	SSC ^b	Commonly nests in a dense, spiny shrub or densely-branched cactus in desert wash habitat, usually 2 to 8 feet above the ground. Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats.	Moderate. The project site supports suitable nesting habitat (desert scrub and cacti) for the species. Not observed during project surveys, but may use the site for foraging or nesting.
Mammals					
<i>Corynorhinus townsendii</i>	Townsend's big eared bat	None	SSC ^b	Species inhabits a wide variety of habitats including desert scrub. Most common in mesic habitats. Roosts in mines, caves, or abandoned buildings. Extremely sensitive to roost disturbance.	Low (foraging). Preferred habitat (mesic sites) and suitable roosting habitat is not present on the project site. May use the site to forage. Not observed during project surveys.
<i>Euderma maculatum</i>	Spotted bat	None	SSC ^b	Spotted bats have been found from below sea level to 2,700 m elevation, occurring from arid, low desert habitats to high elevation conifer forests. Prominent rock features appear to be a necessary feature for roosting.	Low. The project site is characterized by Mojave creosote scrub on the valley floor and does not contain prominent rock features.

TABLE 4.4-3: SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Federal Status	State ^a Status	Habitat Requirements	Potential to Occur
<i>Taxidea taxus</i>	American badger	None	SSC ^b	Typically, most abundant in drier open stages of shrub, forest, and herbaceous habitats with friable soils. Species requires open, uncultivated ground; preys on burrowing rodents.	Low. Suitable habitat (shrubland) is present on the project site. No evidence of digging by badgers was observed during previous surveys.
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	None	ST ^b	Inhabits open desert scrub, alkali scrub, and Joshua tree woodland; feeds in annual grassland; restricted to Mojave Desert. Prefers sandy to gravelly soils. Species nests in burrows.	Present. Potentially suitable habitat exists within the project site; and this species was observed during focused surveys conducted in 2015.

^a BGEPA = Bald and Golden Eagle Protection Act; FT = Federally threatened; FP = California Fully Protected; ST = State threatened; WL= CDFW Watch List Species; SSC = California Species of Special Concern.

^b Species listed on the CDFW Special Animals List (CDFW, 2020a).

SOURCE: CNDDDB, 2020.

Of the 15 special-status wildlife species identified in Table 4.4-3 above, one species was determined to be present on the project site: Mohave ground squirrel (Circle Mountain Biological Consultants, 2016). Nine species were determined to have a moderate potential to occur based on the presence of suitable habitat on the project site and the proximity to known historical records. The remaining species were determined to have a low potential to occur. Species determined to be present, or with moderate potential to occur are discussed further below.

Reptiles

Desert Tortoise. The desert tortoise is a federally- and State-threatened species and consequently, potential impacts to the species would require the issuance of incidental take permits from both the USFWS and CDFW to comply with FESA and CESA. No evidence of living tortoises was found either onsite or in adjacent areas during the 2015 focused, protocol survey for the species or the 2016 biological resource reconnaissance conducted by Circle Mountain Biological Consultants. A fragmented carapace of an adult tortoise that died by being crushed on the freeway since about 2010 was found approximately 650 feet west of US 395 on the Phase 1 portion of the project site. No desert tortoises were observed on the Phase 2 portion of the project site. Suitable habitat for desert tortoise occurs on both phases of the project site, however, there is limited likelihood of tortoises entering the project site from adjacent areas, either to pass through or establish residency (Circle Mountain Biological Consultants, 2016).

Southern Sierra Legless Lizard. This lizard is a California Species of Special Concern (i.e., non-listed, special-status species). This species was one of five that was split based on genetic evidence on *Anniella*

pulchra. The species is only known in a few canyon locations along the western edge of the Mojave Desert in Kern and Inyo counties approximately 7 miles to the southeast of the project site. The project site contains suitable habitat for the species.

Birds

Golden Eagle. The golden eagle is a CDFW fully protected species that is also protected under the Bald Eagle and Golden Eagle Protection Act. It is an uncommon permanent resident and migrant throughout California, except the center of the Central Valley. No golden eagles were observed during surveys. CNDDDB includes two occurrence mapped generally in the Scodie Mountains area, approximately 5 and 6 miles west of the project site. There is an absence of suitable nesting habitat (cliffs and large trees) on the project site, however, predominantly low-quality foraging habitat is present. Therefore, there is a likelihood of a foraging eagles on the project site.

Burrowing Owl. Within California, the burrowing owl is a California Species of Special Concern. It occurs in the Central Valley, inner and outer coastal region, portions of the San Francisco Bay Area, southern California coast to the Mexico border, the Imperial Valley, and in portions of the desert and high desert habitats in southeastern and northeastern California. One or more diagnostic burrowing owl signs (e.g., regurgitated pellets, whitewash, zygodactyl tracks, and/or feathers) were found at three locations in 2015 and two of the same locations in 2016. In both 2015 and 2016, several pellets and whitewash were found by Circle Mountain Biological Consultants at several burrows in a dirt bank associated with the old borrow pit near the southeastern corner of the Phase 1 portion of the site. Additional pellets were found at a canid dig in the western-side of an elevated railroad berm where an ephemeral drainage crosses under the trestle near the northwestern corner of Phase 2, but outside of the project boundary. No owls were observed and none of these burrows are considered a primary burrow used by a resident burrowing owl. The absence of tortoise burrows, abandoned kit fox dens, badger digs, or any other suitable burrows (e.g., abandoned California ground squirrel burrows) renders the project site somewhat marginal for burrowing owls. Although the project site is currently considered unoccupied, there is still a potential for burrowing owl to move onto both phases of the project site.

Swainson's Hawk. Swainson's hawk is a State threatened-species under the CESA. The historical breeding range of Swainson's hawk in California included the Great Basin, Sacramento and San Joaquin Basins, the coast from Marin County to San Diego County, and scattered sites in the Mojave and Colorado Deserts. The species continues to breed across its entire historical range, but in significantly lower numbers than in previous years. In the Mojave Desert, the species is known to nest in low densities in desert scrub habitat with a Joshua tree overstory. Throughout its range the species nest almost exclusively in trees, typically on the edges of woodland adjacent to grass or shrubland habitat.

Although Swainson's hawk has not been reported to the CNDDDB, one was observed flying over the project site in April of 2015 (Circle Mountain Biological Consultants, 2015). Although Swainson's hawk would not nest onsite and probably not forage there (as they tend to prefer fallow agricultural fields and other open areas in the desert), they have been observed resting in similar desert scrub habitats as they migrate through the region.

Prairie Falcon. A prairie falcon was observed 6.3 miles southeast of the site in 1997 (CNDDDB, 2020). Prairie falcons have been observed on the northern portions of the site in 2010, 2012, and 2013 along with a number of water birds, which suggests they occurred at the sewage ponds adjacent to the northern portions

of Phase 1. Like Cooper's hawk and sharp-shinned hawk, prairie falcons are likely to depredate birds at the sewage ponds, but would not nest on the project site since it does not support their preferred habitat.

Loggerhead Shrike. This species is a regionally sensitive species (i.e., non-listed, special-status species) that has been observed 1.6 miles southeast and 4.3 miles southeast of the project site in 1991 and 2010. They are commonly encountered at the sewage ponds, having been reported there 22 times since 2004 (Circle Mountain Biological Consultants, 2016). There is suitable nesting and foraging habitat throughout the site for loggerhead shrikes.

Le Conte's Thrasher. LeConte's thrasher has been observed 5.5 miles south of the project site (CNDDB, 2020). A single bird was observed near the southern boundary of Phase 1 on March 20, 2005, by Circle Mountain Biological Consultants. Given their propensity for nesting in silver cholla and that 69 individual plants were observed on the project site, there are both suitable nesting and foraging habitats present on both project phases.

In addition to the above species, Circle Mountain Biological Consultants evaluated the potential for the special-status species **Cooper's hawk** (*Accipiter cooperii*) and **sharp-shinned hawk** (*Accipiter striatus*) to occur on the project site. Cooper's hawks and sharp-shinned hawks are similar species that have been reported 2.3 miles southeast and 3.2 miles south of the project site, respectively. A Cooper's hawk was also observed at the sewage ponds at the wastewater treatment plant adjacent to the northern portions of the project site in 2010 (Circle Mountain Biological Consultants, 2015). These species are similar in their propensity to depredate passerine birds at backyard bird feeders. As winter visitors, sharp-shinned hawks would not nest in the region, and there are no nesting substrates for year-round resident Cooper's hawks on the project site. Although either species may occasionally forage onsite, both are more likely to be found in contiguous residential neighborhoods than on the project site.

Mammals

Mohave Ground Squirrel. The Mohave ground squirrel is listed as a threatened under the CESA. Mohave ground squirrel has been reported between 1,800 feet (549 meters) and 5,600 feet (1,707 meters) elevation from a wide-range of habitats including creosote bush scrub, Joshua tree woodland, juniper woodland, and Mohave mixed woody scrub. At 2,400 feet, the project site is well within the known elevation range of the species. The project site is located near the northern part of the Mohave ground squirrel's range where winter fat (*Krascheninnikovia lanata*) and spiny hop-sage (*Grayia spinosa*) are ecologically important shrubs for Mohave ground squirrel. There is a relatively high level of diversity of their preferred native plants, with 10 of their preferred shrub species identified on Phase 1. In 2015, a total of 100 spiny hop-sage plants were inventoried on the project site. Although only one winter fat plant was observed on the project site during the 2016 Mohave ground squirrel survey, spiny hop-sage is common enough on the site to be considered a dominant perennial species; and therefore the site is determined to support suitable Mohave ground squirrel habitat. Circle Mountain Biological Consultants conducted a CDFW-protocol survey for Mohave ground squirrel in 2015 and captured a Mohave ground squirrel near the center of Phase 1, so it was confirmed that Mohave ground squirrel occupy the project site.

Sensitive Natural Communities

The project site supports Mojave creosote bush scrub and disturbed areas, but no sensitive natural communities have been documented as occurring on, or in the vicinity of, the project site.

Critical Habitat

USFWS has not designated or proposed any critical habitats on or near the project site. The nearest critical habitat is for the federally-endangered southwestern willow flycatcher (*Empidonax traillii extimus*), located near Isabella Lake approximately 20 miles to the west, and the desert tortoise critical habitat approximately 20 miles to the south of the project site. No Primary Constituent Elements (PCEs) for southwestern willow flycatcher occur within or adjacent to the project site. Mojave creosote bush scrub is considered a PCE for desert tortoise. Although this community is present on the project site, the site and surrounding vicinity has not been designated as critical habitat.

Wildlife Movement Corridors

Wildlife movement corridors, also referred to as dispersal corridors or landscape linkages, are generally defined as linear features along which animals can travel from one habitat or resource area to another. The project site does not lie within a recognized wildlife connectivity area, such as by the California Essential Habitat Connectivity Project (Spencer et al., 2010). The project site is partially surrounded by the rural development of the community of Inyokern, but contains interspersed open habitat that can provide for local and regional wildlife movement. Significant barriers to local wildlife movement include major roads, such as US 395, and the nearby Inyokern Airport. Under existing conditions, wildlife would be expected to traverse the project site partially to forage and for dispersal to other areas in the vicinity (and larger region). Washes are often ideal habitats for providing shelter and foraging opportunities for an array of wildlife, because in these areas shrubs are often taller and denser, providing cover for medium to larger animals. A wash occurs to the north of Phase 2, which is vegetated with a mixture of taller and denser plants compared to the surrounding areas.

Lastly, the project site is within the Pacific Flyway, a significant avian migration route (USFWS, 2017). The presence of migratory bird species that have been documented on the project site is likely influenced by the site's close proximity to the Pacific Flyway.

Jurisdictional Waters

Jurisdictional waters include aquatic resources such as streams, creeks, lakes, riparian areas, wetlands, and certain aquatic vegetation communities, which are considered sensitive biological resources and can fall under the jurisdiction of federal and/or State regulatory agencies including the Army Corps of Engineers (USACE), CDFW, and/or Regional Water Quality Control Board (RWQCB). The definitions of the extent of regulatory agency jurisdictions are described in Section 4.4.3, *Regulatory Setting*, below.

The project site is located in the Indian Wells-Searles Valleys Hydrologic Unit [Hydrologic Unit Code (HUC) 18090205] within the larger Southern Lahontan Basin (USGS, 2015). The Lahontan Basin has no outlet to other watersheds and is internally drained. The USACE has determined that isolated waters within the Lahontan Region are not considered "waters of the United States" and therefore are not be subject to regulation under the federal Clean Water Act (CWA), which includes the washes/drainages located in offsite areas. In addition, no areas were identified on the project site that exhibit characteristics of wetlands as defined by USACE.

CDFW exercises jurisdiction over wetlands and riparian resources associated with rivers, streams, lakes, ephemeral streams, desert washes and other watercourses that demonstrate surface or subsurface flows

under Section 1600 et seq. of the California Fish and Game Code (CFGF). CDFW has the authority to regulate projects that would substantially divert, obstruct, or change the natural flow of a river, stream, lake, or ephemeral drainage; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed. CDFW's jurisdiction along a river, stream, creek, ephemeral drainage or other water body is usually bounded by the top-of-bank or the outermost edges of riparian vegetation.

No streams, creeks, or ephemeral drainage features occur on any portion of the project site. However, a blue-line stream is located approximately 10 feet northwest of the project site, and mesic-adapted species occur near the beginning of this blue-line feature such as Emory's baccharis (*Baccharis emoryi*), salt heliotrope (*Heliotropium curvassivicum*), salt cedar (*Tamarix ramosissima*), sandpaper plant (*Petalonyx thurberi*), and particularly, rubber rabbitbrush (Circle Mountain Biological Consultants, 2016). All vegetation within the project site consists of upland scrub species that are not hydrophytic or typically provide habitat for wetland associated species.

4.4.3 Regulatory Setting

The following is a summary of federal, State, and local regulations and policies that are applicable to biological resources known from the project vicinity.

Federal

Endangered Species Act of 1973 (USC Title 16, Sections 1531 through 1543)

The FESA and subsequent amendments provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA also provides a program for the conservation and recovery of threatened and endangered species as well as the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species.

Section 7 of the FESA requires federal agencies, in consultation with and assistance from the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The USFWS and National Marine Fisheries Service (NMFS) share responsibilities for administering the FESA. Regulations governing interagency cooperation under Section 7 are found in California Code of Regulations (CCR) Title 50, Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing "take" (i.e., to harass, harm, pursue, hunt, wound, kill, etc.) that may occur incidental to an otherwise legal activity.

Section 9 lists those actions that are prohibited under the FESA. Although take of a listed species is prohibited, it is allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of "harm" includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. "Harass" is defined as actions that create the

likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit. Application procedures are found at Code of Federal Regulation (CFR), Title 50, Sections 13 and 17 for species under the jurisdiction of USFWS and CFR, Title 50, Sections 217, 220, and 222 for species under the jurisdiction of NMFS.

Section 4(a)(3) and (b)(2) of the FESA requires the designation of critical habitat to the maximum extent possible and prudent based on the best available scientific data and after considering the economic impacts of any designations. Critical habitat is defined in Section 3(5)(A) of the FESA: (1) areas within the geographic range of a species that are occupied by individuals of that species and contain the primary constituent elements (physical and biological features) essential to the conservation of the species, thus warranting special management consideration or protection; and (2) areas outside of the geographic range of a species at the time of listing but that are considered essential to the conservation of the species.

Migratory Bird Treaty Act (USC Title 16, Sections 703 through 711)

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, domestically implements a series of treaties between the United States and Great Britain (on behalf of Canada), Mexico, Japan, and the former Soviet Union that provide for international migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds; the act provides that it shall be unlawful, except as permitted by regulations, “to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird” (U.S. Code Title 16, Section 703). The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and personal property.” On December 22, 2017, the Office of the Solicitor of the Department of the Interior issued a Memorandum (Opinion M-37050) regarding the MBTA, which modified the Department’s policy regarding the enforcement of the MBTA against the incidental taking or killing of migratory birds. The Solicitor’s Opinion is that the MBTA does not prohibit incidental take, such that “the statute’s prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs.” The U.S. Fish and Wildlife Service is currently evaluating alternatives pursuant to NEPA, including an alternative that promulgates regulations to define the scope of the MBTA regarding incidental take consistent with the Opinion M-37050.

Bald and Golden Eagle Protection Act of 1940 (USC Title 16, Section 668, enacted by 54 Statute 250)

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

substantially interfering with normal breeding, feeding, or sheltering behavior (Federal Register [FR], volume 72, page 31132; 50 CFR 22.3).

Federal Clean Water Act (USC Title 33, Sections 1251 through 1376)

The federal Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires a project proponent for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. to obtain State certification, thereby ensuring that the discharge will comply with provisions of the CWA. The RWQCB administers the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S. Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. USACE implementing regulations are found at CFR, Title 33, Sections 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency (USEPA) in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

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 started preparing the Desert Renewable Energy Conservation Plan (DRECP). 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 landscape-level plan that was intended to streamline renewable energy permitting and development while conserving unique and valuable desert ecosystems and providing outdoor recreation opportunities. The DRECP is a joint state and federal Natural Communities Conservation Plan (NCCP) and part of one or more HCP that are intended to provide for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. It 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 HCP under the ESA. On September 14, 2016, the BLM issued a Record of Decision, approving a Land Use Plan Amendment, which 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 compliments the non-federal land component of the DRECP (Phase II), which is ongoing, led by the California Energy Commission.

State

California Endangered Species Act (California Fish and Game Code Section 2050 et seq.)

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

Regional Water Quality Control Board

Under Section 401 of the CWA, the RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet State water quality standards. The RWQCB also regulates waters of the State under the Porter-Cologne Act Water Quality Control Act. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. The RWQCB typically requires compensatory mitigation for impacts to wetlands and/or waters of the State, which may include waters deemed ‘isolated’ or not subject to Section 404 jurisdiction under the Solid Waste Agency of Northern Cook County (SWANCC) decision. The thrust of the SWANCC legal decision is that isolated, non-navigable, and intrastate waters are not “waters of the United States” subject to USACE jurisdiction under the Clean Water Act. Filling, dredging, or excavation of isolated waters may constitute a discharge of waste to waters of the state and if so, then prospective dischargers are required to file a Report of Waste Discharge to obtain Waste Water Discharge Requirements as authorization for that fill or waiver thereof from the RWQCB.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the State fall under the jurisdiction of the appropriate RWQCB. Under the act, the RWQCB must prepare and periodically update their water quality control plans, otherwise known as “basin plans.” Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Projects that affect wetlands or waters must meet waste discharge requirements of the RWQCB, which may be issued in addition to a water quality certification or waiver under Section 401 of the CWA.

The project site is under the jurisdiction of the Lahontan Regional Water Quality Control Board (LRWQCB) and its associated basin plan.

California Fish and Game Code

Section 460. Under this Section of the CFGC, desert kit fox may not be taken at any time.

Sections 1600 through 1616. Under these sections of the CFGC, the project proponent is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Pursuant to the code, a “stream” is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial watercourses valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water during storm events. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement, which becomes part of the plans, specifications, and bid documents for the project.

Sections 2080 and 2081. Section 2080 of the CFGC states that “No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the NPPA, or the California Desert Native Plants Act.” Pursuant to Section 2080.1 or 2081 of the code, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or memoranda of understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project proponent ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

Sections 3503, 3503.5, 3513, and 3800. Under these sections of the CFGC, the project proponent is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds of prey or their nests or eggs; the taking or possessing of any migratory nongame bird as designated in the MBTA; the taking, possessing, or needlessly destroying of the nest or eggs of any bird; or the taking of any nongame bird pursuant to CFGC Section 3800.

Sections 3511, 4700, 5050, and 5515. Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the CFGC. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

Sections 4000 through 4003. Under Section 4000 of the CFGC, it is unlawful to conduct activities that would result in the taking, possessing, or destroying of any fur-bearing mammals, including kit foxes, without prior authorization from the CDFW.

CEQA Guidelines Section 15380

In addition to the protections provided by specific federal and state statutes, *CEQA Guidelines* Section 15380(b) provides that a species not listed on the federal or state list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the CFGC dealing with rare or endangered plants or animals. This section was included in CEQA primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a candidate species that has not been listed by either USFWS or CDFW. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agencies have an opportunity to designate the species as protected, if warranted. CEQA also calls for the protection of other locally or regionally significant resources, including natural communities. Although natural communities do not at present have legal protection of any kind, CEQA calls for an assessment of whether any such resources would be affected and requires findings of significance if there would be substantial losses. Natural communities listed by CNDDDB as sensitive are considered by CDFW to be significant resources and fall under the *CEQA Guidelines* for addressing impacts. Local planning documents such as general plans often identify these resources as well.

Native Plant Protection Act (California Fish and Game Code Sections 1900 through 1913)

California's NPPA requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least ten days in advance of any change in land use. This allows CDFW to salvage listed plant species that otherwise would be destroyed. The project proponent is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

California Desert Native Plants Act (California Food and Agricultural Code Sections 80071 through 80075)

The California Desert Native Plants Act affords protection to certain native desert plant species, including all species of the agave family (Agavaceae), the cactus family (Cactaceae), all species of the genus *Prosopis*, all species of the genus *Cercidium*, and makes the harvest, transport, sale, or possession of these species unlawful unless a permit is first obtained. It restricts harvesting of the following plants, except for educational or scientific purposes under a permit issued by the commissioner of the county in which the native plants are growing:

- All species of the genus Burseraceae family (such as elephant tree [*Bursera microphylla*], saguaro cactus [*Carnegiea gigantea*], barrel cactus [*Ferocactus acanthodes*], and panamint dudleya [*Dudleya saxosa*])

The California Desert Native Plant Protection Act also restricts harvesting of the following species, except under a permit issued by the commissioner of the sheriff of the county in which the native plants are growing:

- All species of the agave family (Agavaceae)

- All species of the genus *Prosopis*
- All species of the genus *Cercidium*
- All species of the cacti family Cactaceae, besides saguaro and barrel cactus, which are protected as described above.
- All species of the ocotillo & candlewood family Fouquieriaceae
- Catclaw (*Acacia greggii*), desert-holly (*Atriplex hymenelytra*), smoke tree (*Dalea spinose*), and desert ironwood (*Olneya tesota*)

Local

Kern County General Plan

The Kern County General Plan identifies the federal, state, and local statutes, ordinances, or policies that govern the conservation of biological resources that must be considered by Kern County during the decision making process for any project that could affect biological resources.

The Land Use, Open Space, and Conservation Element of the Kern County General Plan states that the element provides for a variety of land uses for future economic growth while also ensuring the conservation of the County's agricultural, natural, and resource attributes. Section 1.10, General Provisions, provides goals, policies, and implementation measures that apply to all types of discretionary projects.

Chapter 1: Land Use, Open Space, and Conservation Element

1.10: General Provisions; 1.10.5: Threatened and Endangered Species

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Policies

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and Federal laws.

Policy 28: The County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts on fish, wildlife, and botanical resources.

Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands. Policy 30. The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, State, and Federal programs concerning endangered species conservation issues.

- Policy 31: Under the provisions of CEQA, the County, as lead agency, will solicit comments from the CDFW and the USFWS when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.
- Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

- Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.
- Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.
- Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.

Chapter 5: Energy Element

5.2 Importance of Energy to Kern County

Policy

- Policy 8: The County should work closely with local, state, and federal agencies to assure that energy projects (both discretionary and ministerial) avoid or minimize direct impacts to fish, wildlife, and botanical resources, wherever practical.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. The Land Use, Open Space, and Conservation Element of the Inyokern Specific Plan has the purpose of identifying biological resources within the Plan area. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

Land Use, Open Space, and Conservation Element

1.5: Industrial

Policy

- Policy 7: Direct development away from “sensitive biological resource” areas unless effective mitigation can be implemented.

Implementation Measure

Measure 6: Any discretionary industrial project that disturbs property not previously developed/disturbed or is not substantially surrounded by urban density development, as determined by the Director of the Kern County Department of Planning and Development Services, shall require submittal of a biological survey for plants and animals as part of the application/permit process; said survey shall be completed in accordance with the most current guidelines prepared by the U.S. Fish and Wildlife Service and/or the State Department of Fish and Game. Any submittal shall also include mitigation measures satisfactory to the requirements of said agencies and the Kern County Department of Planning and Development Services.

1.6: Resource***Policy***

Policy 3: Habitats of threatened or endangered species should be protected to the greatest extent possible.

Implementation Measure

Measure 4: Surveys to determine the location, extent and population sizes of sensitive plants and animals shall be conducted prior to approval of any discretionary land development permits. Mitigation measures identified for specie protection shall be incorporated into development proposals.

4.4.4 Impacts and Mitigation Measures

This section evaluates the impacts to biological resources that may occur during the construction and operation of the proposed project. It describes the sensitive biological resources located on and adjacent to the project site that may be affected and identifies the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, where applicable.

Methodology

The following impact analysis is based on existing and potential biological resources occurring within the project site and vicinity of the project identified through a review of relevant literature and a general biological resource assessment. Biological resources evaluated included sensitive habitats, special-status plant and animal species, and potential for wildlife movement corridors. The potential for special-status species to occur on the project site is based on the results of database research, biological assessments, surveys conducted on the project site and vicinity, presence of suitable habitat, and the proximity of the project site to previously recorded occurrences in the CNDDDB, CDFW, and USFWS data. Other sources of information used include aerial photographs, topographic maps, soil survey maps, geological maps, climatic data, previous biological studies, and project plans.

Field Surveys

Reconnaissance and direct surveys for sensitive plants, animals, and other biological resources were conducted on the project site in April 2015 and September 2016. The project site was surveyed for Mohave ground squirrel and desert tortoise in 2015. Habitat assessment for burrowing owl was also performed in 2015 and 2016. The impact analyses presented here address potential biological resources located on the project site based on results of field surveys detailed in Appendix D of this EIR.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on biological resources.

A project would have a significant adverse effect on biological resources if it:

- a. Has 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 the USFWS;
- b. Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or the USFWS;
- c. Has a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal etc.) through direct removal, filling, hydrological interruption, or other means;
- d. 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;
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

As lead agency, Kern County determined in the Notice of Preparation/Initial Study (IS/NOP), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to some of these environmental issue areas; these issue areas are thus scoped out of this EIR. It was determined that the project would not:

- c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal etc.) through direct removal, filling, hydrological interruption, or other means;
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.

The project site does not contain any federally protected wetlands, marshes, or vernal pools, or other protected waterways, as defined by Section 404 of the CWA, because the proposed project is located within

a closed watershed basin and does not have any connectivity to Waters of the U.S.; thus, implementation of the proposed project would not result in impacts related to wetlands. Additionally, it was determined that there are no applicable local policies or ordinances protecting biological resources and, as such, it was determined that there would be no conflicts. Furthermore, the project site is not located within an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional or State habitat conservation plan. The project is located within a proposed DFA for renewable energy projects under the unadopted/unapproved private lands portion of the DRECP, which is defined as having little or no long-term conservation value for biological resources.

Project Impacts

Impact 4.4-1: The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.

Overview

The proposed project has the potential to impact special-status plants and wildlife through the loss of habitat, as well, as direct and indirect impacts on species, such as mortality of individuals or interference with reproductive success. Potential impacts to special-status plants and wildlife from construction, operation and maintenance, and decommissioning are discussed below.

Construction

Special-Status Plants

The project site contains marginal habitat for few of the special-status plants with a potential to occur onsite (see Table 4.4-2). The determination of marginality is based on prior development on the project site, as well as existing disturbances, limited suitable habitat characteristics (e.g., preferred vegetation, elevation and soils), and prevalence of non-native species. Although habitat is marginal for special-status plants, two regulated plant species were observed on the project site: silver cholla and beavertail cactus. These plant species are protected by the California Desert Native Plants Act, which prohibits harvesting these native desert plants, or any parts thereof, except when a permit from the County Agricultural Commissioner is obtained. Direct impacts to these two regulated plants may occur during the construction phase of the project through clearing of vegetation. Impacts would be mitigated to a level of less than significant through the implementation of special-status plant avoidance and minimization measures described in Mitigation Measure MM 4.4-1. In order to mitigate impacts to vegetation during project construction, a restoration plan would be prepared to revegetate the native vegetation on the project site to its pre-project conditions per Mitigation Measure MM 4.1-3 (from Section 4.1, *Aesthetics*, of this EIR). This plan would include methods to restore native Mojave creosote scrub habitat to impacted areas on the project site, along with a regular monitoring schedule and performance standards for successful restoration.

Other special-status plants that have a low potential to occur include Mojave tarplant, pale yellow layia, Charlotte's phacelia, and Latimer's woodland gilia. Mojave tarplant is a state endangered species and any

project-related impacts during construction that result in take or harm to an individual plant of this species is considered a significant impact. This potential impact could be mitigated to a less than significant level through implementation of avoidance and minimization measures, and permitting if necessary, for special status plants per Mitigation Measure MM 4.4-1 and for Mojave tarplant specifically per Mitigation Measure MM 4.4-2. Because of the low potential of occurrence, no mitigation beyond Mitigation Measure MM 4.4-1 is required for potential impacts to pale yellow layia, Charlotte's phacelia, and Latimer's woodland gilia.

Special-Status Wildlife

Protocol surveys conducted by Circle Mountain Biological Consultants has confirmed presence of Mohave ground squirrel on Phase 1 of the project site. Both phases of the project site contain suitable habitat for desert tortoise, Mohave ground squirrel, burrowing owl, and LeConte's thrasher. Additionally, both phases of the project site contain suitable habitat for several migratory birds and raptors protected under the MBTA and the CFGC. Construction of the project could result in direct impacts on these special-status species if any are present. Individual discussions for each species are further discussed below.

Mohave Ground Squirrel. Focused CDFW-protocol surveys conducted in 2015 determined that Mohave ground squirrel are present on Phase 1 of the project site and suitable Mohave ground squirrel is present on both project phases. Therefore, this species could be adversely affected by construction of the proposed project and impacts to occupied habitat would occur. Construction-related impacts to Mohave ground squirrel would be considered significant and would require an incidental take permit from CDFW; compensatory mitigation for loss of occupied habitat would be required. In February and March 2020, the project applicant filed for an incidental take permit for the Mohave ground squirrel and Agassiz's desert tortoise. In April 2020, CDFW's acknowledgement of this application and request for additional information before the permit application could be considered complete is included as Appendix D. Implementation of Mitigation Measure MM 4.4-3, which requires an incidental take permit, preconstruction surveys and compensatory mitigation for Mohave ground squirrel in compliance with Senate Bill 34 (SB34) would reduce potential impacts to a level of less than significant.

Desert Tortoise. No desert tortoises were observed on or adjacent to the project site during any project surveys. However, the project site contains suitable habitat to support this species and one desert tortoise has been recorded within 4 miles to the southwest of the project site. Additionally, a carcass was found onsite, although the mortality appears to have occurred offsite almost a decade ago. Therefore, due to the potentially suitable habitat on site and connectivity with other suitable habitat in the region that supports desert tortoise, desert tortoise and suitable habitat could be impacted during construction. In the event that a tortoise is present and suitable habitat is found on the project site during construction, implementation of Mitigation Measure MM 4.4-4, which requires preconstruction clearance surveys, exclusionary fencing, and additional avoidance, minimization, or mitigation measures that may be necessary with consultation with USFWS and CDFW, would reduce impacts to less-than-significant levels. Mitigation Measure MM 4.4-8, which requires implementation of a Raven Management Plan onsite, would further reduce impacts to desert tortoise by reducing potential predators to the project site.

Burrowing Owl. No burrowing owls were observed during any project surveys on either phase. Although no active burrows were revealed, burrowing owl pellets were observed, which implies that this species may occur on the project site during their breeding cycle and/or during overwintering. Moderately suitable nesting and foraging habitat for the burrowing owl is found within the Mojave creosote bush scrub habitat on and adjacent to the project site. Therefore, burrowing owls could potentially be present on the project site or adjacent areas due to the presence of suitable habitat. Direct impacts to the burrowing owl and its habitat could occur as a

result of project construction through the loss of available foraging habitat due to grading and increased human presence. Indirect impacts could also occur during construction if burrowing owl are nesting in adjacent offsite areas within 500 feet of the project site, and noise from construction activities harasses an owl to the point of abandoning an active nest. Any adverse direct or indirect impacts to burrowing owls as a result of construction would be considered significant under CEQA. However, implementation of Mitigation Measures MM 4.4-5 through MM 4.4-7 and MM 4.4-10 involves worker training, biological monitoring, best management practices (BMPs), and pre-construction wildlife surveys to identify any active or potential burrows that may require avoidance. Passive relocation of owls using artificial burrows, a method that has proven a reliable way to coax owls into taking up residence in new burrows, was first described in the literature by Collins and Landry (1977) who used the burrows to increase owl populations in areas disturbed by people. It has been shown that owls readily colonized the human-made burrows (Collins and Landry, 1997, Trulio, 1995). The success of passive relocation may also be dependent on there being sufficient nearby habitat. There are thousands of acres of existing habitat adjacent to the project that are also suitable habitat. Although these other areas are not protected in perpetuity, any other development on those lands would require additional evaluation for losses to burrowing owls. Implementing these mitigation measures would ensure that no nesting or foraging burrowing owls are impacted during construction. Therefore, impacts to the burrowing owl would be considered less than significant.

Loggerhead Shrike and Le Conte's Thrasher. The project site contains suitable nesting and foraging habitat for loggerhead shrike and Le Conte's thrasher. These species are regionally sensitive and are listed as special-status by CDFW as species of special concern. In addition, these species are afforded protection as migratory species under the MBTA and during the nesting season as native birds protected under CFGC Section 3500. Removal of vegetation that provides suitable habitat for these species during the nesting season of February through August could result in a significant impact to these species. However, while availability of potential foraging and nesting habitat would be reduced or lost during construction, this reduction would not be considered a significant impact because there is an abundance of foraging and nesting habitat surrounding the project site. Implementation of Mitigation Measures MM 4.4-9 and MM 4.4-11 would reduce any potential impact to these species to a less-than-significant level through pre-construction surveys and nest avoidance.

Swainson's Hawk and Other Raptor Species. Suitable foraging habitat for Swainson's hawk and other raptor species includes open desert scrub communities similar to those that occur on the project site. However, the foraging habitat at the project site is less than optimal for Swainson's hawk and there is no evidence that the site is actively used for foraging by this species. The availability of suitable foraging habitat on the project site for these special-status species would be reduced or lost as a result of vegetation removal prior to grading and construction activities. However, while availability of potential foraging habitat would be reduced or lost during construction, this reduction would not be considered a significant impact because there is an abundance of foraging habitat surrounding the project site.

In the unlikely event that listed raptor species are found to be present during construction activities, the project would have the potential to directly impact them through mortality or injury, if not able to fly out of harm's way, which would be a significant impact. Potential impacts would be avoided through impact minimization measures including preconstruction surveys to determine presence and avoidance or relocation to reduce potential impacts to the species per Mitigation Measure MM 4.4-9. Mitigation Measure MM 4.4-11 would require avian nesting surveys that would detect any nesting raptors within the project vicinity. Potential impacts would be further reduced through implementation of Mitigation Measures MM 4.4-5 through MM 4.4-7, which includes monitoring and worker training.

All raptor species, including their nests and eggs, are protected under CFGC Section 3503.5 and the federal MBTA, which prohibits destruction of active nests and interference with nesting activities. Suitable nesting habitat is present for certain raptor species, including American kestrel. The loss of individual nests would be avoided through impact minimization measures, such as preconstruction surveys and avoidance and buffers, as required through the implementation of Mitigation Measures MM 4.4-5 through MM 4.4-7 and MM 4.4-11. With the implementation of these mitigation measures, impacts to Swainson's hawk and other raptor species would be less than significant.

Migratory Birds. Project-related direct impacts on nesting birds during construction could include crushing of or vehicle collisions with nesting birds and/or destruction of nests and eggs during vegetation clearing and grading with heavy machinery. Potential indirect impacts include interference with reproductive success and nest abandonment in adjacent areas from increased human presence and increased noise levels (and vibrations) from project construction. Reproductive and nest impact could occur if construction occurs during the breeding season, which is generally considered to be February 1 through August 31 in the Mojave Desert. To reduce potentially significant impacts to nesting birds, such as the American avocet, Mitigation Measure MM 4.4-11 requires preconstruction clearance surveys, avoidance and minimization measures to be implemented. Impacts to nesting or foraging birds would be less than significant during construction.

Common Raven. Ravens are predators of the desert tortoise and burrowing owl, and compete with, as well as prey on, many special-status raptors and birds. Raven numbers pose a serious threat to many desert species. Additionally, common raven populations are supported by human development and the subsidies it creates (including food, trash and water as well as roost, nest, and perching sites). The proposed project would still provide new roosting, nesting, and perching sites for the common raven during construction via construction materials and vehicles. However, implementation of Mitigation Measure MM 4.4-8 would include implementation of a Raven Management Plan onsite, which requires the identification of raven nests onsite and implementation of measures onsite during construction to reduce its attractiveness to ravens. With implementation of mitigation, impacts related to common ravens would be less than significant.

Operations and Maintenance

Direct impacts to special-status species are unlikely to result from project operation and maintenance activities because implementation of the project onsite would remove habitat for special-status species on the project site and restrict sensitive wildlife species movement into the project site (i.e., desert tortoise fencing) as discussed above. However, potential impacts to all these species would be minimized through the Worker Environmental Awareness Training and Education Program, speed limits, trash pickup, and restrictions on herbicides use. Mitigation Measures MM 4.4-1 through MM 4.4-12 would require methods designed to reduce wildlife mortality and impacts, promote long-term project site suitability, and educate onsite personnel. Project operation could result in indirect impacts to wildlife in proximity of the project if nighttime lighting is used. However, the potential indirect impact from nighttime lighting during operation and maintenance would be minimized through compliance with all development standards, the Kern County Zoning Ordinance, and the goals, policies, and implementation measures of the Kern County General Plan. The proposed project would be required to implement Mitigation Measure MM 4.1-4 (from Section 4.1, *Aesthetics*, of this EIR), which requires compliance with Kern County's Dark Skies Ordinance to minimize nighttime lighting in unincorporated areas of Kern County. Compliance with this measure to minimize nighttime lighting would reduce indirect impacts to wildlife to a less-than-significant level.

Swainson's Hawk and Other Raptor Species. Potential indirect impacts to foraging raptors from the operations and maintenance phase of the project may occur through "stranding" if the species lands within the site fencing. Additionally, solar panels have elements thought to mimic water or suitable related habitat, at least to the human eye. As a result, some have theorized that solar panels may attract species that mistake the panels for bodies of water, potentially leading to increased collision-related and other risks commonly referred to as the "fake lake effect." It is thought the phenomenon could attract birds to solar project sites, thereby exposing the birds to greater risk of impacts such as potential collision with project infrastructure, the possibility of being stranded within site fencing once they land, or other forms of distress. A recent report commissioned by the U.S. Department of Energy analyzed available avian mortality data from utility-scale solar energy facilities and concluded that, though it is apparent that solar energy facilities present a risk of fatality for birds, additional standardized and systematic fatality data would be needed to better understand and quantify the risks. That report further noted that, based on available data, there was no consistent pattern to support or refute the hypothesis that water-dependent species were more susceptible to mortality at solar facilities.

The causes of avian injuries and fatalities at commercial-scale solar projects continue to be evaluated by the USFWS, CDFW, and others. Even with monitoring data from other photovoltaic (PV) projects in California, there remains a great deal of uncertainty regarding the extent to which birds might be impacted by the project because: (1) the mortality data from the other projects has been collected over a relatively short period of time and still is being evaluated; (2) in most cases, the cause of death is not clear; and (3) mortality information from one project location is not necessarily indicative of the mortality that might be found at another project location. Therefore, "fake lake effect" does not have a significant direct or indirect impact on migratory birds including foraging raptors.

Although prey sources such as rodents and small birds are likely to still inhabit the area around solar panels on the project site, the solar panels may provide shielding and making them difficult to detect by raptors flying overhead. Raptors may be able to use the solar panels, perimeter fencing and utility structures surrounding the facilities as perch sites for hunting. It is not expected that the Swainson's hawk would use the project site for foraging due to the absence of agricultural fields, which is this species preferred type of foraging habitat in the region. There are also no documented nesting sites within 5 miles of the project site (CDFW, 1994); their potential to be on the project site is low as stated in Table 4.4-3, *Special-Status Wildlife Species with the Potential to Occur on the Project Site*. Therefore, while availability of potential foraging habitat would be reduced due to the presence of solar panels and associated facilities, this reduction would not be significant due to the low potential for Swainson's hawk to occur onsite. In addition, solar photovoltaic panels consist of non-reflective glass that minimizes the "fake lake-effect." In order to determine if the operational phase of the project is resulting in a significant amount of avian mortality, a monitoring program would be implemented as described in Mitigation Measure MM 4.4-12. The program will monitor avian mortality at the project site during operations and maintenance, and provide quarterly reporting and recommendations to reduce the level of avian mortality. With the implementation of the avian mortality monitoring program, impacts to raptors would be less than significant.

Migratory Birds. Direct and indirect impacts to avian species may occur during project operation through individual collisions with project facilities and equipment including transmission wires, fencing, array structures, and heavy equipment. Such risks are commonplace with most human development activities. Factors that determine the risk of avian collisions with man-made structures include the size, height, and specific attributes of structures (guy wires and lighting/light attraction). Other factors include the siting in high risk areas, frequency of inclement weather, type of development, and the species at potential risk. Such

collisions can result in injury or mortality of avian species from electrocution, including in the case of power lines. Collisions with project facilities and equipment would be considered a potentially significant impact under CEQA.

As discussed previously, solar panels have the potential to create a “fake lake effect”, potentially resulting in avian impacts from collisions, stranding, or other forms of distress. In order to determine if the operational phase of the project is resulting in a significant amount of avian mortality, a monitoring program would be implemented as described in Mitigation Measure MM 4.4-12. The program will monitor avian mortality at the project site during operations and maintenance, and provide quarterly reporting and adaptive management recommendations to reduce the level of avian mortality to less-than-significant levels.

Common Raven. As mentioned above, ravens are predators of the desert tortoise and burrowing owl, and compete with, as well as prey on, many special-status raptors and birds. Raven numbers pose a serious threat to many desert species. Human development and its subsidies support raven populations. The proposed project would still provide new roosting, nesting, and perching sites for the common raven during operation via project facilities (e.g., solar panels, fences, and buildings). However, implementation of Mitigation Measure MM 4.4-8 would include implementation of a Raven Management Plan onsite during operation that requires inspection for raven nests and minimization of practices during decommissioning that attract ravens during operation. Mitigation Measure MM 4.4-8 also requires the participation of the project proponent in the regional comprehensive raven management plan to address impacts to biological resources associated with ravens. With implementation of mitigation, impacts related to common ravens would be less than significant.

Decommissioning

Upon decommissioning of the proposed project after approximately 35 years, the project site would be highly disturbed, devoid of native habitat, and have compacted soil from years of vehicle traffic. The post-project condition of the project site as a result of project construction and operation would be drastically different than pre-project conditions. In order to mitigate this long-term impact from the project, a restoration plan would be prepared to revegetate the native vegetation on the project site to its pre-project conditions per Mitigation Measure MM 4.1-3. This plan would include methods to restore native Mojave creosote scrub habitat to impacted areas on the project site, along with a regular monitoring schedule and performance standards for successful restoration. If special-status species have recolonized the project site during operation decommissioning could impact these species. However, Mitigation Measures MM 4.4-7, MM 4.4-10, and MM 4.4-11 requires methods designed to reduce wildlife mortality, conduct surveys for special-status species and nesting birds, promote long-term project site suitability, and educate onsite personnel. Further, Mitigation Measure MM 4.4-8 would require implementation of a Raven Management Plan during decommissioning that requires inspection of raven nests and minimization of practices during decommissioning that attract ravens. Implementation of this mitigation measure during the decommissioning period would reduce potentially significant impacts to special-status wildlife and plant species to less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.1-3 and MM 4.1-4 would be required (see Section 4.1, *Aesthetics*, of this EIR for full mitigation measure text).

MM 4.4-1: Prior to the issuance of a grading permit from the County, the project proponent/operator shall conduct focused surveys to determine the exact locations of silver cholla and beavertail cactus, and determine presence or absence of Mojave tarplant, pale yellow layia, Charlotte's phacelia, and Latimer's woodland gilia onsite. After the additional analysis determines if these species occur on the project site and the exact locations of these species, the project proponent/operator shall submit written documentation to the Kern County Planning and Natural Resources Department confirming implementation of the measures described below.

- a. The project proponent/operator shall work with an authorized biologist to identify all known locations of silver cholla and beavertail cactus, and to determine presence of Mojave tarplant, pale yellow layia, Charlotte's phacelia, and Latimer's woodland gilia to establish "avoidance areas," where feasible. All locations of these special-status cactus species found within the project site shall be avoided by a buffer of 25 feet through micro-siting activities to the extent feasible. Sturdy, highly visible, orange plastic construction fencing (or equivalent material verified by the authorized biologist) shall be installed around all locations of these special-status cactus plants to protect from impacts during the construction phase, until they can be relocated. The fence shall be securely staked and installed in a durable manner that would be reasonably expected to withstand wind and weather events and last at least through the construction period. Fencing shall be removed upon completion of the project construction.
- b. Silver cholla and beavertail cactus that cannot feasibly be avoided during construction shall be translocated according to the California Department of Fish and Wildlife's 2014 *Cactus Translocation (Revegetation) Guidelines* and in accordance with California Desert Native Plants Act. Translocation will include the following components:
 - i. A likelihood of salvage success assessment of all special-status species proposed for translocation;
 - ii. Preferred extraction period (October through March);
 - iii. Temporary (shaded) nursery storage of extracted cactus for at least two weeks prior to translocation to "callous" roots and prevent fungal growth;
 - iv. Translocation to a suitable California Department of Fish and Wildlife approved site;
 - v. Transplanting into shallow swales or holes during cool morning periods;
 - vi. Limited supplemental watering if needed based on precipitation conditions;
 - vii. Two years of post-construction monitoring that include supplemental irrigation (if determined to be necessary);
 - viii. Annual monitoring and reporting to meet success criteria; and
 - ix. Monitoring of translocation by a qualified biologist experienced with cactus translocation.

- c. Any pale yellow layia, Charlotte's phacelia, and Latimer's woodland gilia onsite populations that cannot feasibly be avoided in final project design shall have seed collected prior to construction for sowing into suitable onsite habitat or in nearby suitable offsite habitat covered with a conservation easement. A seed harvesting and storage plan including a planting plan shall be prepared and approved by the County, prior to ground disturbance of these areas.

MM 4.4-2: If Mojave tarplant is found on the project site during implementation of Mitigation Measure MM 4.4-1, and it is determined this species cannot be avoided during the construction phase of the project, additional permitting shall be required. Therefore:

- a. Since the Mojave tarplant is a State-listed species as endangered, potential project impacts to a listed species requires obtaining an incidental take permit from the California Department of Fish and Wildlife Regional Office prior to construction for compliance with Section 2081 of the California Endangered Species Act; and
- b. Once a Section 2081 permit is obtained, the species will be included in the seed collection efforts included in Mitigation Measure MM 4.4-1.

MM 4.4-3: Mohave ground squirrel has been confirmed to be present on the Phase 1 portion of project site. Therefore, the project must comply with the measures detailed below.

- a. A California Department of Fish and Wildlife 2081 incidental take permit shall be required to the development of Phase 1.
- b. In addition, prior to any impacts on the Phase 2 portion of the project, California Department of Fish and Wildlife protocol surveys for Mohave ground squirrel shall occur to determine presence or absence of the species. Alternatively, the project proponent/operator may assume presence of Mohave ground squirrel on Phase 2 and provide compensatory habitat-based mitigation for loss of suitable habitat at a ratio determined by the California Department of Fish and Wildlife prior to issuance of a grading permit from the county. Compensatory mitigation for the loss of habitat will be provided through compliance with Senate Bill 34 and either the advance purchase of mitigation properties acceptable to the California Department of Fish and Wildlife or the contribution of in lieu fees to the California Department of Fish and Wildlife.

MM 4.4-4: Prior to construction, the project proponent/operator shall conduct preconstruction surveys in suitable habitat for desert tortoise and shall implement the measures described below.

- a. Pre-construction tortoise clearance surveys shall be conducted at 15-foot intervals to locate any desert tortoises prior to grading or ground disturbance. The surveys shall be conducted by an authorized biologist within 24 hours of the onset of the surface disturbance and prior to the installation of all tortoise-proof fencing. An "authorized biologist" is defined as a wildlife biologist who has been authorized to handle desert tortoises by U.S. Fish and Wildlife Service and California Department of Fish and Wildlife for this project. Name(s) of proposed authorized biologist(s) must be submitted to U.S. Fish and Wildlife Service and California Department of Fish and Wildlife for approval at least 15 days prior to initiating field surveys.
- b. Authorized biologists shall conduct preconstruction clearance surveys for desert tortoise prior to the start of any ground disturbing construction activity.

- c. If a desert tortoise is found during preconstruction surveys, no one shall be allowed to touch the tortoise without authorization from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. The U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be contacted for further guidance and consultation on additional measures and to determine whether temporary exclusionary fencing is required. Authorized biologists shall conduct clearance surveys for desert tortoises within the fenced project site after exclusionary fence installation if required by the wildlife agencies. Two surveys without finding any tortoises or new tortoise signs shall occur prior to declaring the site clear of tortoises. All burrows that could provide shelter for a desert tortoise shall be excavated during the first clearance survey. An authorized biologist shall remain onsite until all vegetation is cleared and, at a minimum, conduct site and fence inspections on a regular basis throughout construction in order to ensure that the fence is intact and that no tortoises can enter the construction area.
- d. Authorized biologists shall be onsite to survey for tortoises immediately prior to vegetation clearance activities in the event a tortoise was inadvertently missed during clearance surveys. An authorized biologist shall remain on-call throughout construction in the event a tortoise wanders onto the site.
- e. All construction personnel shall watch for desert tortoises within the construction area and access roads whenever driving, transporting, or operating equipment.
- f. If no desert tortoises are found during preconstruction surveys, the project proponent/operator shall provide a report to U.S. Fish and Wildlife Service and California Department of Fish and Wildlife within one week of starting construction. This report shall be prepared by the authorized biologist. Following construction, the project proponent/operator shall submit the report within 90 days, documenting applicable desert tortoise measures taken during the project such as tortoise training, fence monitoring and maintenance, etc.
- g. If a desert tortoise is observed on the project site after preconstruction surveys and during construction activities, construction shall cease in the vicinity of the tortoise and the tortoise shall be allowed to pass through the area on its own accord. No one shall be allowed to touch the tortoise without authorization from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. Concurrent with this effort, U.S. Fish and Wildlife Service and California Department of Fish and Wildlife shall be consulted regarding any additional avoidance, minimization, or mitigation measures that may be necessary. Once the animal is observed leaving the site, work in the area can resume. A report shall be prepared by an authorized biologist to document the occurrence of the desert tortoise within the site. This report shall be submitted to U.S. Fish and Wildlife Service and California Department of Fish and Wildlife and the Kern County Planning and Natural Resources Department after the impact occurs.

MM 4.4-5: Prior to the issuance of grading or building permits from the county, the project proponent/operator shall retain a qualified biologist(s) who meets the qualifications of an authorized biologist as defined by U.S. Fish and Wildlife Service to oversee compliance with protection measures for all listed and other special-status species that may be affected

by the construction of the project. The following measures pertain to qualified biologists onsite.

- a. The qualified biologist(s) shall be on the project site during construction of perimeter fencing, clearing of vegetation, grading activities, and similar ground-disturbance activities that will be associated with the construction phase.
- b. The qualified biologist(s) shall have the right to halt all activities that are in violation of the special-status species mitigation measures, as well as any regulatory permits from the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk.
- c. The qualified biologist(s) shall have in her/his possession a copy of all the compliance measures while work is being conducted on the project site.
- d. Prior to issuance of grading or building permits, contact information for the qualified biologist(s) shall be submitted to the Kern County Planning and Natural Resources Department.
- e. Any individuals who undertake biological monitoring and mitigation tasks shall be supervised by the qualified biologist(s) and shall have the appropriate education and experience to accomplish biological monitoring and mitigation tasks. Biological monitors shall comply with the above measures.

MM 4.4-6: Prior to the issuance of grading or building permits from the County, and for the duration of construction activities, and within a minimum of one-week initial ground disturbance, all construction workers shall attend an Environmental Awareness Training and Education Program that will be presented by an authorized biologist. Any personnel associated with construction that did not attend the initial training shall be trained by the authorized biologist prior to working on the project site.

Any employee responsible for the operations, maintenance, and/or decommissioning of the project facilities shall also attend the Worker Environmental Awareness Training and Education Program prior to starting work on the project and on an annual basis.

The Program will be developed and presented by the project qualified biologist(s) or designee approved by the qualified biologist(s). The Program shall include the components described below.

- a. Information on the life history of the desert tortoise; Mohave ground squirrel, burrowing owl, Swainson's hawk, Cooper's hawk; nesting birds; as well as other wildlife, special-status plant species, and the California Department of Fish and Wildlife-regulated drainages that may be affected during construction activities. The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project proponent/operator shall implement to protect the species, reporting requirements, specific measures for workers to avoid take of special-status plant and wildlife species, and penalties for violation of the requirements outlined in the California Environmental Quality Act mitigation measures and agency permit requirements.

- b. An acknowledgement form signed by each worker indicating that the Worker Environmental Awareness Training and Education Program has been completed shall be kept on file at the construction site.
- c. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the Worker Environmental Awareness Training and Education Program and signed acknowledgement forms shall be submitted to the Kern County Planning and Natural Resources Department.
- d. A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with as necessary.
- e. A sticker shall be placed on hard hats indicating that the worker has completed the Worker Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Worker Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker.
- f. The construction crews and contractor(s) shall be responsible for preventing unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits. Unauthorized impacts may result in project stoppage, and/or fines depending on the impact and consultation with the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service.

MM 4.4-7: During construction, operations and maintenance, and decommissioning, the project proponent/operator and/or contractor(s) shall implement the general avoidance and protective measures described below.

- a. Prior to conducting vegetation clearing or grading activities associated with construction or decommissioning, a qualified biologist or biological monitor that has been approved by the qualified biologist shall survey the area immediately prior to conducting these activities to ensure that no special-status animals are present. The qualified biologist or biological monitor shall monitor all initial construction and decommissioning ground disturbance activities. A report of those activities shall be submitted to the Kern County Planning and Natural Resources Department within 30 days of completion of activities.
- b. All proposed impact areas, including solar fields, generation-tie lines, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid sensitive biological resources (i.e., special-status species, jurisdictional drainages, nesting birds, etc.) where possible. Construction-related activities outside of the impact zone shall be avoided.
- c. Access roads that are planned for use during construction shall not extend beyond the planned impact area. All vehicle traffic shall be contained within the planned impact area or in previously disturbed areas. Where new access routes are required, the route will be clearly marked (i.e., flagged and/or staked) prior to construction.

- d. The project proponent/operator shall limit the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be demarcated and disturbance activities, vehicles, and equipment shall be confined to these areas.
- e. Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (see Section 4.10, *Hydrology and Water Quality*, for more details on Stormwater Pollution Prevention Plan requirements). All detected erosion shall be remedied within 2 days of discovery or as described in the Stormwater Pollution Prevention Plan or Erosion Control Plan. Spoils that have been stockpiled and inactive for greater than 10 days shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing the spoils.
- f. If exclusion fencing is required by any consulting Resource Agency (i.e., California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service), the project site shall be fenced with a temporary exclusion fence to keep special-status terrestrial wildlife species, including desert tortoise, from entering during construction. This exclusion fencing shall be constructed of silt fence material, metal flashing, plastic sheeting, or other materials that will prohibit wildlife from climbing the fence or burrowing below the fence. The fencing shall be buried approximately 12 inches below the surface and extend a minimum of 30 inches above grade. Fencing shall be installed prior to issuance of grading or building permits and shall be maintained during all phases of construction and decommissioning. The fencing shall be inspected by an authorized biologist approved by the Resource Agencies weekly and immediately after all major rainfall events through the duration of construction and decommissioning activities. Any needed repairs to the fence shall be performed on the day of their discovery. Exclusion fencing shall be removed once construction or decommissioning activities are complete. Outside temporarily fenced exclusion areas, the project proponent/operator shall limit the areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas. When consultation with the Resource Agency is required, such Resource Agency may impose additional requirements.
- g. To prevent inadvertent entrapment of desert kit foxes, American badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks that are no less than 12 inches wide and secured at the top, and placed a minimum of every 100 feet within the open trench. Covered and non-covered holes or trenches shall be thoroughly inspected for trapped animals by a qualified biologist or their biological monitor at the beginning and end of each day, including non-work days. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by trained staff approved by the retained qualified biologist for trapped animals. If trapped animals are observed, escape ramps or structures shall be

installed immediately to allow for their escape. If a listed species is trapped, the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife, as appropriate for the species, and Kern County Planning and Natural Resources Department shall be contacted immediately.

- h. Burrowing owls, mammals, and nesting birds may use construction pipes, culverts, or similar structures for refuge or nesting. Therefore, all construction pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site (during operation or maintenance) for one or more overnight periods shall be thoroughly inspected by a qualified biologist for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist holding the appropriate handling permits from the Resource Agencies.
- i. No vehicle or equipment parked on the project site shall be moved prior to inspecting the ground beneath the vehicle or equipment for the presence of wildlife. If present, the animal shall be left to move on its own, or relocated by a qualified biologist holding the appropriate handling permits from the Resource Agencies. No one shall be allowed to touch a listed species without authorization from the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife.
- j. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited.
- k. A speed limit of 15 miles per hour shall be enforced within the limits of the proposed project. If night work occurs on the proposed project, the speed limit will be 10 miles per hour.
- l. Fueling of equipment shall take place within existing roads. No refueling within or adjacent to drainages or native desert habitats (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.
- m. The project proponent/operator shall submit a Maintenance, Trash Abatement, and Pest Management Program to the Kern County Planning and Natural Resources Department for review and approval. The program shall include, but not be limited to the following:
 - i. The project proponent/operator shall clear debris from the project area at least twice per year; this can be done in conjunction with regular panel washing and site maintenance activities.
 - ii. The project proponent/operator shall erect signs with contact information for the project proponent/operator's maintenance staff at regular intervals along the site boundary, as required by the Kern County Planning and Natural Resources Department. Maintenance staff shall respond within two weeks to resident requests for additional cleanup of debris. Correspondence with such requests and responses

shall be submitted to the Kern County Planning and Natural Resources Department.

- iii. The project proponent/operator shall implement a regular trash removal and recycling program on an ongoing basis during construction and operation of the project. Barriers to prevent pest/rodent access to food waste receptacles shall be implemented. Locations of all trash receptacles during operation of the project shall be shown on final plans.
- iv. Trash and food items shall be contained in closed containers to be locked at the end of the day and removed at least once per week to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.
- n. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife.
- o. Intentional killing or collection of any plant or wildlife species shall be prohibited.
- p. No rodenticides shall be used on the project site.

MM 4.4-8: Prior to the issuance of grading or building permits from the County, a Raven Management Plan shall be developed for the project site and approved by the Kern County Planning and Natural Resources Department. This plan shall include, but is not limited to, the components listed below.

- a. Identification of all raven nests within the project area during construction and decommissioning, with written documentation submitted to the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service.
- b. Weekly inspection during construction and decommissioning under all nests in the project area for evidence of raven predation on local wildlife (bones, carcasses, etc.), and, if evidence of predation is noted, submit a report to California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and the Kern County Planning and Natural Resources Department within 5 calendar days.
- c. Where evidence of wildlife predation is observed, the project authorized biologist shall coordinate with both California Department of Fish and Wildlife and U.S. Fish and Wildlife Service to determine if preventative measures are possible and to implement such measures.
- d. Provisions for the management of exposed food, trash, and standing water that could attract common ravens during the construction, operation, and decommissioning phases of the project.
- e. Furthermore, the project proponent/operator shall be required to participate in the regional comprehensive raven management plan to address the threats of the common raven to desert resources. The project proponent/operator shall be subject to compensation through the payment of a one-time fee not to exceed \$150 per disturbed acre. Evidence of the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife determination and payment of any required fees shall be submitted to the Kern County Planning and Natural Resources Department.

MM 4.4-9: To protect special status species from disturbance during construction, the actions described below shall occur.

- a. A qualified biologist (approved by the appropriate agency) shall monitor all initial ground-disturbance activities and remain on-call throughout construction in the event a special-status species wanders into the project site.
- b. Preconstruction surveys for special-status species shall be conducted within the project boundaries of the project site, as well as within a minimum of 500 feet from the project site to account for any inadvertent impacts to adjacent areas, by the authorized biologist within a maximum of 14 days of the start of any ground disturbing activities, such as geotechnical drilling vegetation clearing and/or grading. Methodology for preconstruction surveys shall be conducted as appropriate for special-status plants, Swainson's hawk, burrowing owl, desert tortoise, Mohave ground squirrel, kit fox, loggerhead shrike, Le Conte's thrasher, and migratory birds, and shall follow U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife preconstruction survey guidelines, where appropriate. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days of the portion of the project site that will be disturbed. If evidence of occupation by a special-status species is observed, a suitable buffer shall be established by a qualified biologist that results in sufficient avoidance.

MM 4.4-10: The project proponent/operator shall implement the following measures, based on the recently updated California Department of Fish and Game (now California Department of Fish and Wildlife) 2012 Staff Report on Burrowing Owl Mitigation, to ensure potential impacts to burrowing owl resulting from project implementation will be avoided and minimized to less-than-significant levels:

- a. A qualified wildlife biologist shall be onsite during all initial grading and construction, pre-construction ground disturbing activities, and decommissioning activities. A qualified wildlife biologist (i.e., a wildlife biologist with the ability to identify the species and possessing previous burrowing owl survey and avoidance and minimization protection experience) shall conduct pre-construction surveys of all areas that will be permanently or temporary impacted, plus a 150-meter (approximately 492-foot) buffer, to locate active breeding or wintering burrowing owl burrows. The survey(s) shall occur no more than 14 days prior to ground-disturbing activities (i.e., exploratory geotechnical drilling, vegetation clearance, grading, etc.). The survey methodology shall be consistent with the methods outlined in the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting and mapping any potential burrows with burrowing owl signs or presence of burrowing owls. Surveys may be conducted concurrently with desert tortoise preconstruction surveys. A biologist shall prepare a preconstruction survey report that shall be submitted to California Department of Fish and Wildlife and the Kern County Planning and Natural Resources Department.
- b. A qualified biologist shall conduct an additional pre-construction survey of all impact areas plus an approximately 492-foot buffer no more than 24 hours prior to start or restart (as the case may be) of ground disturbing activities associated with construction

or decommissioning activities as authorized by this approval to identify any additional burrowing owls or burrows necessitating avoidance, minimization, or mitigation measures.

If active burrowing owl burrows are detected onsite, they shall be protected in place through the use of visual screens or through California Department of Fish and Wildlife-identified restricted activity dates and setback distances (presented in Table 4.4-4, Burrowing Owl Burrow Restricted Activity Dates and Setback Distances, below), or other measures as described in the 2012 California Department of Fish and Wildlife Staff Report to minimize disturbance impacts unless otherwise authorized by California Department of Fish and Wildlife. Burrowing owls shall not be moved or excluded from burrows during the breeding season.

TABLE 4.4-4: BURROWING OWL RESTRICTED ACTIVITY DATES AND SETBACK DISTANCES

Time of Year	Level of Disturbance (m)		
	Low	Medium	High
April 1–August 15	200	500	500
August 16–October 15	200	200	500
October 16–March 31	50	100	500
SOURCE: CDFW, 2012.			

- c. If avoidance of active burrows is infeasible, the owls can be passively displaced from their burrows according to recommendations made in the 2012 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation. Burrowing owls shall not be excluded from burrows unless or until:
 - i. Occupied burrows shall not be disturbed during the nesting season generally defined as February 1 through August 31.
 - ii. Before excluding owls during the non-nesting season, generally defined as September 1 through January 31, a qualified biologist meeting the Biologist Qualifications set forth in the 2012 California Department of Fish and Wildlife Staff Report, shall verify through noninvasive methods that either: (1) the owls have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Burrowing owls shall not be moved or excluded from burrows during the breeding season.
 - iii. A Burrowing Owl Exclusion Plan is developed and approved by the applicable local California Department of Fish and Wildlife office and submitted to the Kern County Planning and Natural Resources Department. The plan shall include, at a minimum:
 1. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;
 2. Type of scope and appropriate timing of scoping to avoid impacts;

3. Occupancy factors to look for and what will guide determination of vacancy and excavation timing, one-way doors shall be left in place a minimum of 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily, and monitored for evidence that owls are inside and can't escape (i.e., look for sign immediately inside the door);
 4. How the burrow(s) will be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that owls do not reside in the burrow);
 5. Removal of other potential owl burrow surrogates or refugia onsite;
 6. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency; vii. Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;
 7. How the impacted site will continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.
- iv. Permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the measures described below.
 - v. Temporary exclusion is mitigated in accordance with the measures described below.
 - vi. Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Conduct daily monitoring for 1 week to confirm young of the year have fledged if the exclusion will occur immediately after the end of the breeding season.
 - vii. Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).
 - viii. In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using 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.
 - ix. During construction activities, monthly and final compliance reports shall be provided to the California Department of Fish and Wildlife, Kern County Planning and Natural Resources Department, and other applicable resources agencies

documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.

- x. If passive relocation is required, compensatory mitigation for lost breeding and/or wintering habitat shall be implemented onsite or offsite in accordance with Burrowing Owl Staff Report guidance. The following recommendations shall be implemented:
 - 1. Temporarily disturbed habitat shall be restored, to pre-project conditions, including decompacting soil and revegetating. If restoration is not feasible, then the project proponent/operator shall consult with the California Department of Fish and Wildlife when determining offsite mitigation acreages, but shall be no less than 160 acres.
 - 2. In order to protect habitat, the measures described below shall be implemented.
 - a. Permanently conserve similar vegetation communities (grassland, scrublands, desert, and agriculture [grazing lands]) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and with sufficiently large acreage, and presence of fossorial mammals. Conservation shall occur in areas that support burrowing owl habitat and can be enhanced to support more burrowing owls.
 - b. Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission. If the project is located within the service area of a California Department of Fish and Wildlife-approved burrowing owl conservation bank, the project proponent/operator may purchase available burrowing owl conservation bank credits.
 - c. Develop and implement a mitigation land management plan in accordance with Burrowing Owl Staff Report guidelines to address long-term ecological sustainability and maintenance of the site for burrowing owls.
 - d. Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism such as an endowment.
 - e. Habitat shall not be altered or destroyed, and burrowing owls shall not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to California Department of Fish and Wildlife-approved management, monitoring and reporting plans (including construction of artificial burrows if necessary), and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.
 - f. Mitigation lands shall be on, adjacent to, or in proximity to the impact site, where feasible, and where habitat is sufficient to support burrowing owls.

MM 4.4-11: To mitigate for potential impacts to nesting birds, special-status birds, and birds protected under the Migratory Bird Treaty Act and California Fish and Game Code during

construction and decommissioning activities, the following measures shall be implemented as part of the approval for a grading or building permit.

- a. During the avian nesting season (February 1–August 31), a qualified biologist shall conduct a preconstruction avian nesting survey no more than 7 days prior to initial vegetation clearing. Surveys need not be conducted for the entire project site at one time; they may be phased so that surveys occur within 7 days prior to clearing or disturbance in specific areas of the site. The surveying biologist must be qualified to determine the species, status, and nesting stage without causing intrusive disturbance. At no time shall the biologist be allowed to handle the nest or its eggs. The survey shall cover all reasonably potential nesting locations on and within 500 feet of the project site including ground nesting where species, such as California horned lark and killdeer might nest all shrubs that could support nests, and suitable raptor nest sites such as nearby trees, windrows and power poles. Swainson's hawk nest surveys will be conducted prior to construction according to the *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* (California Department of Fish and Wildlife, 2010) and within a 5-mile buffer around the project site. Access shall be granted on private offsite properties prior to conducting surveys on private land. If access is not obtainable, the biologist shall survey these areas from the nearest vantage point with use of spotting scopes or binoculars.
- b. If construction is scheduled to occur during the non-nesting season (September 1–February 1), no preconstruction surveys or additional measures are required for non-listed avian species.
- c. If construction begins in the non-nesting season and proceeds continuously into the nesting season within any particular construction or decommissioning area, no surveys are required for non-listed avian species so long as all suitable nesting sites have been cleared from active construction/decommissioning areas.
- d. If active nests are found, a 300-foot no-disturbance buffer shall be created around passerine species' nests unless adjusted by the qualified biologist based on the needs and sensitivities of individual species, a 0.5-mile no-disturbance buffer for Swainson's hawk nest, and a 500-foot no-disturbance buffer around other raptor species' nests (or a suitable distance otherwise determined in consultation with California Department of Fish and Wildlife). Any nest of a federal- or State-listed bird species shall require consultation with the appropriate agency (United States Fish and Wildlife Service or the California Department of Fish and Wildlife) to determine the appropriate buffer distance surrounding the nest to provide adequate nest protection. These buffers shall remain in effect until a qualified wildlife biologist has determined that the birds have fledged or the proposed project component(s) have been redesigned to avoid the area. All no-disturbance buffers shall be delineated in the field with visible flagging or fencing material.

MM 4.4-12: During the operations and maintenance phase of the project, an Avian Mortality Monitoring Program shall be developed in coordination with California Department of Fish and Wildlife and U.S. Fish and Wildlife Service and implemented to systematically and

periodically determine the extent of mortality occurring due to collisions with solar arrays. The measures listed below apply to the program.

- a. The Avian Mortality Monitoring Program shall be developed following the Mortality Monitoring Design for Utility-Scale Solar Power Facilities to achieve Objective 1 (monitoring to estimate total bird and bat mortality). Methods include using a trained and skilled team of authorized biologists to systematically sample the project site by walking transects through the solar arrays scanning for deceased birds.
- b. Data shall be collected on any encountered deceased wildlife species including species, condition of the carcass, approximate age, presence of feathers, etc.
- c. Additionally, maintenance personnel working on the project site that encounter injured or deceased birds (or any other wildlife) should be trained to collect data and photograph the encountered species.
- d. Mortality monitoring shall be conducted for a minimum 2-year period following the commencement of the operations and maintenance phase of the project. Quarterly reporting of results shall be prepared and provided to State and federal agencies, if requested.
- e. Appropriate performance standards for mitigation of impacts to any species regulated by the Bald and Golden Eagle Protection Act, the Endangered Species Act, and the California Endangered Species Act exist through required consultation with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife under their respective regulatory and permitting frameworks. If, after 2 years of mortality monitoring, project impacts to any other avian species caused by the project are shown to result in a substantial, long-term reduction in the demographic viability of the population of the species in question, then adaptive management must be implemented to reduce impacts to below this threshold. Adaptive management measures may include but not be limited to passive avian diverter installations, the use of sound, light or other means to discourage site use consistent with legal requirements, onsite habitat management or pre control measures consistent with applicable legal requirements, or modification to support structures to exclude nesting birds.
- f. Construct all power transmission lines to the 2006 Avian Power Line Interaction Committee Guidelines specifications to protect birds from electrocution and collision. Appropriate notes regarding these specifications shall be included on any grading permit, building permit, or final map.
- g. After construction, submit written documentation to the Kern County Planning and Natural Resources Department verifying that all power lines are constructed to the 2006 Avian Power Line Interaction Committee Guidelines. The project proponent/operator shall conform to the latest practices (as outlined in the 2006 Avian Power Line Interaction Committee Guidelines document) to protect birds from electrocution and collision.
- h. Install power collection and transmission facilities utilizing Avian Power Line Interaction Committee standards for collision reducing techniques as outlined in Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee, 2006).

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.1-3, MM 4.1-4, and MM 4.4-1 through MM 4.4-12, impacts would be less than significant.

Impact 4.4-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community, or jurisdictional waters, identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS.

Sensitive habitats and vegetation communities are those that are considered rare in the region, support special-status plant or animal species, or receive regulatory protection, including those that are of special concern to resource agencies or are afforded specific consideration through CEQA. In addition, vegetation communities listed on the CNDDDB as having the highest inventory priorities are considered sensitive.

Construction of the proposed project is not expected to result in a substantial adverse effect on any riparian habitat or other sensitive natural community, including jurisdictional waters. There are no jurisdictional waters on the project site that provide riparian habitat for wetland species or connect to any downstream waters. The project site occurs within an upland area dominated by Mojave creosote bush scrub habitat, and according to the CNDDDB, the Mojave creosote bush scrub located on the project site is not considered a sensitive natural community. Therefore, there would be no impacts associated with project construction, operation and maintenance, and decommissioning of the project on riparian habitats or sensitive natural communities. There is an ephemeral drainage to the north of the project site. However, no portion of this ephemeral drainage occurs on the project site and no other potentially jurisdictional waters are located on the project site. If complete avoidance of jurisdictional waters were not feasible, impacts to jurisdictional areas would be considered significant but mitigatable through implementation of Mitigation Measures MM 4.4-13 and MM 4.4-14.

Mitigation Measures

MM 4.4-13: Prior to issuance of any grading or building permit by the County, the project proponent/operator shall submit a report detailing how all identified ephemeral drainages are avoided and will be continually complied with during the life of the project. A copy of this report shall be provided to the Regional Water Quality Control Board and the County. The report shall include information as shown below as a plan if necessary and shall outline compliance to the following:

- a. Avoidance of potential jurisdictional features (ephemeral drainages). This may be shown in plan form.
- b. Any material/spoils generated from project activities shall be located away from jurisdictional areas and protected from storm water run-off using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
- c. Fuel or hazardous materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and be placed generally at least 50 feet from the top of bank.
- d. Any spillage of fuel or hazardous material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated material properly disposed.

For all spills, the project foreman or designated environmental representative will be notified.

MM 4.4-14: If jurisdictional features cannot be avoided, the project proponent/operator shall be subject to provisions as identified below:

- a. If avoidance is not practical, prior to ground disturbance activities that could impact these aquatic features, the project proponent/operator shall file a complete Report of Waste Discharge with the Regional Water Quality Control Board to obtain Waste Discharge Requirements and shall also consult with California Department of Fish and Wildlife on the need for a streambed alteration agreement. Correspondence and copies of reports shall be submitted to the County.
- b. Based on consultation with the Regional Water Quality Control Board and California Department of Fish and Wildlife, if permits are required for the project site, appropriate permits shall be obtained prior to disturbance of jurisdictional resources.
- c. Compensatory mitigation for impacts to unvegetated streambeds/washes shall be identified and secured prior to disturbance of the features at a minimum 1:1 ratio, or as approved by the Regional Water Quality Control Board or California Department of Fish and Wildlife. Mitigation may be either through onsite or offsite mitigation, or purchasing credits from an approved mitigation bank.
- d. The project proponent/operator shall comply with the compensatory mitigation required and proof of compliance, along with copies of permits obtained from the Regional Water Quality Control Board and/or California Department of Fish and Wildlife, shall be provided to the County.
- e. A Habitat Mitigation and Monitoring Plan shall be prepared that outlines the compensatory mitigation in coordination with the Regional Water Quality Control Board and California Department of Fish and Wildlife.
 - i. If onsite mitigation is proposed, the Habitat Mitigation and Monitoring Plan shall identify those portions of the site, such as relocated drainage routes, that contain suitable characteristics (e.g., hydrology) for restoration. Determination of mitigation adequacy shall be based on comparison of the restored habitat with similar, undisturbed habitat in the site vicinity (such as upstream or downstream of the site).
 - ii. The Habitat Mitigation and Monitoring Plan shall include remedial measures in the event that performance criteria are not met.
 - iii. If mitigation is implemented off site, mitigation lands shall be comprised of similar or higher quality and preferably located in the vicinity of the site or watershed. Offsite land shall be preserved through a deed restriction or conservation easement and the Habitat Mitigation and Monitoring Plan shall identify an approach for funding assurance for the long-term management of the conserved land.
 - iv. Copies of any coordination, permits, etc., with the Regional Water Quality Control Board and California Department of Fish and Wildlife shall be provided to the County.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-13 and MM 4.4-14, impacts would be less than significant.

Impact 4.4-3: The project would interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

There are no perennial water features on the project site, and therefore no potential corridors for aquatic species. In addition, no wildlife nursery sites have been identified on or in the vicinity of the project site. Similarly, the project site is not located within a known wildlife migration corridor or linkage connecting large open space areas in throughout the region or locally. Although the project is within the Pacific Flyway, the Pacific Flyway is a continent-scale corridor that covers much of the western United States and the project would not interfere substantially with it. Also, the project would introduce structures to the project site that would physically impede wildlife movement in certain areas and directions, the immediate project area and surrounding region contains large expanses of open habitat that provide ample amounts of area for local and regional wildlife movement. Moreover, because the proposed project is located in the greater western Mojave Desert and is surrounded by open space areas, there are ample opportunities for wildlife movement elsewhere in the vicinity of the project site and the greater region. Therefore, implementation of the project would not restrict local or regional wildlife movement. Lighting from the project site could potentially affect movement of wildlife around the project site. However, all lighting installed as a part of the proposed project would comply with the Kern County Dark Skies Ordinance and would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties as stipulated in Mitigation Measure MM 4.1-4 in Section 4.1, *Aesthetics*, of this EIR. This would help reduce impacts to wildlife moving through the area. Therefore, the proposed project is not expected to adversely impact wildlife movement and impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.1-4 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.1-4, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts for a project would be significant if the incremental effects of the individual project are considerable when combined with the effects of past projects, other current projects, and probable future projects. As described above, the project-specific impacts of the project would be less-than-significant with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14, as well as implementation of Mitigation Measures MM 4.1-3 and MM 4.1-4.

As large-scale energy projects and urbanization pressures increase within Kern County and Los Angeles County, impacts to biological resources within the region are expanding on a cumulative level. As described in Table 3-5, *Cumulative Projects List*, in Chapter 3, *Project Description*, of this EIR, other projects with

similar species effects are presently underway or proposed within the Indian Wells Valley. The geographic scope for analysis of cumulative impacts on biological resources is the Indian Wells Valley given the similar and contiguous topography, climate, and vegetation throughout the valley.

As described above, there are a number of special-status species that currently utilize the project site and surrounding vicinity. Implementation of the project in addition to the other projects underway or proposed within Kern County would impact transient wildlife species, including burrowing owls, Swainson's hawk, other raptors, Mohave ground squirrel, and desert tortoise. The project site contains habitat that support insects, rodents, and small birds that provide a prey base for raptors and terrestrial wildlife. In addition, based on the literature review and database search completed for the project, the region is known to support a diversity of special-status species, most of which are expected to utilize the project site on a transient basis, if at all.

Given the present and reasonably foreseeable future development projects in the Indian Wells Valley, the proposed project, when combined with other projects, would result in a significant and unavoidable cumulative loss of foraging and nesting habitat for special-status species. While the project would have less-than-significant impacts with the implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14, when combined with related projects, the project would make a cumulatively considerable contribution to a significant cumulative impact.

In addition, common raven numbers have grown substantially in the past few decades in the western Mojave Desert. As described above, ravens prey on and compete with many desert species and pose a serious threat to desert biological resources. The common raven population growth is directly attributed to human development and the subsidies it creates that support this adaptable species. When considered within the cumulative context of related projects as described above, the project's contribution to maintaining artificially high common raven populations when combined with other related projects, which threatens other desert wildlife including special-status species, is potentially significant. However, the contribution of the project with mitigation incorporated, would not be cumulatively considerable because project impacts to special-status wildlife would be reduced to a less-than-significant level.

The residual effects on migratory birds of the project were determined to be less-than-significant. This cumulative analysis analyzes the potential for these incremental impacts of the project to combine with other past, present, and reasonably foreseeable projects to cause or contribute to a significant cumulative effects within the Central Valley portion of the Pacific Flyway for the duration of the project. Identified cumulative projects that involve the installation of PV panels have the potential to cause impacts to migratory birds associated with collisions. Little is known about the potential for impacts to migratory birds associated with the "fake lake effect." However, evidence suggests that significant impacts to migratory birds could occur even after mitigation. Further, as take authorization for migratory bird species is not available, any mortality of migratory birds would be considered significant under CEQA. Therefore, the proposed project, in combination with all identified cumulative projects, could result in a cumulatively considerable contribution to a significant cumulative impact.

Although the proposed project site does not contain jurisdictional waters or riparian habitat, the proposed project would impact Mojave creosote bush scrub, which is not considered a sensitive natural community by the CNDDB. Mitigation Measure MM 4.4-12 would require Mojave creosote bush scrub habitat to be restored onsite, but restoration of the project site would not occur until after project decommissioning. The loss of habitat on the project site as well as the lowered quality of adjacent habitat would act in combination with other projects in the area to cumulatively impact Mojave creosote bush scrub habitat. Since this habitat

is not a sensitive natural community, impacts would be adverse but not cumulatively considerable nor significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14 as well as MM 4.1-3 and MM 4.1-4 would be required (see Section 4.1, *Aesthetics*, for full mitigation measure text).

Level of Significance after Mitigation

Despite implementation of Mitigation Measures MM 4.4-1 through MM 4.4-14, MM 4.1-3, and MM 4.1-4, cumulative impacts would be significant and unavoidable to transient wildlife species, including burrowing owls, Swainson's hawk, other raptors, Mohave ground squirrel, desert tortoise, and migratory birds known to occur or with potential to occur on the project site.

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4.5.1 Introduction

This section of the Environmental Impact Report (EIR) provides contextual background information on cultural resources in the project site, as well as the prehistoric, ethnographic, and historical settings of the region. This section also summarizes the results of a cultural resources assessment, including background research and cultural resources survey of the project site. Native American consultation conducted by the County for purposes of compliance with Senate Bill (SB) 18, and CEQA requirements prompted by Assembly Bill (AB) 52, as well as the project's potential impacts on tribal cultural resources, are addressed in Section 4.16, *Tribal Cultural Resources*.

This section is based on archival research, a Phase I cultural resources survey, and Phase II resource evaluations as contained in the following cultural resources technical report: Phase I Survey and Phase II Significance Evaluations (ASM, 2019). This report is provided in Appendix E of this EIR. The study was conducted in compliance with Section 5024.1 of the California Public Resources Code (PRC) and CEQA to identify archaeological, historic built architectural, paleontological resources, and other cultural resources in the project site. Due to the confidential nature of the location of cultural resources, information regarding locations of cultural resources has been removed from these reports and is not included in the appendices.

Cultural Resource Terminology

For the purposes of CEQA, “cultural resources” generally refer to prehistoric and historical archaeological sites, isolates, and the built environment. Cultural resources can also include areas determined to be important to Native Americans. Below are definitions of key cultural resources terms used in this section.

Alluvium: A fine-grained fertile soil consisting of mud, silt, and sand deposited by flowing water on flood plains, in river beds, and in estuaries.

Archaeological Site: A site is defined as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archaeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian, or nonutilitarian objects), features (e.g., remnants of walls, cooking hearths, or midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activities occurred). Prehistoric archaeological sites generally represent the material remains of Native American groups and their activities dating to the period before European contact. In some cases, prehistoric sites may contain evidence of trade contact with Europeans. Ethnohistoric archaeological sites are defined as Native American settlements occupied after the arrival of European settlers in California. Historic archaeological sites reflect activities during the Historic period.

Artifact: An object that has been made, modified, or used by a human being.

Cultural Resource: Cultural resources are expressions of human culture and history in the physical environment, and may include archaeological sites, buildings, structures, objects, districts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains, but also may include areas where significant human events occurred, even though evidence of the

events no longer remains. Cultural resources also include places that are considered to be of traditional cultural or religious importance to social or cultural groups.

Cultural Survey Area: All areas of potential permanent and temporary project impacts.

Ethnographic: Relating to the study of human cultures. “Ethnographic resources” represent the heritage resource of a particular ethnic or cultural group, such as Native Americans or African, European, Latino, or Asian immigrants. They may include traditional resource-collecting areas, ceremonial sites, value-imbued landscape features, cemeteries, shrines, or ethnic neighborhoods and structures.

Historic Period: The period that begins with the arrival of the first non-native population and, thus, varies by area. In 1772, Commander Don Pedro Fages was the first European to enter Kern County, initiating the historic period in the project study area.

Historical Resource: This term is used for the purposes of CEQA and is defined in the *CEQA Guidelines* (Section 15064.5) as: (1) a resource listed in, or determined to be eligible for listing in the California Register of Historical Resources (CRHR); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

Holocene: Of, denoting, or formed in the second and most recent epoch of the Quaternary period, which began 10,000 years ago at the end of the Pleistocene.

Isolate: An isolated artifact or small group of artifacts that appear to reflect a single event or activity. Because isolates may lack identifiable context, and may not have the potential to add important information about a region, culture, or person, they are generally not considered under CEQA to be historical or unique archaeological resources (CEQA *Statute* Section 21083.2 and *CEQA Guidelines* Section 15064.5).

Lithic: Of or pertaining to stone. Specifically, in archaeology lithic artifacts are chipped or flaked stone tools, and the stone debris resulting from their manufacture.

Pleistocene (Ice Age): An epoch in the Quaternary period of geologic history lasting from 1.8 million to 10,000 years ago. The Pleistocene was an epoch of multiple glaciation, during which continental glaciers covered nearly one fifth of the earth’s land.

Prehistoric Period: The era prior to 1772. The later part of the prehistoric period is also referred to as the protohistoric period in some areas, which marks a transitional period during which native populations began to be influenced by European presence resulting in gradual changes to their lifeways.

Quaternary Age: The most recent of the three periods of the Cenozoic Era in the geologic time scale of the ICS. It follows the Tertiary Period, spanning 2.588 ± 0.005 million years ago to the present. The Quaternary includes two geologic epochs: the Pleistocene and the Holocene Epochs.

Stratigraphy: The natural and cultural layers of soil that make up an archaeological deposit, and the order in which they were deposited relative to other layers.

Tribal Cultural Resource: These are defined in Assembly Bill 52 (AB 52) as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources (PRC Section 21074 (a)(1)).

Unique Archaeological Resource: This term is used for the purposes of CEQA and is defined in PRC Section 21083.2(g) as an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it either contains information needed to answer important scientific research questions and that there is demonstrable public interest in that information; has a special and particular quality such as being the oldest of its type or the best available example of its type; or, is directly associated with a scientifically recognized important prehistoric or historic event or person.

Unique Paleontological Resource: This term is defined as a fossil that meets one or more of the following criteria: (1) it provides information on the evolutionary relationships and developmental trends among organisms, living or extinct; (2) it provides data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein; (3) it provides data regarding the development of biological communities or interaction between plant and animal communities; (4) it demonstrates unusual or spectacular circumstances in the history of life; or (5) the fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

4.5.2 Environmental Setting

The project site lies within the western Mojave Desert in the Indian Wells Valley, which is a southern extension of the Owens Valley. The Indian Wells Valley sits within the Basin and Range geomorphic province. The Basin and Range province is characterized by horst and graben structure, which is comprised of subparallel, fault-bounded ranges separated by interior-drained basins where lakes and playas often form (California Geological Survey, 2002).

The Indian Wells Valley is an alluvial basin containing playas and alluvial fans that have merged into broad alluvial plains several miles wide (ASM, 2019). The floor of the valley slopes gently to the east towards the China Lake dry lake bed located approximately 9 miles away.

The sediments underlying the project site consist of recent alluvial deposits associated with fan complexes that have formed through the erosion of the surrounding highlands (ASM, 2019). These sediments are comprised of unconsolidated alluvial gravel and sand, as well as moderately to well-sorted gravel, sand, silt, and clay (ASM, 2019). The depositional history of the alluvial fan complexes dates to the early Pleistocene, with younger, Holocene-age deposits layered atop the older deposits. The depths of these alluvial deposits varies within the Indian Wells Valley. While they may be relatively shallow in the vicinity of the highlands, they may extend to a depth 2,000 feet near the valley center (Whitely and Carey, 2016).

Paleoenvironment

As glaciers in the western United States began to retreat between 12,000 and 10,000 years ago, the climate became dramatically warmer and drier, and vegetation communities such as piñon-juniper woodlands, along with the animals that relied on them, began to inhabit higher elevations (Price et al., 2008). During

the late Pleistocene, fossil evidence suggests that the western Mojave was inhabited by numerous large mammalian species including sloth, horse, bear, mammoth, bison, camel, as well as prong-horned antelope. Large carnivorous species included saber-toothed cats, wolves, mountain lions, desert coyotes and foxes, while smaller animals included rodent, rabbits, squirrels and a multitude of birds. Studies of pollen and pack rat middens suggest that desert vegetation began replacing the low-elevation woodlands between 12,000 and 8000 years ago (Price et al., 2008).

Prehistoric Setting

The prehistory of the Mojave Desert is generally described in terms of cultural “complexes.” A complex is a specific archaeological manifestation of a general mode of life, characterized by distinct technologies, artifact types, economic systems, trade and burial practices, and other aspects of culture. Complexes are typically associated with particular chronological periods. The prehistory of the Mojave is generally divided into the following time-periods/complexes: Paleo-Indian, Lake Mojave Complex, Pinto Complex, Gypsum Complex, Rose Springs Complex, and Late Prehistoric.

Paleo-Indian (10,000–8000 B.C.)

The Paleo-Indian period is represented in the Mojave primarily by large, fluted Clovis projectile points. This limited evidence suggests that early human occupants of the Mojave probably lived in small, mobile groups in temporary camps in the vicinity of permanent water sources (Sutton et al., 2007). In the vicinity of the project site, a fragment of a fluted Clovis point was recorded on the southern slopes of the Tehachapi Mountains. In addition, the earliest occupation of CA-KER-2821/H, also known as the Bean Springs complex, an extensive archaeological site near Willow Springs, has been radiocarbon dated to 9020-9430 RCYBP (radiocarbon years before present) (Way, 2009).

Lake Mojave Complex (8000–6000 B.C.)

In terms of material culture, the Lake Mojave Complex is typified by stone tools such as stemmed Lake Mojave and Silver Lake projectile points, bifaces, steep-edged unifaces, crescents, and some ground stone implements (Sutton et al., 2007). Lake Mojave groups were organized in relatively small, mobile groups and practiced a forager-like subsistence strategy. Some trade with coastal groups was practiced, as evidenced by the presence of shell beads. Lake Mojave sites have been found primarily around Fort Irwin, Lake Mojave, China Lake, Rosamond Lake, and Twentynine Palms.

The Pinto Complex (6000–3000 B.C.)

Archaeological deposits ascribed to the Pinto Complex suggest that Pinto settlement patterns consisted of seasonal occupation by small, semi-sedentary groups that were dependent upon a combination of big and small-game hunting and collection strategies, which could include the exploitation of resources associated with streams or other water sources. Typically, sites of this period, which are far more geographically widespread than the Lake Mojave complex sites, are found along lakeshores and streams or springs, some of which are now dry. Material culture representative of this period in California prehistory includes roughly formed projectile points, “heavy-keeled” scrapers, choppers, and a greater prevalence of flat millstones and manos, indicating more intensive use and processing of plant resources (Warren, 1984; Sutton et al., 2007). At the end of the middle Holocene, around 3000 B.C., environmental conditions became much drier

and hotter, and few sites in the Mojave date to the period between 3000 and 2000 B.C., suggesting that the area's population may have decreased during this period of unfavorable climate (Sutton et al., 2007).

Gypsum Complex (c. 2000 B.C.–A.D. 200)

Many archaeological sites of this period are small and surficial, probably indicative of temporary occupation. It is during this time, however, that more archaeological evidence suggestive of inter-tribal trade appears, particularly between the desert and the coast. At a site at Lovejoy Springs (CA-LAN-192), which has a prominent Gypsum component, a group inhumation with at least nine individuals was uncovered, including a child buried with more than 3,000 *Olivella* shell beads from the southern Californian coast (Price et al., 2008). The artifact assemblage associated with this period also includes an increased number of millingstones and manos, and it is believed that it was during this period that the pestle and mortar were introduced. These technological developments may point to the increased consumption of seeds and mesquite. Other artifacts associated with the Gypsum Complex include Humboldt Concave Base, Gypsum Cave, Elko Eared, and Elko Corner-notched projectile points (Warren, 1984).

Rose Springs Complex (c. A.D. 200–1200)

The general cultural pattern for this period is a continuation of that of the preceding Gypsum Complex. Rose Springs archaeological sites are more numerous than sites dating to previous periods and contain more well-developed middens, indicating an increase in population and a more permanent settlement pattern (Sutton et al., 2007). In addition, the archaeological record attests to established trade routes between desert and coastal populations, evidenced by shell beads and steatite, as well as an introduction of Anasazi influence from the eastern Great Plains as seen in the appearance of turquoise and pottery. Material culture related to this complex includes obsidian artifacts, Rose Spring and Eastgate projectile points, millingstones, manos, mortars and pestles, slate pendants, and incised stones (Warren, 1984). These projectile points, which are smaller than those in preceding periods, are thought to reflect the adoption of the bow and arrow.

The prevalent use of obsidian is a defining feature of the Rose Springs period. Obsidian from the Coso volcanic field, approximately 70 miles north of Mojave, was imported in near-finished form for use in making lithic tools (Price et al., 2008). The importing of obsidian seems to have dropped sharply at the end of the Rose Springs period, possibly associated with the Medieval Climatic Anomaly, a period of climate change between A.D. 800 to 1350, and the concurrent migration of Numic-speaking populations out of southeastern California and into the Great Basin.

Several periods of drought affected the Mojave in the Rose Springs period, associated with the Medieval Climatic Anomaly, and subsequent Late Prehistoric Period. Drops in the lake levels at Mono Lake attest to dry periods in A.D. 900–1100 and A.D. 1200–1350 (Price et al., 2008).

Several major Rose Springs villages or site complexes exist in the vicinity of the project site. A complex of 15 sites exists near Rosamond Lake, many of which are characterized solely by evidence of lithic reduction. Some of these sites have been dated to the Rose Springs Complex (Gardner, 2009). A number of sites have been identified along the shores of Koehn Lake, including one site that retains evidence of a pit-house (Sutton, 1996).

The Late Prehistoric Period (A.D. 1200–European Contact)

Following periods of drought during the Rose Springs Period, wetter conditions returned between A.D. 1350 and 1600, associated with a climatic event known as the Little Ice Age.

By the Late Prehistoric Period, an extensive network of established trade routes wound their way through the desert, routing goods to populations throughout the Mojave region. It is also believed that these trade routes encouraged or were the motivating factors for the development of an “increasingly complex socioeconomic and sociopolitical organization” among Protohistoric peoples in southern California. Housepit village sites are prevalent during this period, as are the presence of Desert Side-notched and Cottonwood projectile points, brownware and buffware ceramics, steatite shaft straighteners, painted millstones, and, to a lesser degree, coastal shell beads. Beginning around A.D. 1300, however, a decline in trade occurred and well-established village sites were abandoned (Warren, 1984).

Ethnographic Setting

At the time of European contact, two groups, the Kawaiisu and Coso Shoshone, occupied the area in the vicinity of Indian Wells Valley. To the west, the Kawaiisu occupied the southern Sierra Nevada and the northern Tehachapi Mountains, and may have also inhabited part of the western Mojave Desert (Sutton, 1988). To the north, the Coso Shoshone occupied the Owens Valley and eastern Mojave Desert. The two groups are described in more detail below.

Kawaiisu

Kawaiisu territory encompassed the southern Sierra Nevada south of the Kern River and into the northern Tehachapi Mountains south of the Tehachapi pass (Sutton, 1988). Parts of the valley floors may also have been inhabited by the Kawaiisu. Kawaiisu economy was based on hunting and gathering, and acorns were a primary food source. Deer, chuckwalla, bighorn sheep, rabbits, and pronghorn were hunted. The main social group was the family. Although some leaders were recognized, no formal chiefs existed, and status was achieved, rather than ascribed. Little is known of Kawaiisu material cultural, although complex basketry appeared to be a defining feature (Sutton, 1988). In terms of language, the Kawaiisu were a Numic-speaking group, in contrast to their Takic-speaking neighbors to the south, the Kitanemuk.

Coso Shoshone

The Coso Shoshone spoke a dialect of the Panamint language, part of the Numic subfamily of the Uto-Aztecan language family (Kroeber, 1925). Available data for the territorial boundaries of the Coso is sparse, but it is thought that they inhabited the area in the vicinity of Owens Lake, east of the Sierra Nevada crest, and south of the eastern Mono that inhabited the areas along Owens River (Kroeber, 1925). The Coso Shoshone likely subsisted on small game, such as rabbit, and a wide variety of plant foods such as pine nuts, grass seeds and mesquite beans. Additionally, large animals such as mountain sheep and antelope were hunted. Antelope, mountain sheep, and rabbit in particular were often hunted communally in large drives during the fall (Yohe and Garfinkle, 2012). The communal hunts involved driving the animals into nets or brush corrals where they were killed by club or bow and arrow (Yohe and Garfinkle, 2012).

Historic Context

Early Exploration

Several major trails crossed the Mojave before and at the time of Spanish contact, and continued to be used not only by the native peoples but also by Euro-American explorers. The Yuma-Needles Trail ran from south of Yuma up the western side of the Colorado River to the Needles area. The Mojave Trail ran from Needles west across the desert to the coast, following the path of the Mojave River for a portion of the route. The Cocomaricopa Trail ran west from Arizona through the Salton Sink (Coachella Valley) and then northwest to meet the Mojave Trail near San Bernardino (Greene, 1983).

The first Europeans known to have visited the Mojave were Don Pedro Fages in 1772 and Juan Bautista de Anza and Father Francisco Garcés in 1774 (Greene, 1983). In 1775, Father Garcés separated from de Anza and crossed the Mojave along the ancient Mojave Trail from Needles west to the San Gabriel Mission, travelling past Soda Lake and resting at modern-day Afton Canyon in 1776 (Earle, 2005).

The Spanish missions that dotted the California coast never spread inland to the Mojave, and the desert remained relatively unexplored and unsettled by Europeans for much of the next century. The Romero-Estudillo Expedition of 1823–24 was an attempt by the Spanish to establish a secure route between the California Coast and Tucson; however, despite two attempts, the expedition never managed to make it as far as the Colorado River (Greene, 1983).

The first recorded American visitors to the Mojave were the party of Jedidiah Smith, who crossed the Mojave along the Mojave Trail in 1826 (Greene, 1983). Ewing Young and Kit Carson followed his route in the 1820s and 1830s. Several American and Mexican military expeditions were conducted in the 1840s and 1850s. In 1829–1830, fur trader Antonio Armijo scouted a route between Santa Fe, New Mexico, and Los Angeles. This route became a trade route known as the Old Spanish Trail, following along the same general route as the Mojave Trail (Greene, 1983). After California became an American state in 1850, government-funded exploration and mapping of the region began, with the first major survey completed in 1853.

Mining

In 1848 gold was discovered by James W. Marshall at Coloma, some 400 miles to the north on the American River. The gold rush began and immigrants flooded into California, many headed to or through the Mojave Desert. By the late 1850s, the Mojave and Old Spanish trails had become major freight and mail roads. In addition, due to conflicts along the Colorado River between the federal government, Mormon settlers, and Native peoples, the U.S. Army established a series of forts along the Mojave Trail, including one at Soda Lake. The Mojave Trail became the major east-west travel route between Los Angeles and the Colorado River, and was known during this period as the Old Government Road (Greene, 1983).

The discovery of the Comstock Lode in Nevada in 1859 shifted attention from gold to silver, and miners began to focus on the desert regions (Vredenburg, 2005). The 1870s and 1880s were fairly prosperous for mining in the Mojave Desert, and operations at that time were dominated by gold and silver mining. The Ord Mountain area was an early focus of gold mining in the Mojave, beginning in 1871. Gold and silver mining at the Silver Mountain District and Oro Grande began in the 1870s (Vredenburg, 2005). Mining began in the Calico Mining District near Barstow in 1881. Area mines are estimated to have produced up to \$20 million in silver, making the Calico Mining District California's largest silver producer. However, a drop in the price of

silver following the Panic of 1893 contributed to the virtual cessation of silver mining in the district by the end of the 20th century (Vredenburg, 2005). Near the northern end of the APE, gold, silver, and turquoise were mined near Halloran Spring, Shadow Mountain, and the Silurian Hills (Vredenburg, 1996).

In the 20th century, mining operations shifted focus to borax, zinc, and silver. Borax was first mined near Searles Lake in 1863. The Pacific Coast Borax Company near Calico soon became the leading producer of Borax in San Bernardino County, producing over \$9,000,000 between 1883 and 1907 (Cloudman et al., 1917). Mining productivity fell off in the 1920s due to increased inflation, but was revived during the Great Depression; however, gold mining virtually ceased during World War II. By 1956, declining gold prices caused most remaining small gold operations to close (Shumway et al., 1980).

Inyokern

The community of Inyokern was originally known as Siding 16 and Magnolia when it was established in the mid-nineteenth century. The economic orientation of the community centered around agriculture, but it became a railroad town when the construction of the Los Angeles Aqueduct began in 1908 (ASM, 2019). During the construction of the aqueduct, the Lone Pine Branch of the Southern Pacific Railroad (SPRR) was established to transport personnel and materials. During World War II, Kern County's Airport No. 8, located in Inyokern, became a rocket testing facility. However, in 1942 the rocket testing operations were moved from Inyokern to Ridgecrest with the establishment of the China Lake Naval Ordnance Test Station (NOTS) (ASM, 2019). When the NOTS was established, a spur line was constructed to connect it to the Lone Pine Branch of the SPRR; however, the branch and spur were abandoned by the early 1980s (Virtual Transportation Museum, 2011). Today, the economic orientation of Inyokern is associated with the NOTS, and the community provides housing and services for those working on the base.

Existing Cultural Resources

Methods Used to Identify Known Cultural Resources

To evaluate the project's potential effects on significant cultural resources, ASM Affiliates (ASM) conducted a cultural resources study of the project site, which included archival research, a field survey, and preliminary evaluations of recorded resources (ASM, 2019). The methodology and results of this study are summarized below.

Records Search and Historic Map and Aerial Photo Review

A record search was conducted on October 21, 2016, by staff at the Southern San Joaquin Valley Information Center (SSJVIC) at California State University, Bakersfield. The records search included an examination of previous cultural resources survey coverage and reports and known cultural resources within a 0.5-mile radius of the project site (ASM, 2019). Additional sources consulted included the National Register of Historic Places (NRHP), the Historic Property Data File, the listing of California Historical Landmarks (CHLs), the California Register of Historical Resources (CRHR), the California Inventory of Historic Resources, and the California Points of Historical Interest (PHI).

The results of the records search indicated that 32 previous cultural resources studies have been conducted within 0.50 miles of the project site, including 15 studies that overlap portions of the project site. Thirteen

cultural resources have been previously recorded within the 0.50-mile records search radius. None of the 13 previously recorded cultural resources are located within the project site.

A review of historic topographic maps and aerial photographs of the area shows a railroad grade existed within the project site by at least 1957 (Whitely and Carey, 2016). No other structures or features were noted within the project site as a result of the review.

Archaeological Field Surveys

Pedestrian archaeological surveys of the project site were conducted in October and November, 2016 and October 2019 (ASM, 2019). All surveys were conducted using parallel transects spaced at intervals no greater than 15 meters apart. All exposed ground surfaces were examined for evidence of archaeological materials, including: artifacts, soil discoloration that may be indicative of cultural midden, ground depressions, historic debris and trash scatters, and features indicative of the former presence of structures or buildings. Ground disturbances such as burrows and drainages were also inspected. Identified cultural resources were documented on California Department of Parks and Recreation (DPR) 523 site record forms.

Cultural Resources Recorded within the Project Site

Ten cultural resources were identified within the project site as a result of the cultural resources field survey (ASM, 2019). All 10 resources are historic-period archaeological sites primarily consisting of refuse scatters or refuse concentrations with associated features. Based on the data obtained during the survey, the 10 archaeological sites were recommended not eligible for listing in the California Register, due primarily to the fact that they likely represent surficial single or episodic dumping events (ASM, 2019). Further, through the process of documentation the sites' data potential has been exhausted. For the same reasons, none of the sites qualify as a unique archaeological resource under CEQA.

The resources are summarized in **Table 4.5-1, *Cultural Resources Identified within the Project Site***, and described below. This is followed by a discussion of the evaluation of the resources for listing in the California Register and as unique archaeological resources.

TABLE 4.5-1: CULTURAL RESOURCES IDENTIFIED WITHIN THE PROJECT SITE

Temporary #^a	Site Description	Significance
IS-PC-1	Historic-period refuse concentrations	Recommended not eligible for California Register; not a unique resource under CEQA
IS-PC-2	Historic-period refuse scatter	Recommended not eligible for California Register; not a unique resource under CEQA
IS-PC-3	Historic-period refuse scatter	Recommended not eligible for California Register; not a unique resource under CEQA
IS-PC-4	Historic-period refuse concentration and scatter	Recommended not eligible for California Register; not a unique resource under CEQA
IS-PC-5	Historic-period refuse scatter	Recommended not eligible for California Register; not a unique resource under CEQA
IS-PC-6	Historic-period refuse concentrations	Recommended not eligible for California Register; not a unique resource under CEQA
IS-PC-7	Historic-period refuse concentrations	Not eligible for California Register; not a unique archaeological resource under CEQA
IS-PC-8	Historic-period refuse concentrations with remnants of railroad bed and associated features	Not eligible for California Register; not a unique archaeological resource under CEQA
IS-PC-9	Historic-period refuse concentration and scatter	Not eligible for California Register; not a unique archaeological resource under CEQA
IS-PC-10	Historic-period refuse scatter	Not eligible for California Register; not a unique archaeological resource under CEQA

^a Primary numbers were not disclosed for the cultural resources identified onsite.

SOURCE: ASM, 2019

IS-PC-1

Resource IS-PC-1 is a historic-period archaeological site comprised of five discrete refuse concentrations and one north-south oriented barbed-wire fence line. The refuse concentrations generally consist of domestic and construction waste, and contain diagnostic artifacts indicating a time frame for site use ranging from the 1920s through the 1960s. Given the site's location on the edge of the community of Inyokern, it likely reflects casual trash dumping by local residents. Based on the diagnostic artifacts, it appears this pattern began by the 1920s and has continued into contemporary/modern times.

IS-PC-2

Resource IS-PC-2 is a historic-period archaeological site consisting of a refuse scatter that is comprised of assorted cans, glass bottle shards, ceramic dishware sherds, and miscellaneous construction debris. Identified diagnostic artifacts indicate a time frame for site use ranging from the 1920s through the 1960s. Given the site's location on the edge of the community of Inyokern, it likely reflects casual trash dumping by local residents. Based on the diagnostic artifacts, it appears this pattern began by the 1920s and has continued into contemporary/modern times.

IS-PC-3

Resource IS-PC-3 is a historic-period archaeological site consisting of a refuse scatter that is comprised of assorted cans and miscellaneous construction debris. Identified diagnostic artifacts indicate a time frame for site use ranging from the mid-1920s through the 1960s. Given the site's location on the edge of the community of Inyokern, it likely reflects casual trash dumping by local residents. Based on the diagnostic artifacts, it appears this pattern began by the 1920s and has continued into contemporary/modern times.

IS-PC-4

Resource IS-PC-4 is a historic-period archaeological site comprised of one refuse concentration with a diffuse scatter surrounding it. The concentration consists of domestic debris including assorted cans, fragmented glass bottles, ceramic bowl shards, one textile fragment, two clothing buttons, and harmonica plates. Similarly, the diffuse scatter consists of assorted cans, fragmented glass bottles, and miscellaneous construction debris, including milled lumber fragments and miscellaneous metal fragments. Diagnostic artifacts indicate that the refuse concentration dates to the mid-to-late 1940s, and the diffuse scatter dates to the 1950s and 1960s. Given the site's location on the edge of the community of Inyokern, it likely reflects casual trash dumping by local residents, with the concentration representing a single dumping event, and the scatter representing multiple events. Based on the diagnostic artifacts, it appears the dumping occurred from the late 1940s through the 1960s.

IS-PC-5

Resource IS-PC-5 is a historic-period archaeological site consisting of a refuse scatter comprised of assorted cans, wire nails, and bi-metal cans. Identified diagnostic artifacts indicate a time frame for site use ranging from the 1950s through the 1960s. Given the site's location on the edge of the community of Inyokern, it likely reflects casual trash dumping by local residents. Based on the diagnostic artifacts, it appears this pattern began in the 1950s and continued through the 1960s.

IS-PC-6

Resource IS-PC-6 is a historic-period archaeological site consisting of three refuse concentrations and four features, including one concrete foundation and three shallow pits of unknown function. The refuse concentrations are generally comprised of assorted cans, fragmented glass bottles, china ware fragments, and miscellaneous construction debris. The concrete foundation measures 17-feet (northwest-southeast) by 12-feet (northeast-southwest) and appears to be modern. The three shallow pits are all filled with modern debris. Based on the presence of diagnostic artifacts, the refuse concentrations appear to date from the 1920s through the 1960s. The foundation and shallow pits all appear to be modern. Given the site's location on the edge of the community of Inyokern, it likely reflects casual trash dumping by local residents. Based on the diagnostic artifacts, it appears this pattern began in the 1920s and has continued to the present.

IS-PC-7

Resource IS-PC-7 is a historic-period archaeological site consisting of two refuse concentrations comprised of assorted cans, fragmented glass bottles, and construction debris. Diagnostic artifacts, which include amongst others a Wheat Back penny with a date of 1944 and a Los Angeles Examiner newspaper with a date of March 14, 1945, indicate the concentrations were deposited in the mid-1940s. Given the site's

location on the edge of the community of Inyokern, it likely reflects casual trash dumping by local residents, with the concentrations representing single dumping events that occurred in the mid-1940s.

IS-PC-8

Resource IS-PC-8 is a historic-period archaeological site consisting of 16 features and nine refuse concentrations. The features include the following:

- Remnants of the spur line connecting the NOTS to the Lone Pine Branch of the SPRR, which consists of subgrade gravel ballast (Feature 1);
- A borrow pit for the construction of the spur line (Feature 2);
- Remnants of a wooden foundation (Feature 3);
- Remnants of a concrete foundation, possibly associated with the spur line (Feature 4); and
- Twelve milled lumber posts forming a fence line that parallels the spur line (Features 5-16).

Feature 1, the remnants of the spur line, is a previously unrecorded segment of resources P-15-002050 (SPRR) and P-15-015209 (NOTS spur line). Resource P-15-015209 has been previously determined ineligible for listing in the National Register (ASM, 2019). The remaining features (Features 2-16) are likely associated with the spur line. The spur line and associated features are in poor condition. The spur line consists of only the subgrade and has had its ties and rails removed. Moreover, the spur line has been subject to numerous disturbances including the construction of an earthen reservoir at its east end, and modern off-highway vehicle traffic. As such, the spur line's integrity is considered poor.

In general, the refuse concentrations consist of assorted cans, glass bottle fragments, and construction debris including milled lumber, wire-cut nails, metal wire, and metal fragments. Identified diagnostic artifacts indicate a time frame for site use ranging from the 1930s through the 1980s. The refuse concentrations likely reflect casual trash dumping by local residents. Based on the diagnostic artifacts, it appears this pattern began in the 1930s and has continued through to the modern era.

IS-PC-9

Resource IS-PC-9 is a historic-period archaeological site comprised of one refuse concentration with a diffuse scatter surrounding it. The concentration consists of domestic debris including assorted cans, fragmented beverage and medicine bottles, boot soles, a four-hole abalone button, a metal buckle, and a shoe-polish tin. The diffuse scatter consists of assorted cans and miscellaneous construction debris, including milled lumber fragments, wire cut nails, and miscellaneous metal fragments. Diagnostic artifacts indicate that the refuse concentration was deposited between the mid-1940s and the 1960s, and the diffuse scatter in the 1950s and 1960s. Given the site's location on the edge of the community of Inyokern, it likely reflects casual trash dumping by local residents. Based on the diagnostic artifacts, it appears the dumping occurred in the late 1940s through the 1960s.

IS-PC-10

Resource IS-PC-10 is a historic-period archaeological site consisting of a refuse scatter comprised of assorted cans, glass bottle fragments, and decorative tableware fragments. Given the site's location on the edge of the community of Inyokern, it likely reflects casual trash dumping by local residents. Based on the diagnostic artifacts, it appears this pattern began in the 1930s and continued through the 1950s.

Resource Evaluations

The cultural resources technical report prepared for the project (ASM, 2019) also evaluated the resources for their eligibility for listing in the California Register and whether they qualify as unique archaeological resources under CEQA. Those evaluations are summarized here. All 10 of the resources consist largely of historic-period trash scatter, ranging in age from the 1920s to modern times. While each differs slightly in specific details, such as size, density of artifacts, age range, and the types of trash present, they all reflect multiple depositional episodes over a range of time. Given this, the resources cannot be associated with specific events that have made a significant contribution to the broad patterns of California's history and cultural heritage (Criterion 1), nor can they be associated with the lives of important persons in the past (Criterion 2). No structures are present at the sites that could be evaluated under Criterion 3; therefore, the sites do not embody the distinctive characteristics of a type, period, region, or method of installation (Criterion 3). The sites represent surface manifestation with little, if any, subsurface deposition, and have been fully recorded, thereby exhausting their data potential. As such, they are unlikely to yield information important to history (Criterion 4). Furthermore, the sites do not appear to represent unique archaeological resources in that they do not possess important scientific information, are not the oldest or best examples of their type, and are not associated with scientifically important events or people. For these reasons, the resources were recommended as not eligible for the California Register under any of the four criteria, and were found to not qualify as unique archaeological resources per CEQA.

This evaluation applies to IS-PC-1 through IS-PC-7, and IS-PC-9 and IS-PC-10, all of which consist of historic-period refuse. The only exception is IS-PC-8, which, in addition to historic-period refuse, also contains the remnants of the NOTS spur line and associated features, including a borrow pit, a concrete foundation, and the remnants of a wooden foundation. However, all of these features are degraded, and the spur line currently consists of only the subgrade. The ties and rails have been removed. Moreover, the spur line has been damaged by recent activity. As such, its integrity is poor. Further, another portion of the spur line documented outside the project site (P-15-002050) was previously found ineligible for the National Register. Therefore, the spur line component of IS-PC-8, in addition to the trash scatter component, was also recommended as not eligible for the California Register under any of the four criteria, and was found to not qualify as a unique archaeological resource.

Potential for Unknown Buried Cultural Resources

The sediments underlying the project site consist of recent alluvial deposits associated with fan complexes that have formed through the erosion of the surrounding highlands (ASM, 2019). These sediments are comprised of unconsolidated alluvial gravel and sand, as well as moderately to well-sorted gravel, sand, silt, and clay (ASM, 2019). The depositional history of the alluvial fan complexes dates to the early Pleistocene, with younger, Holocene-age deposits layered atop the older deposits. Although the depth of the Pleistocene-age, and early Holocene-age alluvium are unknown, the fact that they are overlain by more recent alluvium indicates the potential for encountering buried prehistoric archaeological deposits at unknown depths.

4.5.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Register of Historical Resources

Created in 1992 and implemented in 1998, the California Register of Historical Resources is “an authoritative guide in California to be 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.” Certain properties, including those listed in, or formally determined eligible for listing in, the National Register and CHLs numbered 770 and higher, are automatically included in the California Register. Other properties recognized under the California PHI program, identified as significant in historic resources surveys or designated by local landmarks programs, may be nominated for inclusion in the California Register. A resource (either an individual property or a contributor to a historic district) may be listed in the California Register if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on National Register criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
2. It is associated with the lives of persons important in our past.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
4. It has yielded, or may be likely to yield, information important in history or prehistory.

Furthermore, under PRC 5024.1, Title 14 California Code of Regulations [CCR], Section 4852(c), a cultural resource must retain integrity to be considered eligible for the California Register. Specifically, it must retain sufficient character or appearance to be recognizable as a historical resource and convey reasons of significance. Integrity is evaluated with regard to retention of such factors as location, design, setting, materials, workmanship, feeling, and association. Cultural sites that have been affected by ground-disturbing activities, such as farming, often lack integrity because they have been directly damaged or moved from their original location, among other changes.

Typically, an archaeological site in California is recommended eligible for listing in the California Register based on its potential to yield information important in prehistory or history (Criterion 4). Important information includes chronological markers such as projectile point styles or obsidian artifacts that can be subjected to dating methods or undisturbed deposits that retain their stratigraphic integrity. Sites such as these have the ability to address research questions.

California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have statewide historical significance by meeting at least one of the criteria listed below. The resource also must be approved for designation by the County Board of Supervisors (or the city or town council in whose jurisdiction it is located); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks. The specific standards now in use were first applied in the designation of CHL #770. CHLs #770 and above are automatically listed in the California Register.

To be eligible for designation as a landmark, a resource must meet at least one of the following criteria:

1. It is the first, last, only, or most significant of its type in the State or within a large geographic region (Northern, Central, or Southern California);
2. It is associated with an individual or group having a profound influence on the history of California; or
3. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Points of Historical Interest

California Points of Historical Interest (PHI) are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. PHI designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historic resource may be designated as both a landmark and a point. If a point is later granted status as a landmark, the point designation will be retired. In practice, the point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a PHI, a resource must meet at least one of the following criteria:

1. It is the first, last, only, or most significant of its type within the local geographic region (city or county);
2. It is associated with an individual or group having a profound influence on the history of the local area; or
3. It is a prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State and is codified at PRC Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The *CEQA Guidelines* (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that an historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of CEQA Section 21084.1 and *CEQA Guidelines* Section 15064.5 apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (*CEQA Guidelines* Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the historical resource criteria contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in CEQA Section 21083.2 a "unique" archaeological resource is an archaeological artifact, object, or site, for which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.2(b)). If preservation in place is not feasible, mitigation measures shall be required.

The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

Native American Heritage Commission

PRC Section 5097.91 established the Native American Heritage Commission (NAHC), the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

California Public Records Act

Sections 6254(r) and 6254.10 of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public related to “Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission.” Section 6254.10 specifically exempts from disclosure requests for “records that relate to archaeological site information and reports maintained by, or in the possession of, the DPR, the State Historical Resources Commission, the State Lands Commission, the NAHC, 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”.

California Health and Safety Code, Sections 7050 and 7052

Health and Safety Code Section 7050.5 declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

California Penal Code, Section 622.5

California Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

Public Resources Code, Section 5097.5

PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for cultural resources applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1: Land Use, Open Space and Conservation Element

1.10.3: Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.

Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.

Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

Inyokern Specific Plan

The Land Use, Open Space, and Conservation Element of the Inyokern Specific Plan has the purpose of identifying physical constraints, public, residential, commercial, and industrial facilities as well as cultural and biological resources within the Plan area. The Land Use, Open Space, and Conservation Element has been adopted as part of the Kern County General Plan. This element of the Inyokern Specific Plan is to supplement the Countywide document.

Land Use, Open Space, and Conservation Element

1.3: Residential

Policy

Policy 9: Protect from development those areas of potential archaeological significance.

Implementation Measure

Measure 7: Any discretionary industrial development project that substantially disturbs property not previously developed or is not substantially surrounded by urban density development as

determined by the Director of the Kern County Department of Planning and Development Services shall require submittal of an archaeological survey or a clearance as part of the application/permit process; said survey shall be completed in accordance with any guidelines supplied by the California Archaeological Inventory at California State University at Bakersfield. Any submittal shall also include mitigation measures satisfactory to the requirements of said inventory and the Kern County Department of Planning and Development Services.

1.4: Commercial

Policy

Policy 8: Protect from development those areas of potential archaeological significance.

Implementation Measure

Measure 8: Any discretionary commercial development project that substantially disturbs property not previously developed or is not substantially surrounded by urban density development as determined by the Director of the Kern County Department of Planning and Development Services shall require submittal of an archaeological survey or a clearance as part of the application/permit process; said survey shall be completed in accordance with any guidelines supplied by the California Archaeological Inventory at California State University at Bakersfield. Any submittal shall also include mitigation measures satisfactory to the requirements of said inventory and the Kern County Department of Planning and Development Services.

1.5: Industrial

Goal

Goal 3: To promote economic strength without detriment to environmental quality.

Policy

Policy 8: Protect from development those areas of potential archaeological significance.

Implementation Measure

Measure 7: Any discretionary industrial development project that substantially disturbs property not previously developed or is not substantially surrounded by urban density development as determined by the Director of the Kern County Department of Planning and Development Services shall require submittal of an archaeological survey or a clearance as part of the application/permit process; said survey shall be completed in accordance with any guidelines supplied by the California Archaeological Inventory at California State University at Bakersfield. Any submittal shall also include mitigation measures satisfactory to the requirements of said inventory and the Kern County Department of Planning and Development Services.

1.6: Resource

Goal

Goal 1: To provide for development which does not impair the economic potential of the area, while not diminishing the other amenities which exist within the community.

Implementation Measure

Measure 3: Areas with potential archaeological resources shall be valued prior to the approval of discretionary land development permits. Specific mitigation measures shall be incorporated into development proposals.

4.5.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to cultural resources have been evaluated using a variety of resources. To evaluate the project's potential effects on significant archaeological and historic built environment resources, a cultural resources study for the project site was conducted, which included archival research and field survey (ASM, 2019). Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on cultural resources.

A project would have a significant impact on cultural resources if it would:

- a. Cause a substantial adverse change in the significance of a historical resource, as defined in *CEQA Guidelines* Section 15064.4;
- b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to *CEQA Guidelines* Section 15064.4; or
- c. Disturb any human remains, including those interred outside of dedicated cemeteries.

All of the above impact thresholds are addressed in the "Project Impacts" section below. Impacts to tribal cultural resources have been addressed in Section 4.16, *Tribal Cultural Resources*, of this EIR.

Project Impacts

Impact 4.5-1: The project would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.

Ten cultural resources were identified within the project site, all of which consist of historic-period archaeological sites. None are considered to be a historical resource-eligible for the CRHR. Therefore, there would be no impact to known historical resources.

The project could impact previously unknown and buried archaeological resources that qualify as historical resources. As noted above, the project site is covered to an unknown depth by Holocene-age alluvium, which itself is underlain by Pleistocene-age alluvium. Since these sediments and particularly the Holocene alluvium were deposited during the course of humans occupation of the region, there is a possibility that the sediments may have buried archaeological sites. As such, buried archaeological sites may be encountered during project-related excavation. In the event that unknown archaeological resources qualifying as historical resources are discovered during project construction, significant impacts to these resources could occur. Mitigation Measures MM 4.5-1 through MM 4.5-4 would require cultural resources sensitivity training for construction workers, use of an archaeological monitor and Native American monitor during construction, and appropriate treatment of unearthened archaeological resources during construction. With implementation of mitigation, impacts to historical resources would be less than significant.

Mitigation Measures

MM 4.5-1: The project proponent/operator shall retain a Lead Archaeologist, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior, 2011), to carry out all mitigation measures related to archaeological and historical resources. The contact information for this Lead Archaeologist shall be provided to the Kern County Planning and Natural Resources Department prior to the commencement of any construction activities on-site. Further, the Lead Archaeologist shall be responsible for ensuring the following employee training provisions are implemented during implementation of the project:

- a. Prior to commencement of any ground disturbing activities, the Lead Archaeologist in consultation with the Native American monitor(s) shall develop a Cultural Resources Sensitivity Training for all personnel working on the proposed project. A Cultural Resources Sensitivity Training Guide approved by the Lead Archaeologist shall be provided and discussed with all personnel. A copy of the Cultural Resources Sensitivity Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.

The training shall include an overview of potential cultural resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the Lead Archaeologist and/or Native American monitor(s) for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources.

- b. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept on-site and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Project Owner to ensure all employees receive appropriate training before the work onsite.

MM 4.5-2: During implementation of the project, the services of Native American Tribal Monitor(s) working under the supervision of the Lead Archaeologist, as identified through consultation with appropriate Native American tribes, shall be retained by the project proponent/operator to monitor ground-disturbing activities associated with project-related construction activities, as follows:

- a. All initial excavation and ground-disturbing activities within the project site shall be monitored, given the potential for alluvial burial of archaeological resources.
- b. The Lead Archaeologist, archaeological monitors, and Native American monitors shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. Project documentation shall include, but not be limited to, previous cultural studies, surveys, maps, drawings, etc. Any modifications or updates to project documentation, including construction plans and schedules, shall immediately be provided to the Lead Archaeologist, archaeological monitor, and Native American monitor.
- c. The archaeological monitor(s) shall keep monitoring logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report detailing the results of monitoring, which shall be submitted to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

MM 4.5-3: During implementation of the project, in the event archaeological materials are encountered during the course of grading or construction, the project contractor shall cease any ground disturbing activities within 50 feet of the find. The area of the discovery shall be marked off by temporary fencing that encloses a 50-foot radius from the location of discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area and all entrance to the area shall be avoided until the discovery is assessed by the Lead Archaeologist, as well as the Native American monitor if the discovery involves resources of interest to Native American tribes, including but not limited to prehistoric archaeological sites or tribal cultural resources. The Lead Archaeologist in consultation with the Native American monitor, if appropriate, shall evaluate the significance of the resources and recommend appropriate treatment measures. If further treatment of the discovery is necessary, the Environmentally Sensitive Area shall remain in place until all work is completed. Per California Environmental Quality Act *Guidelines* Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with California Environmental Quality Act *Guidelines* Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist in consultation with the Native American monitor shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed

cultural resources if the resources are prehistoric or Native American in nature. Archaeological materials recovered during any investigation shall be curated at an accredited curation facility. The Lead Archaeologist, in consultation with a designated Native American monitor, shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-3, impacts would be less than significant.

Impact 4.5-2: The project would cause a substantial adverse change in the significance of an archaeological resource as defined in *CEQA Guidelines* Section 15064.5.

As discussed above under Impact 4.5-1, 10 cultural resources were identified within the project site, all of which consist of historic-period archaeological sites. None of the cultural resources are considered to be unique archaeological resources as defined in *CEQA Guidelines* Section 15064.5. Therefore, there would be no impact to known archaeological resources, and no mitigation is required for the 10 identified resources.

However, as previously discussed in Impact 4.5-1, the project could impact previously unknown, buried archaeological resources. Given the Holocene-age alluvium that covers the project site, there is a possibility that buried archaeological deposits may be encountered during project-related excavation. In the event that unknown archaeological resources that qualify as unique archaeological resources are discovered during project construction, significant impacts could occur. However, with implementation of Mitigation Measures MM 4.5-1 through MM 4.5-3, which requires cultural resources sensitivity training for construction workers, use of an archaeological monitor and Native American monitor during construction, and appropriate treatment of unearthed archaeological resources during construction, potential impacts would be reduced to less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-3 would be required.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-3, impacts would be less than significant.

Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.

There is no indication, either from the archival research or the cultural resources survey for the proposed project, that any particular location within the project site has been used for purposes of human burial in the recent or distant past. However, in the unlikely event that human remains are inadvertently discovered during project construction activities, the remains could be inadvertently damaged and result in a significant

impact. Implementation of Mitigation Measure MM 4.5-4 would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Mitigation Measures

MM 4.5-4: If human remains are uncovered during project construction, the project proponent/operator shall immediately halt work within 100 feet of the find, contact the Kern County Coroner to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.4 (e)(1) of the California Environmental Quality Act *Guidelines*. If the County Coroner determines that the remains are Native American, the coroner shall contact the Native American Heritage Commission, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 et. seq.) directing identification of the next-of-kin will apply.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.5-4, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

An analysis of cumulative impacts takes into consideration the entirety of impacts that the projects, zone changes and general plan amendments found within Table 3-5, *Cumulative Projects List*, in Chapter 3, *Project Description*, would have on cultural resources. The geographic area of analysis for cultural resources includes the Indian Wells Valley. This geographic scope of analysis is appropriate because the archaeological, historical, and paleontological resources within this area are expected to be similar to those that occur on the project site because of their proximity; similar environments, landforms, and hydrology would result in similar land-use and, thus, site types. This is a large enough area to encompass any effects of the project on cultural resources that may combine with similar effects caused by other projects, and provides a reasonable context wherein cumulative actions could affect cultural resources.

Multiple projects, including solar energy production facilities, are proposed throughout the Indian Wells Valley. Cumulative impacts to cultural resources in the Indians Wells Valley could occur if other related projects, in conjunction with the proposed project, had or would have impacts on cultural resources that, when considered together, would be significant.

Development of the proposed project, in combination with other projects in the area, has the potential to contribute to a cumulatively significant cultural resources impact due to the potential loss of historical and archaeological resources unique to the region. However, mitigation measures are included in this EIR to

reduce potentially significant project impacts to cultural resources during construction of the proposed project. Implementation of Mitigation Measure MM 4.5-1 requires cultural resources sensitivity training for construction workers and Mitigation Measure MM 4.5-2 requires archaeological monitoring that would help identify any uncovered archeological resources that qualify as historical. Mitigation Measure MM 4.5-3 requires appropriate treatment of uncovered archaeological resources, including those that qualify as historical. Implementation of these three mitigation measures would reduce potential impacts to historical and archaeological resources to a less-than-significant level.

Although project construction has the potential to disturb human remains, the implementation of Mitigation Measure MM 4.5-4 would ensure the appropriate protocol is followed with regard to identifying and handling remains.

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 as described above, the project site would not result in significant impacts to cultural resources. Given this minimal impact and similar mitigation requirements for other projects in the Indian Wells Valley, cumulative impacts to cultural resources would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 would be required.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-4, cumulative impacts would be less than significant.

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4.6.1 Introduction

This energy section of the EIR analyzes the energy implications of the project, focusing on the following three energy resources: electricity, natural gas, and transportation-related energy (petroleum-based fuels). This section includes a summary of the project's anticipated energy needs. This section includes a summary of the project's anticipated energy needs and conservation measures. Information in this section is primarily based on the *RB Inyokern Solar Project by R&L Capital, Inc. – Energy Consumption Technical Memorandum* (Energy Technical Memorandum) prepared by QK Inc., provided in Appendix F of this EIR. In addition, the information found herein, as well as other aspects of the project's environmental-related energy impacts, are discussed in greater detail elsewhere in this Draft EIR, including in Chapter 3, *Project Description*, Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*, of this Draft EIR.

This section provides the content and analysis required by Public Resources Code Section 21100(b)(3) and described in *CEQA Guidelines* Appendix F (AEP, 2018). Public Resources Code Section 21100(b) and *CEQA Guidelines* Section 15126.4 require that an EIR identify mitigation measures to minimize a project's significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Appendix F states that the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the Project Description, Environmental Setting, and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 *CEQA Guidelines* (California Natural Resources Agency, 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and conflicts with state or local energy efficiency plans (California Natural Resources Agency, 2018).

4.6.2 Environmental Setting

Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components for distribution and use. The electricity generated is distributed through a network of transmission and distribution lines, commonly called a power grid.

Energy capacity, or electrical power, is generally measured in watts (W), while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would

be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is 1 million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is 1 billion Wh.

Electrical services in the project area are provided by Southern California Edison (SCE). SCE obtains its energy supplies from power plants and natural gas fields in Northern California, as well as from energy purchased outside its service area and delivered through high-voltage transmission lines and pipelines. Power is generated from various sources, including fossil fuel, hydroelectric, nuclear, wind, and geothermal plants, and is fed into the electrical grid system serving Southern California.

SCE updates all load forecasts for gas and electricity services every year. Load growth forecasts for the project area are currently determined using load growth projection tools that use a number of sources of data, including past peak loading, population, development characteristics, and temperature history information. **Table 4.6-1, *Electric Power Mix Delivered to Retail Customers in 2018***, shows the electric power mix that was delivered to retail customers for SCE compared to the statewide power mix for 2017, the most recent year in which data is available.

TABLE 4.6-1: ELECTRIC POWER MIX DELIVERED TO RETAIL CUSTOMERS IN 2018

Energy Resource	2018 SCE	2018 CA Power Mix (for comparison) ^a
Eligible Renewable	36%	31%
Biomass & bio-waste ^b	1%	2%
Geothermal	8%	5%
Eligible hydroelectric	1%	2%
Solar	13%	11%
Wind	13%	11%
Coal	0%	3%
Large Hydroelectric	4%	11%
Natural Gas	17%	35%
Nuclear	6%	9%
Other	0%	<1%
Unspecified sources of power^c	37%	11%
Total	100%	100%

^a Percentages are estimated annually by the California Energy Commission based on the electricity generated in California and net imports as reported to the Quarterly Fuel and Energy Report database and the Power Source Disclosure program.

^b The Eligible Renewables category is further delineated into the specific sources: biomass & waste, geothermal, small hydroelectric, solar, and wind.

^c "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

SOURCE: SCE 2019.

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs and

delivered through high-pressure transmission pipelines. Natural gas provides almost one-third of the state's total energy requirements. Natural gas is measured in terms of cubic feet (cf). Southern California Gas Company is the natural gas provider in Kern County; however, there is not a known natural gas service for the project site.

Transportation

According to the California Energy Commission (CEC), transportation accounted for nearly 37 percent of California's total energy consumption in 2014 (CEC, 2017). In 2018, California consumed 15.6 billion gallons of gasoline and 3.7 billion gallons of diesel fuel (California Department of Tax and Fee Administration 2019a and 2019b). Petroleum-based fuels currently account for more than 90 percent of California's transportation fuel use (CEC 2016a). However, the State is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and greenhouse gas (GHG) from the transportation sector, and reduce vehicle miles traveled (CEC 2016a). The CEC predicts that the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels (CEC 2016b). According to CARB's EMFAC2017 Web Database, Kern County on-road transportation sources consumed approximately 454 million gallons of gasoline and 308 million gallons of diesel fuel in 2018 (CARB 2019d).

4.6.3 Regulatory Setting

Federal

Corporate Average Fuel Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and United States Environmental Protection Agency (EPA) jointly administer the CAFE standards (NHTSA 2019). The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. According to the EPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle. In August 2018, the EPA and NHTSA proposed the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule that would, if adopted, would maintain the CAFE and CO₂ standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO₂ standards for model year 2020 are 43.7 mpg and 204 g/mi for passenger cars and 31.3 mpg and 284 grams of CO₂ per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. On September 27, 2019, the EPA published the final rule in Volume 94, No. 188 of the Federal Register. The EPA also published the final rule for the One National Program on Federal Preemption of State Fuel Economy Standards that finalizes critical parts of the SAFE Vehicles Rule and makes clear that federal law preempts state and local tailpipe GHG emissions standards as well as zero emission vehicle (ZEV) mandates. In response to the SAFE Vehicles Rules and the One National Program

on Federal Preemption of State Fuel Economy Standards, California and 22 other states and environmental groups in September 2019 in U.S. District Court in Washington, filed lawsuits to challenge the Federal determination in September that California cannot set vehicle emission standards and zero-emission vehicle mandates. The legal challenge is pending as of the date of this Draft EIR.

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by EPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. EPA and NHTSA have also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (EPA and NHTSA 2016).

Energy Independence and Security Act of 2007

Signed into law in December 2007, the Energy Independence and Security Act was passed to increase the production of clean renewable fuels; increase the efficiency of products, buildings, and vehicles; improve the energy performance of the federal government; and increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy. The act included the first increase in fuel economy standards for passenger cars since 1975, and also included a new energy grant program for use by local governments in implemented energy-efficiency initiatives, as well as a variety of green building incentives and programs.

State

Senate Bill 1389

Senate Bill (SB) 1389 (Public Resources Code Sections 25300–25323; SB 1389) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state’s electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state’s economy; and protect public health and safety (Public Resources Code Section 25301(a)). The 2016 Integrated Energy Policy Report provides the results of the CEC’s assessments of a variety of energy issues facing California including energy efficiency, strategies related to data for improved decisions in the Existing Buildings Energy Efficiency Action Plan, building energy efficiency standards, the impact of drought on California’s energy system, achieving 50 percent renewables by 2030, the California Energy Demand Forecast, the Natural Gas Outlook, the Transportation Energy Demand Forecast, Alternative and Renewable Fuel and Vehicle Technology Program benefits updates, update on electricity infrastructure in Southern California, an update on trends in California’s sources of crude oil, an update on California’s nuclear plants, and other energy issues.

California’s Renewables Portfolio Standard

First established in 2002 under SB 1078, California’s Renewables Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (CPUC 2019).

In 2018, SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that the California Air Resources Board (CARB) should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy. Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

California Assembly Bill 1493 (AB 1493, Pavley)

In response to the transportation sector accounting for more than half of California's CO₂ emissions, Assembly Bill (AB) 1493 (commonly referred to as CARB's Pavley regulations), enacted in 2002, requires CARB to set GHG emission standards for new passenger vehicles, light-duty trucks, and other vehicles manufactured in and after 2009 whose primary use is non-commercial personal transportation. Phase I of the legislation established standards for model years 2009–2016 and Phase II established standards for model years 2017–2025 (CARB 2017a). Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

California Health and Safety Code (HSC), Division 25.5/California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted AB 32 (codified in the California HSC, Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. Under HSC Division 25.5, CARB has the primary responsibility for reducing the State's GHG emissions; however, AB 32 also tasked the CEC and the CPUC with providing information, analysis, and recommendations to CARB regarding strategies to reduce GHG emissions in the energy sector.

In 2016, SB 32 and its companion bill AB 197 amended HSC Division 25.5, established a new climate pollution reduction target of 40 percent below 1990 levels by 2030, and included provisions to ensure that the benefits of state climate policies reach into disadvantaged communities. Refer to Section 4.8, *Greenhouse Gas Emissions*, of this EIR for additional details regarding this regulation.

Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25 percent in 2011 and culminating in a 10-percent total reduction in 2020. Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products, or buy LCFS credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas and hydrogen.

California Air Resources Board

CARB's Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012 and is closely associated with the Pavley regulations. The program requires a greater number of zero-emission vehicle models for years 2015 through 2025 to control smog, soot and GHG emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles; and the Zero-Emissions Vehicle regulations (ZEV) to require manufactures to produce an increasing number of pure ZEV's (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025.

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

In 2004, CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

In addition to limiting exhaust from idling trucks, in 2008, CARB approved the Truck and Bus regulation to reduce NO_x, PM₁₀, and PM_{2.5} emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The phased regulation aims to reduce emissions by requiring installation of diesel soot filters and encouraging the retirement, replacement, or retrofit of older engines with newer emission-controlled models. The phasing of this regulation has full implementation by 2023.

CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

While the goals of these measures are primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

California Environmental Quality Act

In accordance with CEQA and Appendix F, Energy Conservation, of the 2018 *CEQA Guidelines*, and to assure that energy implications are considered in project decisions, EIRs are required to include a discussion of the potential significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *CEQA Guidelines* provides a list of energy-related topics to be analyzed in the EIR. In addition, while not described or required as significance thresholds for determining the significance of impacts related to energy, Appendix F provides the following topics for consideration in the discussion of energy use in an EIR, to the extent the topics are applicable or relevant to the project:

- The Project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;
- The effects of the Project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the Project on peak and base period demands for electricity and other forms of energy;
- The degree to which the Project complies with existing energy standards;
- The effects of the Project on energy resources; and
- The Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

In late 2018, the California Natural Resources Agency finalized updates to the 2018 *CEQA Guidelines* (California Natural Resources Agency, 2018). Appendix G was amended to now include the analysis of energy. Previously included in Appendix F, the Appendix G Checklist now provides energy criteria for the analysis of wasteful energy consumption and conflicts with state or local energy efficiency plans (California Natural Resources Agency, 2018). Appendix F did not describe or require significance thresholds for determining the significance of impacts related to energy. According to the updated Appendix G Checklist, Issue VI. Energy, a project would have a significant impact on energy and energy resources if it would:

- a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Local

Kern County General Plan

The goals, policies, and implementation measures in the Energy Element of the Kern County General Plan applicable to energy, as related to the project, are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the project. Therefore, they are not listed below.

Chapter 5: Energy Element

5.4.5: Solar Energy Development

Goal

Goal 1: Encourage safe and orderly commercial solar development.

Policies

Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. The Land Use, Open Space, and Conservation Element of the Inyokern Specific Plan has the purpose of identifying physical constraints, public, residential, commercial, and industrial facilities as well as cultural and biological resources within the Plan area. The goal and policy in the Inyokern Specific Plan for energy applicable to the project are provided below. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

Land Use, Open Space, and Conservation Element

1.6: Resource

Goal

Goal 1: To provide for development which does not impair the economic potential of the area, while not diminishing the other amenities which exist within the community.

Policy

Policy 5: Encourage development of alternative energy sources by tailoring County zoning and subdivision ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Energy, Efficiency, and Conservation Projects

In June 2009, the Kern County Board of Supervisors approved the proposed list of Energy, Efficiency, and Conservation projects for which the County will request funding under the provisions of the American Recovery and Reinvestment Act of 2009. The Kern County Planning and Natural Resources Department

has requested an allocation for the preparation of a Climate Change Action Plan (CCAP) for the County General Plan. California's Climate Scoping Plan calls for local governments to reduce GHG emissions through the adoption of local programs as an important strategy to reduce community scale GHG emissions. The project's conformance with an adopted CCAP would ensure the goal of AB 32 can be attained with this new development.

4.6.4 Impacts and Mitigation Measures

Methodology

This analysis addresses the project's potential energy usage, including electricity, natural gas, and transportation fuel. Energy consumption during both construction and operation of the project is assessed. The assessment presented herein is based in part on the Energy Technical Memorandum prepared for the project, which was prepared by QK Inc., provided in Appendix F of this EIR. A full copy of the Memorandum is provided in Appendix F of this EIR.

Energy consumption for both construction and operation of the Project were estimated using the California Emissions Estimator Model (CalEEMod) version 2016, research on construction phase fuel consumption, and the Air Quality Impact Analysis (Insight, 2017) specifically prepared for the project.

Construction

Electricity is not expected to be consumed in large quantity during project construction, as construction equipment and vehicles are not electric (diesel- or gas-powered). However, electricity is expected to be consumed from water use during construction. The water-related energy use during project construction was calculated using water usage assumptions provided in Section 4.17, *Utilities and Service Systems*, of this EIR in combination with CalEEMod defaults for electricity intensity factors associated with water conveyance, treatment, and distribution.

Natural gas is not expected to be consumed in large quantity during project construction (i.e., no natural gas-powered equipment or vehicles). Therefore, natural gas associated with construction activities was not calculated.

Regarding transportation-related fuel consumption during construction, the project construction equipment and haul trucks would likely be diesel-fueled, while the construction worker commute vehicles would primarily be gasoline-fueled. Fuel consumption from diesel vehicles was estimated in the Energy Memorandum (QK Inc., 2019a). The energy use associated with worker fuel consumption during project construction was calculated by converting GHG emissions (i.e., CO₂ emissions) estimated for the project in the Air Quality Impact Analysis (see Appendix C), using the rate of CO₂ emissions emitted per gallon of combusted gasoline (8.78 kilograms/gallon).

Operation

Electricity would be used by the project during solar panel washing as well as by the Operation and Maintenance Building. The project would also require power for the electrical enclosures, and for plant lighting and security. The switchgear building battery room would supply DC power for the substation

protection equipment. As with construction, water-related energy use during project operations was calculated using water usage assumptions provided in Section 4.17, *Utilities and Service Systems*, of this EIR in combination with CalEEMod defaults for electricity intensity factors associated with water conveyance, treatment, and distribution.

Natural gas is not expected to be consumed in large quantity during project operation. Therefore, natural gas associated with operations was not calculated.

Energy for transportation from employees to the project site was estimated in the Energy Memorandum (QK Inc., 2019a) and based on the predicted number of trips to and from the project and the estimated VMT.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify, per Appendix G of the *CEQA Guidelines*, a project would have a significant impact on energy and energy resources if it would:

- a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Project Impacts

Impact 4.6-1: The project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Construction

Construction and decommissioning of the new solar energy generation facility is expected to require the use of non-renewable resources in the form of gasoline and diesel to power off-road construction equipment and on-road vehicles. As shown in **Table 4.6-2, Project Construction Energy Usage**, construction activities are expected to consume approximately 1,359 gallons of gasoline, 29,500 gallons of diesel and 424,291 kWh of electricity. This consumption would be approximately 0.0003 percent of Kern County's annual gasoline fuel use in 2018, 0.018 percent of Kern County's annual diesel fuel use in 2018, and 0.0005 percent of the total electricity consumption in the SCE service area in 2018, respectively.

As noted above, construction of the project would not result in any natural gas consumption on the site. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of natural gas, and impacts would be less than significant.

TABLE 4.6-2: PROJECT CONSTRUCTION ENERGY USAGE

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel	Total Electricity (kWh)
Kern County (2018); SCE (2018)	454,498,680	308,064,466	83,400,000,000
Construction:			
Trucks and Equipment	—	56,000	—
Workers	1,359	—	—
Water Conveyance	—	—	424,291
% of County	0.0003%	0.018%	0.0005%
SOURCES: QK 2019a; ESA 2020.			

Energy consumption associated with decommissioning activities are anticipated to be similar to construction activities. The consumption of fuels during construction and decommissioning would be irreversible. Although construction and decommissioning activities would be temporary, the project could result in a wasteful, inefficient, or unnecessary consumption of energy resources if available control measures are not implemented. The project does not propose any energy control measures during construction. As a result, this impact would be potentially significant. Implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7, as provided in Section 4.3, *Air Quality*, of this EIR, would require the use of energy-efficient and alternatively-fueled equipment during project construction. Implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7 would also ensure compliance with Title 13, CCR, Section 2449 et seq., which imposes construction equipment idling restrictions. Compliance with Title 13 CCR would also help to reduce unnecessary fuel consumption during project construction. With implementation of this mitigation, the project would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels and impacts would be reduced to less than significant.

Operation

Operational energy consumption in the form of electricity would occur as a result of solar panel maintenance and the Operation and Maintenance Building. However, electricity use would be offset by the power produced by the solar panels. In addition, the use of transportation fuel would be minimal and are predominately associated with worker commute trips and occasional panel washing activities. Energy use associated with long-term operational activities is summarized in **Table 4.6-3, Project Operational Energy Usage**. As shown, operation of the project would consume approximately 26 gallons of gasoline, 500 gallons of diesel and 16,972 kWh of electricity. This is 0.000016 percent of Kern County's annual gasoline fuel use in 2018, 0.0002 percent of Kern County's annual diesel fuel use in 2018, and 0.00002 percent of the total electricity consumption in the SCE service area in 2018.

TABLE 4.6-3: PROJECT OPERATIONAL ENERGY USAGE

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel	Total Electricity (kWh)
Kern County (2018); SCE (2018)	454,498,680	308,064,466	83,400,000,000
Trucks	—	500	
Workers	26	—	—
Water Conveyance for Panel Cleaning	—	—	16,972
Percent of County	0.00001%	0.0002%	0.00002%
SOURCES: QK 2019a; ESA 2020.			

Total electricity generation is estimated to be 65 GWh over the life of the project, which more than offsets the energy consumed annually to operate the project (as shown in Table 4.6-3). This production is anticipated to remain relatively constant throughout operation of the project. This electricity generation would assist State investor-owned utilities in meeting their obligations under State RPS guidelines by providing a renewable energy alternative to the utilities' existing power mix. In addition, operation of the project would not result in any natural gas consumption on the site. Therefore, the project would not result in wasteful, inefficient, or unnecessary consumption of electricity or natural gas, and impacts would be less than significant.

As shown in Table 4.6-3, the project would result in 26 gallons of gasoline and 500 gallons of diesel per year, representing a fraction of a percent of the County's annual gasoline and diesel use, respectively. As stated in Section 4.15, *Transportation*, trips to the project site would be minimal and panel cleaning would happen periodically. Based on the minimal number of trips, the negligible fuel use, and the cleaning of panels on an as-needed basis, the project would not result in wasteful, inefficient, or unnecessary consumption of transportation fuels. Overall, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7 (see Section 4.3, *Air Quality*, for full text of Mitigation Measures MM 4.3-3 and MM 4.3-7).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7, impacts would be less than significant.

Impact 4.6-2: The project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Construction

Construction equipment would comply with federal, State, and regional requirements where applicable. With respect to truck fleet operators, the EPA and NHSTA have adopted fuel efficiency standards for medium- and heavy-duty trucks. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018 and result

in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. EPA and NHTSA also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type. The energy modeling for trucks does not take into account specific fuel reductions from these regulations, since they would apply to fleets as they incorporate newer trucks meeting the regulatory standards; however, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the standards.

In addition, construction equipment and trucks are required to comply with CARB regulations regarding heavy-duty truck idling limits of 5 minutes at a location and the phase-in of off-road emission standards that result in an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines. Although these regulations are intended to reduce criteria pollutant emissions, compliance with the anti-idling and emissions regulations would also result in the efficient use of construction-related energy.

Operation

In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the 33 percent RPS by 2020 and 50 percent by 2030. The project and other similar projects are essential to achieving the RPS. Further, as discussed in detail in Section 4.8, *Greenhouse Gas Emissions*, the project is reasonably expected to displace region-wide and statewide emissions of GHGs over the expected life of the project. The reduction in GHG emissions are a direct result of increasing the share of renewable energy available to investor-owned utilities required to meet RPS. The project directly aligns with the goals of RPS by generating 65 GWh of renewable electricity over the life of the project.

Furthermore, as the project would have an electric power generating capacity of approximately 26.6 MW (alternating current or “AC”) of renewable electrical energy and advanced battery storage units Battery Energy Storage System (BESS) the project would be consistent with the Attorney General’s recommended measures to reduce GHG emissions. Specifically, the project complies with the Attorney General’s Recommended Measure to “Install solar and wind power systems, solar and tank less hot water heaters, and energy-efficient heating ventilation and air conditioning.” Therefore, the project would be compliant with the Attorney General’s Recommended Measure regarding renewable energy. Because the project is below regional regulatory thresholds and could result in a reduction of GHG emissions, no mitigation measures are required.

With regard to the Operation and Maintenance Building proposed on the project site, this building would be subject to the Building Energy Efficiency Standards as required by the California Code of Regulations, Title 24, Part 6. The Building Energy Efficiency Standards are intended to save energy, increase electricity supply reliability, and avoid the need to construct new power plants. Pursuant to the California Building Standards Code and the Energy Efficiency Standards, the County would review the design components of the project’s energy conservation measures when the project’s building plans are submitted. These measures could include insulation; use of energy-efficient heating, ventilation, and air conditioning equipment (HVAC); solar-reflective roofing materials; energy-efficient indoor and outdoor lighting systems; reclamation of heat rejection from refrigeration equipment to generate hot water; incorporation of skylights; and other measures. The project would also be subject to CALGreen, which requires 65 percent construction solid waste diversion.

Overall, because the main objectives of the project are to assist California Investor-Owned utilities in meeting their obligations under California's RPS Program and assist California in meeting the GHG emissions reduction goal of 1990 level GHG emissions by 2020, as required by AB 32, and the future reduction goal of 40 percent below 1990 levels by 2030, the project would be compliant with the applicable recommended actions of the CARB Climate Change Scoping Plan, as well as, applicable federal, state and local policies. Specifically, the project would assist the State and regulated utility providers to generate a greater portion of energy from renewable sources consistent with the 2020 and 2030 RPS. Therefore, this impact would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts occur when the incremental effects of a project are significant when combined with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area. As presented in Chapter 3, *Project Description*, of this EIR, there are six related projects located within the vicinity of the project site (four within a 6-mile radius of the project site and two within a 50-mile radius). The geographic context for the analysis of cumulative impacts on electricity is SCE's service area because the project and related projects are located within the service boundaries of SCE.

Cumulative projects in the project area listed in Table 3-5, *Cumulative Projects List*, largely consist of utility-scale solar power generation facilities and commercial development. The nature of the solar projects is such that, like the project, they would be consistent with the strategies of the Climate Change Scoping Plan. In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the RPS target of 33 percent of California's energy coming from renewable sources by 2020. In order to meet the SB 32 GHG emissions reduction mandate, the 2017 Scoping Plan relies on achievement of the RPS target of 60 percent of California's energy coming from renewable sources by 2030 and 100 percent renewable sources by 2045. The project and other similar projects are essential to achieving the RPS.

The main contribution of energy consumption from the project would be from construction equipment usage, haul truck trips, and employee trips during the construction phase and panel washing activities, maintenance trips, and employee trips during project operation of the project as well as electricity used for the Operations and Maintenance Building. The project's emissions would, therefore, contribute to the increase in emissions in the transportation sector as well as electricity generation sector. Construction emissions would be finite and temporary and would cease at the end of construction activities.

Although the project would result in a contribution to cumulative energy consumption in California, construction of the project would implement Mitigation Measures MM 4.3-3 and MM 4.3-7, as provided in Section 4.3, *Air Quality*, of this EIR, would require the use of energy-efficient and alternatively-fueled equipment during project construction. In addition, operation of the project could offset emissions from the electricity generation sector estimated at over 64 GWh of renewable electricity during the project lifetime.

As stated above, some of the related projects are solar installations that would have similar energy use that would be offset by renewable energy generation and would have minimal operational trips to and from the sites. Overall, the project clearly would not contribute to cumulative energy consumption in California because operation of the project would provide electric power with negligible operational energy consumption over the long term when compared to traditional fossil-fueled generation technologies. Thus, the project would not have a cumulatively considerable impact on energy consumption, would not conflict with any renewable energy plans, and cumulative impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7 (see Section 4.3, *Air Quality*, for full text of Mitigation Measures MM 4.3-3 and MM 4.3-7).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7, impacts would be less than significant.

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4.7.1 Introduction

This section of the Environmental Impact Report (EIR) describes the geologic and soil characteristics of the project site and potential geology and soils impacts associated with construction and operation of the project and mitigation measures that would reduce these impacts, if applicable. The analysis in this section is largely based on the Geotechnical Engineering Report prepared for the project (Terracon, 2015b) located in Appendix G of this EIR, the Phase 1 environmental site assessments for the project site (Terracon 2015a; SEI, 2014) located in Appendices H1 and H2 of this EIR, the Paleontological Resource Assessment (PaleoServices, 2016) located in Appendix G, and the Hydrology Investigation prepared for the project (SEI, 2014) located in Appendix I of this EIR.

4.7.2 Environmental Setting

Regional Geologic Setting

The project sites are all located in the western portion of what is known as the Mojave Desert Geomorphic Province. The geologic features of this province are characterized by isolated mountains separated by vast desert plains which contain enclosed drainage basins (no drainage outlet to the ocean). The province is bounded by predominate northwest-southeast faults trends of the San Andreas Fault and a secondary east-west fault trend of the Garlock Fault that create a wedged shape (CGS, 2002). The Garlock Fault is a major strike-slip fault in Southern California that clearly marks the northern boundary of the Mojave province and the southern ends of the Sierra Nevada (SCEDC, 2017). The San Andreas Fault is the master fault of an intricate fault network cutting through the California coastal region; the fault extends from northern California to the San Bernardino area of Southern California (Schulz and Wallace, 2016). The project site itself does not contain any faults, but is located in Southern California, which is a seismically active area (Terracon, 2015b).

Local Geologic Setting

Soils and Topography

The project site is covered by native soils. Surface and near-surface soils consist of silty sand with very low expansion potential (Terracon, 2015b). Silty sands are interbedded with subsurface clay layers (Terracon, 2015a; SEI, 2014). The project site is relatively flat with an elevation of approximately 2,420 feet above mean sea level (amsl) (Terracon, 2015b).

Fault Rupture

Ground surface rupture along an earthquake fault may cause damage to aboveground infrastructure and other features and occurs when movement on a fault deep within the earth breaks through to the surface. Fault ruptures almost always follow pre-existing faults that are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking. Fault creep is the slow, continuous aseismic fault split of the earth's crust. Fault rupture is considered to be most likely to occur along the identified traces of active faults. Fault rupture is considered to be most likely to occur along the identified traces of active faults (Bryant and Hart, 2007). As described above, there are no faults located on the project site itself. Additionally, the site is not located within an Earthquake Fault Zone as delineated by the Alquist-Priolo Earthquake Fault Zoning Act (Terracon, 2015b), which identifies active fault traces to mitigate the hazards of fault rupture (Bryant and Hart, 2007).

Ground Shaking

Faults located within the vicinity of the project site have the potential to cause ground shaking on the project site; the magnitude of ground shaking experienced onsite is dependent on the distance to causative faults and the earthquake magnitude (or measure of the amount of energy released during an earthquake event). Strong ground shaking from an earthquake can result in damage associated with landslides, ground lurching, structural damage, and liquefaction. The Southern California region is characterized by seismic activity. Earthquakes are classified by their magnitude, a measure of the amount of energy released during an event. During a seismic event, the project site may be subjected to high levels of ground shaking due to proximity to active faults in the area. The largest fault in the area is the San Andreas Fault, which is considered active. **Table 4.7-1, *Historic Earthquakes in Project Area Vicinity***, indicates the distance of the closest active fault zones and the associated maximum credible earthquake that can be produced by nearby seismic events on these faults.

TABLE 4.7-1: HISTORIC EARTHQUAKES IN PROJECT AREA VICINITY

Earthquake (Fault)	Approximate Distance to Project Site (miles)	Maximum Credible Earthquake Magnitude
Little Lake	8.8	6.8
S. Sierra Nevada (segment west of project site)	3.5	7.2
S. Sierra Nevada (segment south of project site)	4.6	6.9
Ridgecrest (2019)	8.0	7.1, 6.4
SOURCE: Terracon, 2015; USGS, 2019.		

As described in the table above, the nearest fault to the project site is the active South Sierra Nevada fault, located approximately 3.5 miles to the west (Jennings, 2010). The Sierra Nevada Fault runs generally north-south along the Sierra Nevada Mountain range. The Little Lake Fault is the next closest fault, which branches off of the Sierra Nevada Fault and runs northwest to southeast in the project area (DOC, 2020).

Landslides

The project site is relatively flat, with an elevation of approximately 2,420 feet above mean sea level (amsl) (Terracon, 2015b). Given these characteristics, the potential for landslides is considered low on the project site.

Liquefaction and Lateral Spreading

Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong ground shaking. Liquefaction occurs when water saturated, loose materials (e.g., sand or silty sand) are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. The project site's susceptibility to liquefaction is a function of depth, density, groundwater level, and magnitude of an earthquake. Liquefaction-related phenomena can include lateral spreading, ground oscillation, flow failure, loss of bearing strength, subsidence, and buoyancy effects.

For liquefaction to occur, the soil must be saturated (i.e., shallow groundwater) and be relatively loose. Liquefaction more often occurs in areas underlain by young alluvium where the groundwater table is higher than 50 feet below ground surface (bgs). In order to determine the liquefaction susceptibility of a region, three major factors must be analyzed. These include: (1) the density and textural characteristics of the alluvial sediments, (2) the intensity and duration of ground shaking, and (3) the depth to groundwater.

Lateral spreading is a potential hazard commonly associated with liquefaction where extensional ground cracking and settlement occur as a response to lateral migration of subsurface liquefiable material. These phenomena typically occur adjacent to free faces such as slopes and creek channels.

Liquefaction is a type of ground failure resulting from the generation of high pore-water pressures during earthquake ground shaking, causing loss of shear strength. Liquefaction is typically a hazard where loose sandy soils exist below groundwater. Based on the documented depth of groundwater and subsurface conditions, the potential for liquefaction at the project site is considered low. Other geologic hazards related to liquefaction, such as lateral spreading, are therefore also considered low (Terracon, 2015b).

Soil Erosion

Soil erosion occurs when surface materials are worn away from the earth's surface due to land disturbance and/or natural factors such as wind and precipitation. The potential for soil erosion is determined by characteristics including texture and content, surface roughness, vegetation cover, and slope grade and length. Wind erosion typically occurs when fine-grained non-cohesive soils are exposed to high velocity winds, while water erosion tends to occur when loose soils on moderate to steep slopes are exposed to high-intensity storm events. Soil is naturally removed from the surface of the earth by water or wind action at about the same rate it is produced.

High soil erodibility contributes to high erosion rates. Soils containing high silt content have the highest soil erodibility since they are easily detached, tend to crust, and produce high rates of runoff. Coarse textured soils, or sandy soils, are easily detached but typically do not produce a lot of runoff, so they have low soil erodibility. Soils containing high clay content have the lowest soil erodibility values (MSU, 2017b).

Soil types onsite have not been mapped by the Natural Resources Conservation Service (NRCS, 2020). Soils onsite consist of well-graded sand with clay and poorly-graded sand with silt (Terracon, 2015b). Long

slope length and high slope steepness contribute to higher erosion rates (MSU, 2017c); since the site is relatively flat, erosion potential related to slope length and slope steepness is low (Terracon, 2015b). Minimal to no vegetation cover contributes to high erosion rates (MSU, 2017a). The site is currently undeveloped and contains minimal vegetation (Terracon, 2015b); t, the site has a higher erosion potential with respect to vegetative cover. Overall, this results in a moderate erosion potential of soils onsite.

Subsidence

Subsidence is the sinking of the ground surface. There are four types of subsidence that are currently occurring within Kern County. The first is tectonic subsidence, which refers to the long-term slow sinking of the land surface. Subsidence can also occur naturally in some areas when moisture-deficient soils are exposed to water, which causes collapse. Thirdly, subsidence is occurring due to the extraction of oil and gas. Lastly, the withdrawal of groundwater has also caused subsidence. Specific areas identified as experiencing subsidence within the County include the San Joaquin Valley, a large area south of Bakersfield and parts of the California Aqueduct.

Soil Collapse

Collapsible soils consist of loose, dry, low-density materials that collapse, compact and change in settlement under the addition of water or excessive loading, often resulting in severe damage to structures. These soils are distributed throughout the southwestern United States, specifically in areas of young alluvial fans, debris flow sediments, and loess (wind-blown sediment) deposits. Subgrade soils on the project site exhibit a slight collapse potential when saturated and tested at an approximate surcharge pressure of 2,000 pounds per square foot (Terracon, 2015b).

Expansive Soils

Expansive soils contain clay types capable of absorbing water. When water is absorbed, the clay expands and can cause significant volume increases in the soil, causing the ground and anything constructed upon it to gradually be affected (AGS, 2017). Native soils encountered on site during preliminary soil testing generally consisted of well-graded sand with clay and poorly-graded sand with silt (Terracon, 2015b). Given the low clay content, the project site does not likely contain expansive soils.

Paleontological Setting

Paleontological resources are the mineralized (fossilized) remains of prehistoric plants and animals and the mineralized impressions (trace fossils) left as indirect evidence of the form and activity of such organisms. These resources are located within sedimentary rocks or alluvium and are considered to be nonrenewable.

Formations that contain vertebrate fossils are considered more sensitive because vertebrate fossils tend to be rare and fragmentary. Formations containing microfossils, plant casts, and invertebrate fossils are more common. A significant fossil deposit is a rock unit or formation that contains significant nonrenewable paleontological resources. This is defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information, which provide datable material and climatic information. This definition excludes invertebrate or botanical fossils except when present within

a given vertebrate assemblage. However, invertebrate and botanical fossils may be significant as environmental indicators associated with vertebrate fossils. Within the project site, surficial Holocene-aged alluvial deposits are considered to have a low sensitive for paleontological resources. These Holocene-aged deposits are underlain at unknown depths by Pleistocene-aged alluvial deposits which are considered to have high sensitivity.

Existing Paleontological Resources

To assess the likelihood of encountering paleontological resources within the project site, the Department of Paleo Services at the San Diego Natural History Museum (SDNHM) performed an assessment that included a records search and a literature review (Donohue and Deméré, 2016). The following assessment is derived from SDNHM's assessment.

As noted above, the project site is covered by Holocene-aged alluvium, underlain by Pleistocene-aged alluvium at an unknown depth. Holocene-aged sediments are too young to contain scientifically significant paleontological resources and are considered to have low paleontological sensitivity (Paleontological Fossil Yield Classification [PFYC] Class 2). The Pleistocene-aged sediments, while assigned a PFYC of Class U (unknown) in the SDNHM report, primarily because they are buried, are known to have produced fossils in the vicinity of the project site, and so should be considered sensitive.

Searches of paleontological records databases at the SDNHM and the San Bernardino County Museum indicate that no fossil localities have been previously recorded within 1 mile of the project site. Given the Holocene-age of the surficial deposits covering the project site and its surrounding vicinity, it is not surprising that no fossil localities have been previously identified. However, Pleistocene-age alluvium underlies this Holocene-age alluvium at unknown depths and likely contains deposits similar to those found at China Lake, located east of the project, which have yielded vertebrate fossils including mammoth, horse, bison, deer, camel, and saber-toothed cat. Other terrestrial vertebrates including rodents, bats, shrews, rabbits, snakes, lizards, tortoises, and birds have also been recovered from similar deposits. For the purposes of the paleontological resources assessment, it is assumed that the Holocene-age deposits extend to a depth of 5 feet within the project site, and beyond depths of 5 feet the likelihood of encountering Pleistocene-age deposits that have the potential to yield fossils increases dramatically.

4.7.3 Regulatory Setting

Geologic resources and geotechnical hazards are governed primarily by local jurisdictions. The conservation elements and seismic safety elements of city and county general plans contain policies for the protection of geologic features and avoidance of hazards.

The California Environmental Quality Act (CEQA) is the major environmental statute that guides the design and construction of projects on nonfederal lands in California. This statute establishes a specific process for environmental impact analysis and public review. In addition, the project proponent must comply with other applicable federal, State, and local statutes, regulations, and policies. Relevant and potentially relevant statutes, regulations, and policies are discussed below.

Federal

Clean Water Act (Erosion Control)

The Federal Clean Water Act (CWA) (33 USC 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to surface water. Such discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). Projects that disturb 1 acre or more are required to obtain NPDES coverage under the NPDES General Permit for Stormwater Discharges Associated with Construction Activity (Construction General Permit), Order No. 2009-0009-DWQ. The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which includes best management practices (BMPs) to regulate stormwater runoff, including measures to prevent soil erosion. Requirements of the CWA and associated SWPPP are described in further detail in Section 4.10, *Hydrology and Water Quality*.

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1977 to “*reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.*” To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives.

NEHRP’s mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which the project would be required to adhere.

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 (CGS) 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 PRC Chapter 7.8, Division 2, the CGS 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 CGS 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 California Building Code (CBC) has been codified in the California Code of Regulations (CCR) as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 CCR or they are not enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The 2019 CBC is based on the 2018 International Building Code (IBC) published by the International Code Conference. In addition, the CBC contains necessary California amendments, which are based on reference standards obtained from various technical committees and organizations such as the American Society of Civil Engineers (ASCE), the American Institute of Steel Construction (AISC), and the American Concrete Institute (ACI). ASCE Minimum Design Standards 7-16 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients which are used to determine a Seismic Design Category (SDC) for a project as described in Chapter 16 of the CBC. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC in accordance with Chapter 16 of the CBC. Chapter 16, Section 1613 provides earthquake loading specifications for every structure, and portion thereof, including nonstructural components that are permanently attached to structures and their supports and attachments, which shall be designed and constructed to resist the effects of earthquake motions in accordance with ASCE 7-16. Chapter 18, Section 1804, provides requirements for excavation, grading and fills whereas Section 1806 provides specifications for load bearing soils. Chapter 18 also describes analysis

of expansive soils (1803.5.3) and the determination of the depth to groundwater table. For Seismic Design Categories D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses mitigation measures to be considered in structural design, which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

Chapter 18 also describes analysis of expansive soils and the determination of the depth to groundwater table. Expansive soils are defined in the CBC as follows:

1803.5.3 Expansive Soil. In areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1,2 and 3 shall not be required if the test prescribed in Item 4 is conducted:

1. Plasticity index (PI) of 15 or greater, determined in accordance with ASTM D 4318.
2. More than 10 percent of the soil particles pass a No. 200 sieve (75 micrometers), determined in accordance with ASTM D 422.
3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422.
4. Expansion index greater than 20, determined in accordance with ASTM D 4829.

Requirements for geotechnical investigations are included in Appendix G, CBC Section J104, Engineered Grading Requirements. As outlined in Section J104, applications for a grading permit are required to be accompanied by plans, specifications, and supporting data consisting of a soils engineering report and engineering geology report. Testing of samples from subsurface investigations is required, such as from borings or test pits. Studies must be done as needed to evaluate slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on load-bearing capacity, compressibility, liquefaction, differential settlement, and expansiveness.

Public Resources Code, Section 5097.5

PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, in cooperation with the CWA, established the SWRCB. The SWRCB and the nine RWQCBs are responsible for protecting California's surface water and groundwater supplies. Section 13000 of the act directs each RWQCB to develop Water Quality Control Plans for all areas in its region, to designate the beneficial uses of California's rivers and groundwater basins; these plans are the basis for each board's regulatory program.

The Basin Plan gives direction on the beneficial uses of state waters in Region 7, 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 RWQCBs 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.

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 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 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 (BMP) 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 General Construction Permit is through the Stormwater Multiple Application and Report Tracking System. Additionally, the SWRCB is responsible for implementing the CWA and issues NPDES permits to cities and counties through the individual regional boards.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for geology and soils that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development, such as the project. These measures are not listed below, but as stated in Chapter 2, *Introduction*, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1: Land Use, Conservation, and Open Space Element

1.3: Physical and Environmental Constraints

Goal

Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.

Policy

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes from 2.6 – 2.9, Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Implementation Measures

Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.

Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.10.3: Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

Policy 25: The County will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.

Chapter 4: Safety Element

4.3: Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure

Goal

Goal 1: Minimize injuries and loss of life and reduce property damage.

Policy

Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.

Implementation Measure

Measure B: Require geological and soils engineering investigations in identifying significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.

Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.

4.5: Landslides, Subsidence, Seiche, and Liquefaction***Policies***

Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.

Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. The Land Use, Open Space, and Conservation Element of the Inyokern Specific Plan has the purpose of identifying physical constraints, public, residential, commercial, and industrial facilities as well as cultural and biological resources within the Plan area. The Seismic Safety and Safety Element of the Inyokern Specific Plan has the purpose of identifying hazards related to liquefaction, earthquake, flooding, and landslide within the Plan area. Both elements contain goals and policies that apply to the proposed project, as provided below. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

Land Use, Open Space, and Conservation Element**1.1: Physical Constraints*****Policies***

Policy 1: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.

Policy 4: Kern County building, health, and fire codes and standards shall be strictly enforced to minimize the possibility of hazards relevant to certain physical constraints.

Implementation Measure

Measure 4: All structural development must conform to the Uniform Building Code, as administered by Kern County, to provide an adequate level of protection from earthquake damage.

Seismic Safety and Safety Element

Goal

Goal 1: To ensure the safety of the area residents from environmentally related hazards.

Policy

Policy 2: Development shall consider seismic hazards during new construction and include adequate safety measures.

Implementation Measures

Measure 1: All construction shall comply with the requirements of the Uniform Building Code (UBC) and the Uniform Fire Code (UFC) with regard to water supply, fire flow, and construction standards.

Measure 3: All construction shall comply with the standard of the UBC with regard to seismic hazard.

Kern County Code of Building Regulations (Title 17 of the Ordinance Code of Kern County)

All construction in Kern County is required to conform to the Kern County Building Code (Chapter 17.08, Building Code, of the Kern County Code of Regulations). Kern County has adopted the California Building Code (CBC), 2016 Edition, with some modifications and amendments. The entire County is in Seismic Zone 4, a designation previously used in the Uniform Building Code (UBC) to denote the areas of highest risk for earthquake ground motion. California has an unreinforced masonry program that details seismic safety requirements for Zone 4. Seismic provisions associated with Seismic Zone 4 have been adopted.

Chapter 17.28: Kern County Grading Code

The purpose of the Kern County Grading Code (Chapter 17.28, Building Code, of the Kern County Code of Regulations) sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction. Sections of the Grading Code that are particularly relevant to geology and soils are provided below.

Section 17.28.140: Erosion Control

A. Slopes. The faces of cut-and-fill slopes shall be prepared and maintained to control erosion. This control may consist of effective planting. Protection for the slopes shall be installed as soon as practicable and

prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

- B. Other Devices. Where necessary, check dams, cribbing, riprap, or other devices or methods shall be employed to control erosion and provide safety.
- C. Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each work day during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Section 17.28.170: Grading Inspection

- A. General. All grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations and testing shall be provided by the civil engineer, soils engineer, and the engineering geologist retained to provide such services in accordance with Subsection 17.28.170(E) for engineered grading and as required by the building official for regular grading.
- B. Civil Engineer. The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade, and surface drainage of the development area. If revised plans are required during the course of the work, they shall be prepared by the civil engineer.
- C. Soils Engineer. The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.
- D. Engineering Geologist. The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.
- E. Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this Code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.
- F. Building Official. The building official may inspect the project at the various stages of the work requiring approval to determine that adequate control is being exercised by the professional consultants.
- G. Notification of Noncompliance. If, in the course of fulfilling their responsibility under this chapter, the civil engineer, the soils engineer, or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the building official. Recommendations for corrective measures, if necessary, shall also be submitted.

- H. Transfer of Responsibility. If the civil engineer, the soils engineer, or the engineering geologist of record is changed during the course of the work, the work shall be stopped until:
1. The civil engineer, soils engineer, or engineering geologist, has notified the building official in writing that they will no longer be responsible for the work and that a qualified replacement has been found who will assume responsibility.
 2. The replacement civil engineer, soils engineer, or engineering geologist notifies the building official in writing that they have agreed to accept responsibility for the work.

Kern County Water Quality Control Plan

Each of the nine RWQCBs adopts a Water Quality Control 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 these plans, along with the causes, if 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 Kern County Public Works Department, Engineering Division requires the completion of an NPDES applicability form for all construction projects disturbing 1 acre or more within Kern County. This form requires the applicant to provide background information on construction activities. Applicants must apply for the permit under one of the following four conditions:

1. All storm water is retained onsite and no storm water runoff, sediment, or pollutants from onsite construction activity can discharge directly or indirectly offsite or to a river, lake, stream, municipal storm drain, or offsite drainage facilities.
2. All storm water runoff is not retained on site, but does not discharge to a Water of the United States (i.e., drains to a terminal drainage facility). Therefore, a SWPPP has been developed and BMPs must be implemented.
3. All storm water runoff is not retained on site, and the discharge is to a Water of the United States. Therefore, a Notice of Intent (NOI) must be filed with the State Regional Water Resources Control Board prior to issuance of the building permit. Also, a SWPPP has been developed and BMPs must be implemented.
4. Construction activity is between 1 and 5 acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.

4.7.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to geology and soils have been evaluated using a variety of resources, including the Geotechnical Engineering Report (Terracon, 2015b) and the Paleontological Resource Assessment (PaleoServices, 2016), and the Hydrology Investigation (SEI, 2014) prepared for the project, located in Appendices H and J, respectively. The Geotechnical Engineering Report made recommendations for project design based upon the results of field and laboratory testing, engineering

analyses, and an understanding of the proposed project. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

The loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be a significant environmental impact. Direct impacts to paleontological resources primarily concern the potential destruction of nonrenewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information (significant impact). At the project-specific level, direct impacts can be mitigated to a less-than-significant level through the implementation of paleontological mitigation.

The CEQA threshold of significance for a significant impact to paleontological resources is reached when a project is determined to “directly or indirectly destroy a significant paleontological resource or unique geologic feature.” In general, for projects that are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources. For projects that are directly underlain by geologic units with no paleontological sensitivity, there is no potential for impacts on paleontological resources unless sensitive geologic units which underlie the non-sensitive unit are also affected.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on geology and soils.

A project would have a significant adverse effect on geology and soils if it would:

- a. Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death, involving:
 - i. 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;
 - ii. Strong seismic ground shaking;
 - iii. Seismic-related ground failure, including liquefaction; or
 - iv. Landslides;
- b. Result in substantial soil erosion or the loss of topsoil;
- c. 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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse;
- d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property; or
- e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.

- f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

As lead agency, Kern County determined in the Initial Study/Notice of Preparation (IS/NOP), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to the following environmental issue areas; these issue areas are thus scoped out of this EIR. It was determined that the project would not:

- a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:
 - iii. Seismic-related ground failure, including liquefaction, or
 - iv. Landslides;
- d. 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; or
- e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater.

As detailed in the IS/NOP, the project would not result in significant impacts to risks related to seismic-related ground failure, landslide, expansive soils, or inadequate wastewater disposal, since the site is located in a relatively flat-lying plain and does not contain any steep slopes.

The project would not result in significant impacts related to liquefaction because groundwater in the area is approximately 255 feet below ground surface and the project site is not located within a current mapped California Liquefaction Hazard Zone. However, a comment letter from the Eastern Kern County Resource Conservation District on the IS/NOP stated that there is a liquefaction problem in the Indian Wells Valley, so the topic has been addressed under Impact 4.7-4.

The expansion potential of onsite soils can be classified as very low to low, and special design is not necessary. The O&M activities would not require permanent employees; therefore, no septic tanks or alternative wastewater disposal would be required. Furthermore, the project would be designed to comply with applicable building codes and structural improvement requirements to withstand the effects of expansive soils and implementation of Kern County Building Code requirements. No further analysis for these issues areas is warranted in the EIR.

Project Impacts

Impact 4.7-1: The project would directly or indirectly cause 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.

While the project area is located in the highly seismic Southern California region, the project site is not located within a State-identified Alquist-Priolo Earthquake Fault Zone. Additionally, as described in Table 4.7-1, the nearest fault to the project site is the active South Sierra Nevada fault, located approximately 3.5 miles to the west (Jennings, 2010). Therefore, the project site is not anticipated to be at risk of fault rupture.

In addition, construction of the project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08), which includes the adopted 2016 CBC (CCR Title 24). These would ensure project structures comply with minimum standards related to structural strength and general stability. Therefore, given the absence of any known active faults in the project area and required compliance with the Kern County Building Code, impacts related to fault rupture would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.7-2: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

As stated previously, the project site is in a highly seismic region that could experience one or more substantive seismic events in the future. Depending on the magnitude, distance to the source, and duration of shaking, damage to the PV modules, the operations & maintenance (O&M) building, or other ancillary facilities and injury to workers or visitors could result. However, because the proposed project would not establish a permanent on-site population, damage to these on-site structures would not expose a substantial number of people to potential adverse effects due to strong seismic ground shaking.

In addition, prior to the issuance of grading permits, the project proponent would be required to design project infrastructure to withstand substantial ground shaking in accordance with all applicable ordinances of the Kern County Building Code (Chapter 17.08) and the current California Building Code. In addition, as described below, Mitigation Measure MM 4.7-1 requires that a geotechnical study to evaluate soil conditions and geologic hazards be performed by a qualified geotechnical engineer on the project site. Mitigation Measure MM 4.7-2 requires that a California geotechnical engineer be hired by the proponent to design the project facilities to withstand probable seismically induced ground shaking. All grading and construction onsite would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would be fully compliant with the seismic recommendations provided by the California-registered professional engineer in accordance with California and Kern County Building Code requirements. The required measures would encompass site preparation, foundation specifications, and protection measures for buried metal. The final structural designs would be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements would be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design would be submitted to the Kern County Planning and Natural Resources Department. Further, the facilities would be constructed in accordance with all applicable codes, which require property line and public roadway setbacks that would protect the general public and onsite staff from potential hazards associated with the facilities that could result from an earthquake. Adherence to the requirements of the Kern County Building Code the CBC and Mitigation Measures MM 4.7-1 and MM 4.7-2 would ensure that seismic hazards would be minimized and impacts related to ground shaking would be less than significant.

Mitigation Measures

MM 4.7-1: Prior to the issuance of building or grading permits for the project, the project proponent shall conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the project site and submit it to the Kern County Public Works Department for review and approval.

- a. The geotechnical study must be signed by a California-registered and licensed professional geotechnical engineer or engineering geologist and must include, but not be limited to, the following:
 - i. Location of fault traces and potential for surface rupture and groundshaking potential;
 - ii. Maximum considered earthquake and associated ground acceleration for design;
 - iii. Potential for seismically induced liquefaction, landslides, differential settlement, and unstable soils;
 - iv. Stability of any existing or proposed cut-and-fill slopes;
 - v. Collapsible or expansive soils;
 - vi. Foundation material type;
 - vii. Potential for wind erosion, water erosion, sedimentation, and flooding;
 - viii. Location and description of unprotected drainage that could be impacted by the proposed development; and,
 - ix. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground.
- b. The geotechnical study shall be performed pursuant to Chapters 16 and 18 of the 2016 California Building Code; California Geological Survey Special Publication 117A; the American Society of Civil Engineers (ASCE) 7-10 Standard; and California Geological Survey Note 49. Final project design and construction shall incorporate the recommendations of the geotechnical study. The project proponent shall not locate project facilities on or immediately adjacent to an active fault trace.
- c. The Kern County Public Works Department shall evaluate any final facility siting design developed prior to the issuance of any building or grading permits to verify that geological constraints have been avoided.

MM 4.7-2: Prior to the issuance of grading permits, the project proponent shall retain a California registered and licensed geotechnical engineer to design the project facilities to withstand probable seismically induced ground shaking at the site. All grading and construction onsite 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 professional engineer and state and local building codes, as well as California Geological Survey Special Publication 117A.

- a. The procedures and site conditions shall encompass site preparation, foundation specifications, and protection measures for buried metal.

- b. The final structural design shall be subject to approval and follow-up inspection by the Kern County Building Inspection Department. Final design requirements shall be provided to the onsite construction supervisor and the Kern County Building Inspector to ensure compliance. A copy of the approved design shall be submitted to the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2, impacts would be less than significant.

Impact 4.7-3: The project would result in substantial soil erosion or the loss of topsoil.

Construction of the project and associated improvements would involve earth-disturbing activities that could expose soils to the effects of wind or water erosion. Although the project study area consists of relatively flat topography and would not involve substantive cut and fill operations, earthmoving and construction activities could loosen soil, and the removal of existing minimal vegetation could contribute to soil loss and erosion. A SWPPP will be prepared and implemented per the requirements of the NPDES General Construction Permit Program. The SWPPP would detail that existing vegetation and topography are to be preserved to the maximum extent possible. The SWPPP would also specify various types of BMPs including erosion control BMPs to prevent soil from moving offsite; all temporary erosion control measures required by the Kern County Grading Code (Chapter 17.28.140) would be incorporated into the SWPPP (Mitigation Measure MM 4.7-3). Also, per Mitigation Measure MM 4.7-4, the project would be required to submit grading plans accompanied by a soils engineering report, engineering geology report, and drainage calculations pursuant to the Kern County Grading Code (Section 17.28.070) to the Kern County Engineering and Survey Services Department in order to obtain required grading permits. Compliance with Mitigation Measure MM 4.7-4 would ensure that excessive grading does not occur. As a result, project construction would have less-than-significant impacts related to erosion with implementation of Mitigation Measures MM 4.7-3 and MM 4.7-4.

Project operations would include the periodic cleaning of the panels with water; however, this is not expected to result in soil erosion because infrequency of these activities and limited volumes of water involved; water is expected to infiltrate into the ground and not generate substantial erosion or soil loss. Project operations would not require ground disturbance. As a result, project operation would have a less-than-significant impact with relation to soil erosion.

Mitigation Measures

MM 4.7-3: The construction contractor shall incorporate Best Management Practices consistent with National Pollutant Discharge Elimination System General Construction Permit Program for all construction projects that would not retain all stormwater onsite and the Kern County Grading Code. The project proponent shall prepare an Erosion and Sedimentation Control Plan as well as a Stormwater Pollution Prevention Plan. The plan shall be prepared by a Qualified Stormwater Pollution Prevention Plan Developer and submitted for review and approval by the applicable Regional Water Quality Control Board. The Stormwater

Pollution Prevention Plan Best Management Practices shall include, but not be limited to, the following:

- Scheduling to avoid construction during rain events to the maximum extent possible
- Preservation of existing vegetation and topography to the maximum extent practicable
- Stabilized construction entrances and exits
- Erosion control (including all pertinent temporary erosion control practices as specified in Chapter 17.28.140 of the Kern County Grading Code), such as mulching, temporary drains and cullies, sandbag barrier, geotextiles and mats, silt fences, brush or rock filters, earth dikes, straw bale barriers, and sediment traps
- Sediment control
- Waste management
- Good housekeeping
- Post-construction site stabilization

Prior to initial construction mobilization, preconstruction surveys shall be performed and sediment and erosion controls shall be installed in accordance with the approved Stormwater Pollution Prevention Plan. A copy of the approved Stormwater Pollution Prevention Plan shall be submitted to the Kern County Planning and Natural Resources Department.

MM 4.7-4: The project proponent shall limit grading to the minimum area necessary for construction. Prior to the initiation of construction, the project proponent shall retain a California registered and licensed professional engineer to submit final grading earthwork and foundation plans to the Kern County Public Works for approval.

Level of Significance

With implementation of Mitigation Measures MM 4.7-3 and MM 4.7-4, impacts would be less than significant.

Impact 4.7-4: The project would 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 onsite or offsite landslides, lateral spreading, subsidence, liquefaction, or collapse.

As stated above, the IS/NOP determined that the proposed project would result in no impact related to landslides and, therefore, this topic is not discussed in this analysis. While the IS/NOP also concluded there would be no impact related to liquefaction, the Geotechnical Engineering Report prepared for the EIR concluded that liquefaction potential on the project site is low (but not non-existent). Additionally, the Geotechnical Engineering Report prepared for this EIR concluded that the potential for other geologic hazards related to liquefaction, such as lateral spreading, are therefore also considered low. The report also states that the project site exhibits a slight collapse potential according to soil testing onsite. Although the project site itself has not been mapped by the County as being prone to subsidence, subsidence could still be occurring given the overdraft of the Indian Wells Valley Groundwater Basin underlying the project site. See Section 4.10, *Hydrology and Water Quality*, for more details on groundwater). To reduce potential

impacts due to lateral spreading, subsidence, liquefaction, or collapse Mitigation Measures MM 4.7-1 and MM 4.7-2 would be implemented for the project. Based on the conclusions of the final Geotechnical Engineering Report required by MM 4.7-1, the facility's final build-out would be designed by a California registered and licensed geotechnical engineer in such a way that geologic hazard-related impacts would be minimized. With implementation of Mitigation Measure MM 4.7-1, impacts would be less than significant.

Mitigation Measures

Implementation Mitigation Measures MM 4.7-1 and MM 4.7-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2, impacts would be less than significant.

Impact 4.7-5: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in CEQA Guidelines Section 15064.

As discussed in the Paleontological Resource Assessment conducted for the project (PaleoServices, 2016; located in Appendix G), no previously documented paleontological localities within the project site were identified. However, Pleistocene-age alluvium is known to underlie the project site, and this Pleistocene-age alluvium has the potential to contain fossiliferous deposits that may contain terrestrial vertebrate specimens. The report prepared by the SDNHM recommends that sediments at depths of 5 feet or greater should be considered to have a higher paleontological sensitivity. Therefore, although surface grading and very shallow excavation within the Holocene-age alluvium is unlikely to impact sensitive paleontological resources, excavations deeper than 5 feet could extend into the Pleistocene-age alluvium and impact significant vertebrate fossil resources. This would result in a potentially significant impact to paleontological resources. However, with implementation of Mitigation Measures MM 4.7-5 through MM 4.7-7, which would require Paleontological Resources Awareness Training for construction workers, use of a qualified paleontological monitor during construction activities, and appropriate treatment of accidentally uncovered paleontological resources, impacts to paleontological resources would be reduced to less than significant.

Mitigation Measures

MM 4.7-5: The project proponent/operator shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (Society for Vertebrate Paleontology, 2010), to carry out all mitigation measures related to paleontological resources.

- a. Prior to commencement of any ground disturbing activities, the qualified paleontologist shall conduct a Paleontological Resources Awareness Training program for all construction personnel working on the project. A Paleontological Resources Awareness Training Guide approved by the qualified paleontologist shall be provided to all personnel. A copy of the Paleontological Resources Awareness Training Guide shall be submitted to the Kern County Planning and Natural Resources Department. The training guide may be presented in video form.

- b. Paleontological Resources Awareness Training may be conducted in conjunction with other awareness training requirements.
- c. The training shall include an overview of potential paleontological resources that could be encountered during ground disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified paleontologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of paleontological resources.
- d. The Paleontological Resources Awareness Training Guides shall be kept onsite and available for all personnel to review and be familiar with as necessary.

MM 4.7-6: A qualified paleontologist or designated monitor shall monitor all ground-disturbing activity (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 5 feet or deeper below ground surface.

- a. The duration and timing of monitoring shall be determined by the qualified paleontologist in consultation with the Kern County Planning and Natural Resources Department, and shall be based on a review of geologic maps and grading plans.
 - i. During the course of monitoring, if the paleontologist can demonstrate based on observations of subsurface conditions that the level of monitoring should be reduced, the paleontologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances, as warranted.
- b. Paleontological monitoring shall include inspection of exposed rock units during active excavations within sensitive geologic sediments. The qualified paleontologist or paleontological monitor shall have authority to temporarily divert excavation operations away from exposed fossils to collect associated data and recover the fossil specimens if deemed necessary.
- c. Following the completion of construction, the qualified paleontologist shall prepare a report within 60 days after completion of construction, documenting the absence or discovery of fossil resources onsite. If fossils are found, the report shall summarize the results of the inspection program, identify those fossils encountered, recovery and curation efforts, and the methods used in these efforts, as well as describe the fossils collected and their significance. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to an appropriate repository such as the Natural History Museum of Los Angeles County.

MM 4.7-7: If a paleontological resource is found, the project contractor shall cease ground-disturbing activities within 50 feet of the find. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and donated to a public, non-profit institution with a research interest in the materials. Accompanying notes, maps, and photographs shall also be filed at the repository.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-5 through MM 4.7-7, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Impacts of the project would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. Cumulative projects listed in Table 3-5, *Cumulative Projects List*, of Chapter 3, *Project Description*, of this EIR would also be subject to similar seismic hazards and potential geologic instability. 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 project if they occurred in the same location as the project. None of the cumulative projects would be located on the project site.

Development of the project, with implementation of the regulatory requirements discussed above, would result in less-than-significant impacts related to exposing persons or structures to geology, soils, or seismic hazards. Although the entire region is a seismically active area, geologic and soil conditions vary widely within a short distance, making the cumulative context for potential impacts resulting from exposing people and structures to related risks one that is more localized or even site-specific. Similar to the project, other projects in the area would be required to adhere to the same California and Kern County Building Codes which would reduce the risk to people and property to less-than-significant levels. While future seismic events cannot be predicted, adherence to all federal, State, and local programs, requirements and policies pertaining to building safety and construction would limit the potential for injury or damage to a less-than-significant level. Therefore, the project, combined with past, present, and other foreseeable development in the area, would not result in a cumulatively significant impact by exposing people or structures to risk related to geologic hazards, soils, and/or seismic conditions. Therefore, the project would result in less-than-significant cumulative impacts related to geology and soils.

Surficial deposits, namely erosion and sediment deposition, can be cumulative in nature, depending on the type and amount of development proposed in a given geographical area. The cumulative setting for soil erosion consists of existing, planned, proposed, and reasonably foreseeable land use conditions in the region. However, construction constraints are primarily based on specific sites within a proposed development and on the soil characteristics and topography of each site. Individual projects are required to comply with applicable codes, standards, and permitting requirements (e.g., preparation of a SWPPP) to mitigate erosion impacts. The proposed project's compliance with these codes, standards and permitting requirements are required by Mitigation Measures MM 4.7-1 through MM 4.7-4. 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 project are subject to environmental review and would be required to conform to the Kern County General Plan, Inyokern Specific Plan, and Kern County's Building Code, and would implement additional mitigation of seismic hazards to ensure soil stability, especially related to seismically induced erosion. With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-4, the project would not contribute to any cumulative impacts for geologic, seismic hazards or related events. Cumulative impacts related to geology and soils are less than significant.

Cumulative impacts to paleontological resources in the study area could occur if other related projects, in conjunction with the proposed project, had or would have impacts on paleontological resources that, when

considered together, would be significant. Given similarities in geologic formations, this area is expected to contain similar types of paleontological resources for all projects in the area. Development of the proposed project, in combination with other projects in the area, has the potential to contribute to a cumulatively significant paleontological resources impact due to the potential loss of paleontological resources unique to the region. However, mitigation measures are included in this EIR to reduce potentially significant project impacts to paleontological resources during construction of the proposed project. Implementation of Mitigation Measure MM 4.7-5 requires paleontology sensitivity training for construction workers and Mitigation Measure MM 4.7-6 requires appropriate monitoring of construction activities for potential paleontological resources that may be encountered. Although project construction has the potential to disturb paleontological resources, the implementation of Mitigation Measure MM 4.7-7 would ensure the appropriate protocol is followed with regard to identifying and handling remains. Implementation of these mitigation measures would reduce potential impacts to paleontological resources to a less-than-significant level.

Implementation of Mitigation Measures MM 4.7-5 through MM 4.7-7 would ensure that construction activities do not destroy any paleontological resources, if discovered. Therefore, the project could not combine with other cumulative projects to become cumulatively considerable.

Mitigation Measures

Implement Mitigation Measures MM 4.7-1 through MM 4.7-7.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-1 through MM 4.7-7, cumulative impacts would be less than significant.

Section 4.8

Greenhouse Gas Emissions

4.8.1 Introduction

This section of the EIR describes the affected environment and regulatory setting relating to greenhouse gases (GHGs) for the project. This section also describes the impacts associated with GHGs that would result from implementation of the project, and, as necessary, mitigation measures that would reduce these impacts.

Information in this section is based primarily on the GHG section of the *Air Quality Impact Analysis* (Insight, 2017); and *Inyokern Solar Project – Air Quality Impact Posed by the Revision of the Initial Project Boundary and Project Description* (Insight, 2019) located in Appendix C of this EIR. The impact assessment for the project is also based upon a review of relevant literature and technical reports that include, but are not limited to, information and guidelines by the California Air Resources Board (CARB), the United States Environmental Protection Agency (USEPA), and the applicable provisions of the California Environmental Quality Act (CEQA).

4.8.2 Environmental Setting

As described in Chapter 3, *Project Description*, of this EIR, the project would include the development of develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate a combined 26.6 megawatts (MW) of renewable electrical energy and energy storage capacity at the point of interconnection to the Statewide grid. Power generated by the project would be transferred directly to Southern California Edison's (SCE's) Inyokern 33 kilovolt (kV) electrical distribution line that connects to the existing SCE Inyokern Substation 0.5 miles east of the project site.

GHGs and climate change are a cumulative global issue. CARB and USEPA regulate GHG emissions within the State of California and the United States, respectively. While CARB has the primary regulatory responsibility within California for GHG emissions, local agencies can also adopt policies for GHG emission reduction. CARB has divided California into regional air basins. The project site is located in the north western portion of the Mojave Desert Air Basin (MDAB) and is under the jurisdiction of the Eastern Kern Air Pollution Control District (EKAPCD).

Greenhouse Gases

GHGs refer to gases that absorb and re-emit infrared radiation in the atmosphere. Many chemical compounds found in Earth's atmosphere act as GHGs, which allow sunlight to enter the atmosphere freely. When sunlight strikes Earth's surface, some of it is reflected back toward space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy sent from the sun to Earth's surface should be about the same as the amount of energy radiated back into space, leaving the temperature of Earth's surface roughly constant. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide), while others are exclusively human-made (e.g., gases used for aerosols). The principal GHGs are carbon dioxide

(CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs), are listed below (USEPA, 2020).

- **Carbon dioxide:** CO₂ enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). CO₂ is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane:** CH₄ is emitted during the production and transport of coal, natural gas, and oil. CH₄ emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.
- **Nitrous oxide:** N₂O is emitted during agricultural and industrial activities and during combustion of fossil fuels and solid waste.
- **Fluorinated gases:** HFCs, PFCs, and SF₆ are synthetic, powerful climate-change gases emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in minute quantities, but because they are potent climate-change gases, they are sometimes referred to as high Global Warming Potential (GWP) gases.
- **Sulfur hexafluoride:** SF₆ is a colorless, odorless, nontoxic, nonflammable gas. SF₆ is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity, including equipment such as electrical circuit breakers, which may be used for the project. The California Climate Action Registry (Registry) lists SF₆ as a potential source of fugitive emissions from electrical transmission and distribution equipment. Fugitive emissions are unintentional leaks of GHGs from equipment such as joints, seals, and gaskets.

Because different GHGs have different GWPs and CO₂ is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO₂ equivalents (CO₂e). For example, SF₆ is a GHG commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF₆, while comprising a small fraction of the total GHGs emitted annually worldwide, is a much more potent GHG with 22,800 times the GWP as CO₂. Therefore, an emission of 1 metric ton (MT) of SF₆ could be reported as an emission of 22,800 MT of CO₂e (IPCC, 2007). Large emissions sources are reported in million MT of CO₂e (MMT CO₂e).

Greenhouse Gas Emissions Inventories

California produced approximately 424.1 gross MMTCO₂e in 2017, which is below the State’s GHG reduction target of 1990 level GHG emissions (i.e., 431 MMTCO₂e) by 2020. Combustion of fossil fuel in the transportation sector was the single largest source of California’s GHG emissions in 2017, accounting for approximately 41 percent of total GHG emissions in the State. This sector was followed by the industrial sector at approximately 24 percent and the electric power sector (including both in-state and out-of-state sources) at approximately 15 percent (CARB, 2019a). CARB has projected that, unregulated, statewide GHG emissions for the year 2020 will be approximately 509 MMTCO₂e (CARB, 2014a). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions. California GHG emissions by economic sector from 2009 to 2017 are summarized in **Table 4.8-1, California Greenhouse Gas Emissions (million metric tons CO₂e)**, including the percentages by sector for 2017. The most recent annual GHG emission inventory released by CARB is for year 2017, which was released August 12, 2019.

TABLE 4.8-1: CALIFORNIA GREENHOUSE GAS EMISSIONS (MILLION METRIC TONS CO₂E)

Emission Inventory Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Transportation	170.20	165.13	161.76	161.31	160.91	162.53	166.18	168.76	169.86	40.05%
Electricity Generation (In State)	53.33	46.75	41.10	51.02	49.42	51.68	49.88	42.28	38.45	9.07%
Electricity Generation (Imports)	48.04	43.59	46.87	44.50	39.98	36.79	33.93	26.32	23.94	5.65%
Commercial	12.89	13.58	13.71	13.41	13.30	12.52	12.67	13.14	13.02	3.4%
Industrial	87.90	91.50	90.17	91.08	93.69	94.02	91.48	89.49	89.40	21.08%
Residential	29.32	30.06	30.51	28.21	29.02	23.75	24.17	25.27	26.00	6.30%
Agriculture	32.85	33.68	34.34	35.46	33.99	35.06	33.75	33.51	32.42	7.64%
High Global Warming Potential	12.29	13.52	14.53	15.51	16.75	17.73	18.60	19.26	19.99	4.71%
Recycling and Waste	8.27	8.37	8.47	8.49	8.52	8.59	8.73	8.81	8.89	2.10%
Total Gross Emissions	457.3	448.5	443.6	451.2	447.7	444.7	441.4	429.0	424.1	100%

SOURCE: CARB, 2019b.

Climate Change

GHGs are gases in the atmosphere that trap heat. The major concern with GHGs is that increases in GHG concentrations in the atmosphere are causing global climate change, which is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to GHGs from human activities, most in the world-wide scientific community agree that there is a direct link between increased emissions of GHGs and long-term global temperature increases (i.e., global warming).

According to CARB, the potential effects in California of global warming may include loss in snow pack, sea-level rise, an increased number of extreme heat days per year, more high ozone days, more forest fires, and more drought years (CARB, 2008). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC, 2001):

- Higher maximum temperatures and more hot days over nearly all land areas
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas
- Reduced diurnal temperature range over most land areas
- Increase of heat index over land areas
- More intense precipitation events

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, ocean acidification (including coral bleaching), impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood, the potential for substantial environmental, social, and economic consequences over the long-term may be great.

4.8.3 Regulatory Setting

Global Climate Change Regulatory Issues

Federal

Environmental Protection Agency

The principal air quality regulatory mechanism at the federal level is the Clean Air Act (CAA) and in particular, the 1990 amendments to the CAA and the National Ambient Air Quality Standards (NAAQS) that it establishes. The federal CAA does not specifically regulate GHG emissions; however, the U.S. Supreme Court has determined that GHGs are pollutants that can be regulated under the federal CAA. There are currently no federal regulations that set ambient air quality standards for GHGs.

USEPA regulations applicable to the project include:

Federal Clean Air Act

The USEPA is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO₂ gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR[®] labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆). The Endangerment Finding was required before the USEPA could regulate GHG emissions under Section 202(a)(1) of the Clean Air Act. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not themselves impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Corporate Average Fuel Economy Standards

On May 19, 2009, the federal government announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard jointly approved by the USEPA and the National Highway Traffic Safety Administration (NHTSA) applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy (CAFE) standards and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO₂ per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO₂ per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle. In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025 (USEPA, 2012). In August 2018, the USEPA and NHTSA proposed the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule that would, if adopted, would maintain the CAFE and CO₂ standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO₂ standards for model year 2020 are 43.7 mpg and 204 g/mi for passenger cars and 31.3 mpg and 284 grams of CO₂ per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. The proposal would also exclude CO₂-equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020 (NHTSA and USEPA, 2018). In September 2019, the USEPA published the final rule in the federal register (Federal Register, Vol. 84, No. 188, Friday, September 27, 2019, Rules and Regulations, 51310-51363). The USEPA also published the final rule for the One National Program on Federal Preemption of State Fuel Economy Standards that finalizes critical parts of the SAFE Vehicles Rule and makes clear that federal law preempts state and local tailpipe GHG emissions standards as well as zero emission vehicle (ZEV) mandates. In response to the SAFE Vehicles Rules and the One National Program on Federal Preemption of State Fuel Economy Standards, California and 22 other states and environmental groups in September 2019 in U.S. District Court in Washington, filed lawsuits to challenge the Federal determination in September that California cannot set vehicle emission standards and zero-emission vehicle mandates. The legal challenge is pending as of the date of this Draft EIR.

Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

In 2011, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 percent to 23 percent over the 2010 baselines (USEPA and NHTSA 2011). In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans and all types of sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion MT and

reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (USEPA and NHTSA 2016).

40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule

This rule requires mandatory reporting of GHG emissions for facilities that emit more than 25,000 MT of CO₂e emissions per year (USEPA, 2011). Additionally, reporting of emissions is required for owners of SF₆- and PFC-insulated equipment, when the total nameplate capacity of these insulating gases is above 17,280 pounds. The project would not be expected to trigger GHG reporting according to the rule; however, GHG emissions of the project are quantified in this EIR.

40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule

USEPA mandated to apply Prevention of Significant Deterioration (PSD) requirements to facilities whose stationary source CO₂e emissions exceed 75,000 tons per year (USEPA, 2010). The project would not be expected to trigger PSD permitting as required by this regulation; however, GHG emissions of the project are quantified in this EIR.

Fuel Efficiency Standards for Construction Equipment

The federal government sets fuel efficiency standards for non-road diesel engines that are used in construction equipment. The regulations, contained in 40 CFR Parts 1039, 1065, and 1068, include multiple tiers of emission standards. Most recently, the USEPA adopted a comprehensive national program to reduce emissions from non-road diesel engines by integrating engine and fuel controls as a system to gain the greatest reductions. To meet these Tier 4 emission standards, engine manufacturers will produce new engines with advanced control technologies (USEPA, 2004).

State

Executive Order S-1-07

Executive Order S-1-07 proclaims that the transportation sector is the main source of GHG emissions in California, and establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020. As a result of this order, CARB approved a proposed regulation to implement the Low Carbon Fuel Standard (LCFS) in order to reduce GHG emissions from the transportation sector in California by approximately 16 MMTCO₂e by 2020. The LCFS is designed to reduce California's dependence on petroleum, create a lasting market for clean transportation technology, and stimulate the production and use of alternative, low-carbon fuels in California. The LCFS is designed to provide a durable framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011.

Executive Orders S-3-05 and B-30-15

In recognition of California's vulnerability to the effects of climate change Executive Order S-3-05 was established which 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.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Executive Order B-30-15 was issued to establish a GHG reduction target of 40 percent below 1990 levels by 2030. Executive Orders S-3-05 and B-30-15 are only applicable to "State agencies with jurisdiction over sources of greenhouse gas emissions" (Order 4-29-2015 Section 2). Kern County does not fall within the definition of a State agency. Furthermore, there is currently no implementation strategy for these Executive Orders (i.e., a plan, similar to the Assembly Bill (AB) 32 Scoping Plan, which apportions GHG reductions by economic sector/activity/region).

Assembly Bill 32 and Senate Bill 32

In 2006, the California State Legislature adopted AB 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆ and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing State actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of State climate policies reach into disadvantaged communities.

Climate Change Scoping Plan

AB 32 required preparing a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (HSC Section 38561 (h)). CARB developed a Climate Change Scoping Plan that contains strategies to achieve the 2020 emissions cap (CARB, 2008). In 2008, the initial Climate Change Scoping Plan contained a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives. In 2014, the First Update to the Scoping Plan upon the initial Climate Change Scoping Plan with new strategies and recommendations (CARB, 2014c). CARB revised the projected statewide 2020 emissions estimate of 509.4 MMTCO₂e using the GWP values from the IPCC AR4 509.4 MMTCO₂e (CARB, 2014c). Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 MMTCO₂e would be 78.4 MMTCO₂e, or a reduction of GHG emissions

by approximately 15.4 percent. In 2017, the 2017 Scoping Plan established a 2030 GHG reduction target of 40 percent emissions reductions below 1990 levels (CARB, 2017b).

Senate Bill 97

SB 97 was enacted requiring the Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions, or the effects related to releases of GHG emissions. OPR submitted proposed amendments to the Natural Resources Agency in accordance with SB 97 regarding analysis and mitigation of GHG emissions. As directed by SB 97, the Natural Resources Agency adopted Amendments to the *CEQA Guidelines* for GHG emissions, which became effective in 2010.

Senate Bill 375

SB 375, which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State. CARB adopted the vehicular GHG emissions reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets require a 7 to 8 percent reduction by 2020 and between 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs, such as the Kern Council of Governments (KCOG), will work with local jurisdictions in the development of sustainable community strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives. KCOG's reduction target for per capita vehicular emissions is 5 percent by 2020 and 10 percent by 2035 (CARB, 2010).

SCAG adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The 2014 RTP/SCS has the primary goal of reducing emissions from transportation sources to comply with SB 375, improving public health and meeting the NAAQS as set forth by the federal CAA (KCOG, 2014).

The key goal of the SCS is to achieve GHG emission reduction targets through integrated land use and transportation strategies. The focus of these reductions is on transportation and land use strategies that influence vehicle travel.

California Green Building Standard Code

The State of California adopted the 2010 CALGreen Code, which became effective in January 2011. Building off of the initial 2008 California Green Building Code, the 2010 CALGreen Code represents a more stringent building code that requires, at a minimum, that new buildings and renovations in California meet certain sustainability and ecological standards. The 2010 CALGreen Code has mandatory Green Building provisions for all new residential buildings that are three stories or fewer (including hotels and motels) and all new non-residential buildings of any size that are not additions to existing buildings.

The California Building Standards Commission adopted the 2013 California Building Standards Code that also included the latest 2013 CALGreen Code, which became effective on January 1, 2014. The mandatory provisions of the code are anticipated to reduce GHG emissions by 3 MMT by 2020, reduce water use by 20 percent or more, and divert 50 percent of construction waste from landfills. Additionally, the California

Building Code includes a requirement for a 20 percent reduction in indoor potable water usage. The 2013 California Energy Code (Title 24, Part 6), which is also part of the CALGreen Code (Title 24, Part 11, Chapter 5.2), became effective on July 1, 2014.

California Renewables Portfolio Standard

First established in 2002 under SB 1078, California's Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030 (California Energy Commission, 2019). In 2018, SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy.

Senate Bill 100

SB 100 (De León, also known as the "California Renewables Portfolio Standard Program: emissions of greenhouse gases") was approved by the California legislature and signed by Governor Brown in September 2018. The bill increases RPS in 2030 from 50 percent to 60 percent and establishes a goal of 100 percent RPS by 2045.

Senate Bill 1368

SB 1368 was enacted, and required the CPUC to establish a baseload generation standard for publicly owned or leased facilities which generate electricity at a GHG Emissions Performance Standard (EPS) of 1,100 pounds of CO₂e per megawatt-hour. SB 1368 also requires the posting of notices of public deliberations by publicly owned companies on the CPUC website and establishes a process to determine compliance with the EPS.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combined the control of smog- and soot- causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2019c). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75 percent less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the USEPA and NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34 percent in 2025. The Zero Emissions Vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cards program

by requiring manufactures to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in 2018 to 2025 model years.

California Air Pollution Control Officers Association White Paper

The California Air Pollution Control Officers Association (CAPCOA) issued a “white paper” (*CEQA and Climate Change*—an authoritative report issued by any organization) on evaluating GHG emissions under CEQA (CAPCOA, 2008). The strategies provided in that document are guidelines only and have not been adopted by any regulatory agency. The white paper serves as a resource to assist lead agencies in evaluating GHGs during review of environmental information documents. The methodologies used in this GHG analysis are consistent with the CAPCOA guidelines.

Regional

2018 Regional Transportation Plan/Sustainable Communities Strategy

The KCOG is the regional planning agency for Kern County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. KCOG serves as the federally designated metropolitan planning organization for Kern County. With respect to air quality planning and other regional issues, KCOG has prepared the 2018 Regional Comprehensive Plan for the region (Kern COG 2018). The 2018 RCP is a long-term (24 year) general plan for the region’s transportation network, and encompasses projects for all types of travel, including aviation and freight movement. The plan assesses environmental impacts of proposed projects.

The Kern COG 2018 RTP includes an SCS component in accordance with SB 375, the Sustainable Communities and Climate Protection Act of 2008. The Kern COG board of directors adopted its first SCS on June 19, 2014, and made a determination that, if implemented, the SCS would achieve the per capita passenger vehicle GHG emissions targets established by the board of directors. The 2020 target is a 5% per capita reduction and the 2035 target is a 10% per capita reduction from the 2005 base year. Kern COG submitted its adopted SCS and GHG determination to CARB for review on June 4, 2015. On July 24, 2015, CARB accepted the determination that the Kern COG 2014 SCS, if implemented, would achieve the region’s per capita GHG emission reduction targets for 2020 and 2035.

The SCS strives to reduce air emissions from passenger vehicle and light-duty truck travel by better coordinating transportation expenditures with forecasted development patterns and, if feasible, help meet CARB GHG targets for the region. As explained in the Kern COG 2018 RTP EIR, the key purpose of SB 375 and the Kern COG SCS is to reduce per capita emissions originating from passenger vehicles and light-duty trucks. Accordingly, the 2018 RTP:

- Describes sources of emissions in the Kern region, 2020 and 2035 emission reduction targets established by CARB for the San Joaquin Valley, and modeling techniques used to estimate and forecast emissions
- Identifies statewide strategies to reduce transportation-related emissions and their anticipated effect within the Kern region
- Identifies regional strategies that complement the SCS by reducing emissions in other sectors (e.g., energy consumption)

- Quantifies the effect of policies and programs in the RTP that reduce transportation-related emissions in the region and
- Compares the emissions reductions anticipated with implementation of the SCS with the regional targets (Kern COG 2018).

Local

Kern County General Plan

The goals, policies, and implementation measures in the Kern County General Plan applicable to air quality, as related to the project, are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and not specific to development such as the proposed project. Therefore, they are not listed below.

Chapter 1: Land Use, Open Space, and Conservation Element

Air Quality

Goal

Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

Policies

Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.

Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:

- (1) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
- (2) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

Implementation Measures

- Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.
- Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:
1. Minimizing idling time.
 2. Electrical overnight plug-ins.
- Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:
1. Pave dirt roads within the development.
 2. Pave outside storage areas.
 3. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
 4. Use of alternative fuel fleet vehicles or hybrid vehicles.
 5. Use of emission control devices on diesel equipment.
 6. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.
 7. Provide bicycle lockers and shower facilities on site.
 8. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
 9. The use and development of park and ride facilities in outlying areas.
 10. Other strategies that may be recommended by the local Air Pollution Control Districts.
- Measure J: The County should include PM10 control measures as conditions of approval for subdivision maps, site plans, and grading permits.

Chapter 5: Energy Element**Solar Energy Development****Goal**

- Goal 1: Encourage safe and orderly commercial solar development.

Policies

- Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.
- Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. The Land Use, Open Space, and Conservation Element of the Inyokern Specific Plan has the purpose of identifying physical constraints, public, residential, commercial, and industrial facilities as well as cultural and biological resources within the Plan area. The goal and policy in the Inyokern Specific Plan for energy applicable to the project are provided below. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

Land Use, Open Space, and Conservation Element

1.6: Resource

Goal

Goal 1: To provide for development which does not impair the economic potential of the area, while not diminishing the other amenities which exist within the community.

Policy

Policy 5: Encourage development of alternative energy sources by tailoring County zoning and subdivision ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Eastern Kern Air Pollution Control District

In March 2012, EKAPCD adopted an addendum to its *CEQA Guidelines* to address GHG impacts. The Guidelines provide quantitative thresholds for determining significance of GHG emissions for projects where EKAPCD is the CEQA lead agency. A project is considered to have a significant project or cumulative considerable impact if it generates 25,000 tons or more of CO₂e per year (22,680 MTCO₂e). This impacts would be considered to be fully reduced to below the significance level if it meets one of the following conditions:

- The project demonstrates to EKAPCD that it is in compliance with a state GHG reduction plan such as AB 32 or future GHG reduction plan if it is more stringent than the state plan; or
- Project GHG emissions can be reduced by at least 20 percent below business as usual (BAU) through implementation of one or more of the following strategies:
 - Compliance with Best Performance Standard (BPS);
 - Compliance with GHG Offset; and/or
 - Compliance with an Alternative GHG Reduction Strategy

4.8.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to GHGs have been evaluated using a variety of resources, including the Air Quality Impact Analysis (Insight, 2017), which is provided in Appendix C of this EIR, and relevant literature including information and guidelines by CARB, USEPA, and the applicable provisions of CEQA. The project's construction and operational GHG emissions were estimated using the California Emissions Estimators Model (CalEEMod) version 2016.3.1 and the CARB on-road vehicle emissions model, EMFAC2014. Additionally, the GHG savings from a 26.6 MW solar project were estimated through applying the California Climate Action Registry Reporting Protocol (Version 3.1) GHG emissions savings for solar projects. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described in the Thresholds of Significance section.

The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Quantitative significance thresholds for this impact area have not been adopted by the State of California.

Kern County has not developed a quantified threshold of significance for GHG emissions, but a project found to contribute to a net decrease in GHG emissions and found to be consistent with the adopted implementation of the CARB AB 32 Scoping Plan is presumed to have less-than-significant GHG impacts.

In March 2012, EKAPCD adopted an addendum to their *CEQA Guidelines* to address GHG impacts, including quantitative thresholds for determining significance of GHG emissions when EKAPCD is the CEQA lead agency. In these circumstances, a project is considered to have a significant project or cumulatively considerable impact if it exceeds the following criteria:

- Generate 25,000 MTs or more of CO₂e per year

The above impact would be considered to be fully reduced to below the significance level if it meets one of the following conditions:

- The project demonstrates to EKAPCD that it is in compliance with a State GHG reduction plan such as AB 32 or future federal GHG reduction plan if it is more stringent than the State plan; or
- Project GHG emissions can be reduced by at least 20 percent below BAU through implementation of one or more of the following strategies:
 - a. Compliance with a Best Performance Standard (BPS);
 - b. Compliance with GHG Offset; and/or
 - c. Compliance with an Alternative GHG Reduction Strategy.

Additionally, impacts were evaluated based on whether the project would be consistent with the State's applicable GHG reduction goals, plans, policies, and regulatory requirements. Specifically, those plans and policies established in accordance with AB 32 and the State's RPS program. More detail on the methodology used for analyzing construction and decommissioning impacts, operational impacts, and emissions reductions is provided below.

Construction and Decommissioning

The construction phase of a project generates air pollutant emissions including GHGs, which are recognized to be short in duration and without lasting impacts on air quality. CalEEMod was used to estimate project emissions from construction worker vehicles and onsite construction equipment. Construction equipment was estimated using a default construction fleet mix provided by the neighboring San Joaquin Valley Air Pollution Control District (SJVAPCD) for a 20 MW solar project; this fleet mix was adjusted by factoring the 20 MW solar project equipment to reflect equipment for a 26.6 MW project. EMFAC2014 emissions factors were used to estimate GHG emissions from solar panel delivery offsite travel on paved surfaces. Solar panels would be delivered from the Port of Long Beach; assuming 540 panels per truck trip, there would be approximately 208 heavy duty truck trips delivering 112,140 solar panels (Insight, 2017).

Many variables are factored into the calculation of construction emissions including length of the construction period, number of each type of equipment, site characteristics, area climate, and construction personnel activities. All construction equipment was assumed to be in use for the project in accordance with the adjusted default SJVAPCD provided hours per day for a 26.6 MW solar project. CalEEMod default load factors were used for all construction equipment. Adjustment to the CalEEMod default values were as follows:

- Land use lot acreage was adjusted to match the project description;
- Demolition construction phase was removed as the project location is open land;
- The construction schedule was adjusted to match the anticipated schedule for the project;
- The project specific construction equipment list described above was used;

The project has a tentative life of 35 years. At which time the operations can be renewed and onsite technology updated, or the project could be decommissioned. As decommissioning activities would be similar to the construction activities (using the same types of equipment and same general activities), the quantified emissions from construction are used as a surrogate for decommissioning activities. However, it would be anticipated that the decommissioning activities would be reduced from those estimated for the construction activities as the efficiencies of the construction equipment and on-road vehicles would be consistent with the future decommissioning year, which would require full compliance with stringent emissions standards for heavy-duty construction equipment resulting in anticipated substantial reductions in emissions from what is presented for construction activities.

Operations

Long-term operational emissions would be generated by operational mobile sources from periodic maintenance and cleaning of the solar panels. The project analyzed three categories of mobile sources generating long-term emissions: water trucks, maintenance trucks and employee vehicles. These activities would be a source of GHG emissions.

Water trucks would be used to clean the solar panels quarterly. The proponent estimated that water trucks would travel approximately 4 miles from the project site for approximately 56 round trips each quarter. Quarterly maintenance would include three round trip truck trips per quarter. The project estimates five round trips per quarter of employee (i.e., maintenance personnel) travel to the project site. As the make of employee vehicles is not known, a 50:50 split of emissions for light duty autos and light duty trucks was applied when estimating emissions. EMFAC2014 was used to estimate offsite and onsite water truck

emissions. The year 2019 was conservatively applied as project operations are anticipated to start in year 2020, which would result in slightly higher operational emissions estimates as vehicle fleet emissions decrease in future years from the phase-in of newer vehicles that meet more stringent emissions standards.

Some high voltage switchgear (66 kV and above) at the project site may feature circuit breakers that contain SF₆ gas, which is used as an insulator and an arc suppressor in the breakers. SF₆ is inert and non-toxic, and would be encapsulated within the breaker assembly. Although SF₆ is a GHG with substantial GWP because of its chemical nature and long residency time within the atmosphere, this gas would be completely contained in the equipment under normal conditions and would only be released in the unlikely event of a failure, leak, or crack in the circuit breaker housing. New designs of circuit breakers have been developed to minimize the potential for leakage, as compared to past designs, and the amount of SF₆ that could potentially be released in an unlikely event as a consequence of the project would be minimal. As such, the impact associated with SF₆ emissions would be less than significant and was not quantified in the analysis.

Emissions Reductions

The project proponent would be required to implement and comply with all applicable EKAPCD rules and regulations. A number of regulations would result in further emission reductions through their inclusion in project construction and long-term design. The following measures have been applied to the project as EKAPCD rules and regulations and conditions of approval and through the CalEEMod model analysis and would result in reduction in GHG emissions.

Vehicular Activities – During all phases of construction, the following vehicular control measures should be implemented:

- Properly maintain and tune all internal combustion engine powered equipment.
- Require employees and subcontractors to comply with California's idling restrictions for compression ignition engines.
- Use low sulfur (CARB) diesel fuel.

Exhaust Emissions – These measures are recommended to reduce exhaust emissions:

- Maintain all construction equipment as recommended by manufacturer manuals.
- Shut down equipment when not in use for extended periods.
- Construction equipment shall operate no longer than 8 cumulative hours per day.
- Use electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment.
- On-road and off-road diesel equipment shall use cooled exhaust gas recirculation (EGR) if permitted under manufacturer's guidelines.
- All construction workers shall be encouraged to shuttle (car-pool) to retail establishments or to remain onsite during lunch breaks.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on GHGs.

A project would have a significant impact on GHGs if it would:

- a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Quantitative significance thresholds for this impact area have not been adopted by the State of California.

Kern County has not developed a quantified threshold of significance for GHG emissions, but a project found to contribute to a net decrease in GHG emissions and found to be consistent with the adopted implementation of the CARB Climate Change Scoping Plan is presumed to have less-than-significant GHG impacts.

In March 2012, EKAPCD adopted an addendum to their *CEQA Guidelines* to address GHG impacts, including quantitative thresholds for determining significance of GHG emissions when EKAPCD is the CEQA lead agency. In these circumstances, a project is considered to have a significant impact or cumulatively considerable impact if it exceeds the following criteria:

- Generate 25,000 Metric Tons (MTs) or more of CO₂e per year

The above impact would be considered to be fully reduced to below the significance level if it meets one of the following conditions:

- The project demonstrates to EKAPCD that it is in compliance with a State GHG reduction plan such as AB 32 or future federal GHG reduction plan if it is more stringent than the State plan; or
- Project GHG emissions can be reduced by at least 20 percent below BAU through implementation of one or more of the following strategies:
 - a. Compliance with a Best Performance Standard (BPS);
 - b. Compliance with GHG Offset; and/or
 - c. Compliance with an Alternative GHG Reduction Strategy.

Additionally, impacts were evaluated based on whether the project would be consistent with the State's applicable GHG reduction goals, plans, policies, and regulatory requirements. Specifically, those plans and policies established in accordance with AB 32 and the State's RPS program as well as other federal, state, and local policies.

Project Impacts

Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

The project would directly generate GHG emissions during construction and routine operational and maintenance activities. Three GHGs associated with the project, CO₂, CH₄, and N₂O, would be emitted from on-road vehicles and non-road equipment during construction and from vehicles used during routine operational activities. The estimated GHG emissions from construction and operational activities associated with the project are shown in **Table 4.8-2, Estimated Project Greenhouse Gas Emissions**.

TABLE 4.8-2: ESTIMATED PROJECT GREENHOUSE GAS EMISSIONS

Phase	GHG Emissions CO ₂ e (metric tons)
Construction (9 months)	
Total Emissions	404
Annualized Emissions ^a	12
Operation (assumes a 35-year project lifetime)	3
Total Emissions	16
EKCAPCD Threshold	25,000
Exceed Threshold?	No

NOTES:

See Appendix C for GHG emissions calculations. Note that the numbers have been rounded to the nearest metric ton; therefore, values may not add exactly.

^a 35-year emissions are calculated by dividing total construction over 35 years and adding to the annual emissions operational emissions.

SOURCE: Insight, 2017; Insight, 2019

Construction emissions represent 83 percent of total CO₂e emissions, while operational emissions represent 17 percent of total CO₂e emissions. As shown in Table 4.8-2, the total construction-related CO₂e emissions annualized over a default project lifetime (35 years) is equivalent to 16 MTs per year of CO₂e. This value is below the EKAPCD threshold of 25,000 MTs per year of CO₂e. Therefore, the project's contribution to climate change would not be cumulatively considerable and the project would not conflict with the State's goal to reduce GHG emissions to 1990 levels by 2020.

In addition, because the project is intended to generate electricity from a renewable source of energy, it would not result in substantial GHG emissions due to the burning of fossil fuels once in operation. Overall, operation of the project would create renewable energy over the planned 35-year life of the project. This energy could displace the GHG emissions which would otherwise be produced by existing BAU power generation resources (including natural gas, coal, and renewable combustion resources). The project would generate a maximum of 26.6 MW of electricity at any one time. As shown in **Table 4.8-3, Displaced GHG Emissions Over 35-Year Operational Lifetime**, the project could displace over 700,000 MTs of CO₂e over its 35-year lifespan. Such a reduction would assist in the attainment of the State's goal to reduce GHG emissions. Therefore, operation of the project would result in a substantial net reduction in GHG emissions,

even when accounting for the very minimal operational GHG emissions of the project from a relatively small number of periodic maintenance and vehicle trips.

TABLE 4.8-3: DISPLACED GHG EMISSIONS OVER 35-YEAR OPERATIONAL LIFETIME

	CO ₂ e (metric tons)
Annual Displaced Emissions	21,243
Total Project Displaced Emissions	743,491
NOTE: Emissions were proportioned for the 26.6 MW facility based on the 32 MW facility analyzed by Insight in 2017.	
SOURCE: Insight, 2017; ESA 2020.	

Given that the project would result in a net decrease of CO₂e emissions, impacts related to the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment would be considered less than significant.

Mitigation Measures

No mitigation would be required; however, implementation of Mitigation Measure MM 4.3-3 would further reduce GHG emissions from construction activities. (See Section 4.3, Air Quality, for full text of Mitigation Measure MM 4.3-3).

Level of Significance

Impacts would be less than significant.

Impact 4.8-2: The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

CARB Climate Change Scoping Plan

The project would comply with the strategies recommended by the State of California, the USEPA, and the Climate Change Scoping Plan, as shown in **Table 4.8-4, California Greenhouse Gas Emission Reduction Strategies**. In order to meet the AB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of the 100 percent RPS by 2045 as well as the other measures listed in **Table 4.8-5, Applicable Scoping Plan Strategies for Project**. These measures would primarily be those actions related to energy efficiency. A discussion of the consistency of the project with these measures is provided below. The project and other similar projects are essential to achieving the RPS. Further, as discussed previously, the project is reasonably expected to displace region-wide and Statewide emissions of GHGs over the expected life of the project.

TABLE 4.8-4: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Strategy	Project Design to Comply with Strategy
<p>Vehicle Climate Change Standards: AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in September 2004.</p>	<p>These are CARB enforced standards; vehicles that access the project and are required to comply with the standards would comply with these strategies.</p>
<p>Other Light Duty Vehicle Technology: New standards would be adopted to phase in beginning in the 2017 model.</p>	
<p>Heavy-Duty Vehicle Emission Reduction Measures: Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy-duty vehicle sector.</p>	
<p>Diesel Anti-Idling: In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.</p>	<p>Project would be subject to State law.</p>
<p>Hydrofluorocarbon Reduction: (1) Ban retail sale of HFC in small cans; (2) Require that only low global warming potential refrigerants be used in new vehicular systems; (3) Adopt specifications for new commercial refrigeration; (4) Add refrigerant leak tightness to the pass criteria for vehicular Inspection and Maintenance programs; and (5) Enforce federal ban on releasing HFCs.</p>	<p>This measure applies to consumer products. When CARB adopts regulations for these reduction measures, any products that the regulations apply to would comply with the measures.</p>
<p>Transportation Refrigeration Units (TRU), Off-Road Electrification, Port Electrification: Strategies to reduce emissions from TRUs, increase off-road electrification, and increase use of shore-side/port electrification.</p>	<p>Not applicable</p>
<p>Manure Management: Reduction of volatile organic compounds from confined animal facilities through implementation of control options.</p>	<p>Not applicable</p>
<p>Alternative Fuels – Biodiesel Blends: CARB would develop regulations to require the use of one to four percent biodiesel displacement of California diesel fuel.</p>	<p>Not applicable</p>
<p>Alternative Fuels - Ethanol: Increased use of ethanol fuel.</p>	<p>Not applicable</p>
<p>Achieve 50 percent Statewide Recycling Goal: Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a two percent additional reduction is needed.</p>	<p>The project would comply with the 1989 California Integrated Waste Management Act and the California Solid Waste Reuse and Recycling Access Act of 1991, as amended.</p>
<p>Zero Waste – High Recycling: Additional recycling beyond the State's 50 percent recycling goal.</p>	<p>The project would comply with the 1989 California Integrated Waste Management Act and the California Solid Waste Reuse and Recycling Access Act of 1991, as amended.</p>
<p>Landfill Methane Capture: Install direct gas use or electricity projects at landfills to capture and use emitted methane.</p>	<p>Not applicable</p>
<p>Urban Forestry: A new statewide goal of planting five million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.</p>	<p>Not applicable</p>

TABLE 4.8-4: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Strategy	Project Design to Comply with Strategy
Afforestation/Reforestation Projects: Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.	Not applicable
Water Use Efficiency: 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.	Not applicable
Building Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	The project would be consistent with State law.
Appliance Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	The project would be consistent with State law.
Cement Manufacturing: Cost-effective reductions to reduce energy consumption and to lower carbon dioxide emissions in the cement industry.	Not applicable
Smart Land Use and Intelligent Transportation Systems (ITS): Smart land use strategies encourage jobs/housing proximity, promote transit oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.	Not applicable
Smart land use, demand management, ITS, and value pricing are critical elements for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	Not applicable
Enteric Fermentation: Cattle emit methane from digestion processes. Changes in diet could result in a reduction in emissions.	Not applicable
Green Buildings Initiative: Green Building Executive Order, S-20-04 (CA 2005), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels. Consistent with Mitigation.	Not applicable
California Solar Initiative: Installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses; increased use of solar thermal systems to offset the increasing demand for natural gas; use of advanced metering in solar applications; and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	The project would result in an electric power generating capacity of approximately 26.6 MW-AC. Therefore, the project would help implement and not conflict with this strategy.
SOURCE: CARB, 2014b.	

TABLE 4.8-5: APPLICABLE SCOPING PLAN STRATEGIES FOR PROPOSED PROJECT

ID #	Sector	Strategy Name
T-1	Transportation	Advanced Clean Cars
T-2	Transportation	Low Carbon Fuel Standard
E-3	Electricity and Natural Gas	Renewables Portfolio Standard
E-4	Electricity and Natural Gas	Million Solar Roofs
CR-1	Electricity and Natural Gas	Energy Efficiency
H-6	High GWP Gases	SF ₆ Leak Reduction Gas Insulated Switchgear
SOURCE: CARB, 2014b.		

Action T-1 relates to the Advanced Clean Cars program, in which the project's employees would purchase vehicles in compliance with the CARB vehicle standards that are in effect at the time of the vehicle purchase. In addition, as it related to Low Carbon Fuel Standards, under Action T-2, motor vehicles driven by the project's employees would use compliant fuels.

Action E-3 relates to renewable energy and the RPS, which is intended to increase California's renewable energy production to 20 percent by 2010, to 33 percent by 2020, and to 50 percent by 2030. The CPUC shows that the State's three largest utilities had a 27.6 percent renewable portfolio in 2015 and are on track to meet the RPS requirement of 33 percent renewables by 2020 (CPUC, 2017). A key prerequisite to reaching a target of 33 percent RPS by 2020 and 50 percent RPS by 2030 would be to provide sufficient electric transmission lines to renewable resource zones and system changes to allow integration of large quantities of intermittent wind and solar generation. The project proposes a solar array with an electric power generating capacity of approximately 26.6 MW. Therefore, the project would be consistent with Action E-3.

Action E-4 aims to install 3,000 MW of solar energy capacity under the Million Solar Roofs Program. This measure would offset electricity from the grid, thereby reducing GHG emissions. By requiring greater energy efficiency for projects that seek solar incentives, the State would be able to reduce both electricity and natural gas needs and their associated GHG emissions. The project would result in an electric power generating capacity of approximately 26.6 MW. Therefore, the project would not conflict with Action E-4.

Action CR-1 relates to energy efficiency in commercial and residential buildings. Also, Action CR-1 notes the need for more aggressive utility programs to achieve long-term energy savings. The project would result in the development of PV solar energy generating facilities that would provide renewable energy to California Investor-Owned utilities, which in turn would be used by commercial and residential buildings in the State. Therefore, the project is consistent with and would not obstruct Action CR-1.

Action H-6 relates to sulfur hexafluoride (SF₆) from leakage of gas insulated switchgear use in electricity transmission and distribution systems by setting limits on leakage rates and implement best management practices for the recovery and handling of SF₆. Consistent with this action, the project would comply with any and all applicable regulatory requirements for any SF₆ containing switchgear.

KCOG's 2018 RTP

The 2018 RTP incorporates local land use projections and circulation networks in city and county general plans. The 2018 RTP is not directly applicable to the project because the underlying purpose of the 2018 RTP is to provide direction and guidance by making the best transportation and land use choices for future development. Nevertheless, the project would not conflict with the goals and policies of the 2018 RTP. In addition, the project would not impact local transportation or land use during operation.

Other Federal/State/Local Policies

Table 4.8-6, *Project Consistency with an Applicable Plan, Policy, or Regulation for GHG Emissions*, below, evaluates project consistency with other applicable federal, State, and local policies regarding greenhouse gas emissions. As shown above in Table 4.8-5, the project would fall below the annual emission triggers for compliance with federal regulations; therefore, federal regulations would not be applicable to the project. As a renewable energy project, the project would be exempt from State annual GHG reporting requirements and would be considered consistent with California's Emission Performance Standard and RPS requirements (described above under Section 4.8.3, *Regulatory Setting*).

Overall, because the main objectives of the project are to assist California Investor-Owned utilities in meeting their obligations under California's RPS Program and assist California in meeting the GHG emissions reduction goal of 1990 level GHG emissions by 2020 as required by AB 32 and the future reduction goal of 40 percent below 1990 levels by 2030, the project would be compliant with the applicable recommended actions of the CARB Scoping Plan as well as applicable federal, state and local policies. Specifically, the project would assist the State and regulated utility providers to generate a greater portion of energy from renewable sources consistent with the 2020 and 2030 RPS. Therefore, this impact would be less than significant.

TABLE 4.8-6: PROJECT CONSISTENCY WITH AN APPLICABLE PLAN, POLICY, OR REGULATION FOR GHG EMISSIONS

Adopted Plan, Policy, or Regulation	Consistency Determination	Proposed Project Consistency
Federal		
40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule	Not applicable	The project would have direct CO ₂ e operating emissions that are well below the 25,000 ton/year rule trigger.
40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule	Not applicable	The project would have direct CO ₂ e operating emissions that are well below the 75,000 ton/year rule trigger.
State		
SB 1368. EPS Standard	Consistent	The project, as a renewable energy generation facility, is determined by rule to comply with the GHG Emission Performance Standard requirements of SB 1368.
SB X1-2. 33% RPS Standard; SB 350. 50% RPS Standard	Indirectly consistent	This regulation is applicable to utilities, not generating facilities, but the energy from this project would help enable the utility buying the project's generation to comply with this legislation.
AB 32. Annual GHG Emissions Reporting	Not applicable	The project, as a solar energy generation project, is exempt from the mandatory GHG emission reporting requirements for electricity generating facilities as currently required by the CARB for compliance with the California Global Warming Solutions Act of 2006 (AB 32 Núñez, Statutes of 2006, Chapter 488, Health and Safety Code Sections 38500 et seq.).
Local		
Kern County General Plan - Air Quality Element Policies Goals and Implementation Measures	Consistent	The project is consistent with the Kern County General Plan Air Quality Element Policies, Goals, and Implementation Measures that will indirectly reduce GHG emissions by reducing fossil fuel combustion.

Consideration of Mitigation Measures

The Office of the California Attorney General maintains a website with a list of CEQA mitigation measures for global climate change impacts. The Attorney General has listed some examples of types of mitigation measures that local agencies may consider to offset or reduce global climate change impacts from a project. The Attorney General assures that the presented lists are examples and not intended to be exhaustive, but instead provide measures and policies that could be undertaken. Moreover, the measures cited may not be appropriate for every project, so the Attorney General suggests that the lead agency should use its own informed judgment in deciding which measures it would analyze, and which measures it would require, for a given project.

The Attorney General suggests measures that could be undertaken or funded by a diverse range of projects, related to energy efficiency; renewable energy; water conservation and efficiency; solid waste measures; land use measures; transportation and motor vehicles; and carbon offsets. However, most of the suggested

measures would not be applicable to the project, since they are more appropriate and applicable measures to reduce long-term operational GHG emissions.

The impacts on global warming and climate change are indirect; climate change is a worldwide phenomenon, and project-level emissions cannot be correlated with specific impacts based on currently available science. However, based on the analysis above, the project would be consistent with California's strategies to reduce GHG emissions to the levels required by AB 32. Additionally, the project would comply with applicable forthcoming regulations or requirements adopted under SB 32 or imposed by the State or federal government to increase renewable energy generation from State utility providers, including the 2030 RPS. Therefore, considering the project's minimal annual emissions and potential reduction in overall GHG emissions from displacing fossil-fuel derived electricity with renewable sources, the project would not be expected to significantly contribute to global warming or climate change.

Furthermore, as the project would have an electric power generating capacity of approximately 26.6 MW alternating current (MW-AC), the project would be consistent with the Attorney General's recommended measures to reduce GHG emissions. Specifically, the project complies with the Attorney General's Recommended Measure to "Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning." Therefore, the project would be compliant with the Attorney General's Recommended Measure regarding renewable energy. Because the project is below regional regulatory thresholds and could result in a reduction of GHG emissions, no mitigation measures are required.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Emissions of GHGs and their contribution to global climate change are considered a cumulative impact by definition. Therefore, the geographic extent of the project's cumulative area of impact would be worldwide.

The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Quantitative significance thresholds for this impact area have not been adopted by the State of California. In addition, Kern County has not adopted quantitative thresholds for determining significance of GHG emissions at the time of this writing. However, EKAPCD has recently adopted an addendum to its *CEQA Guidelines* titled *Addressing GHG Emission Impacts for Stationary Source Projects When Serving as the Lead CEQA Agency*. This addendum is the policy that EKAPCD will use when it is the lead agency for CEQA to determine the project-specific and cumulative significance of GHG emissions from new and modified stationary source (industrial) projects. Under this policy, a project is considered to have a cumulatively considerable impact if it generates 25,000 MTCO₂e or more per year.

Total annual GHG emissions of 16 MT CO₂e for the project are shown in Table 4.8-2, *Estimated Project Greenhouse Gas Emissions*. In addition to these project GHG emissions, other cumulative projects in the Indian Wells Valley listed in Table 3-5, *Cumulative Projects List*, in Chapter 3, *Project Description*, largely consist of utility-scale solar power generation facilities. The nature of these projects is such that, like the project, they would be consistent with the strategies of the Climate Change Scoping Plan. In order to meet the AB 32 GHG emissions reduction mandate, the Scoping Plan relies on achievement of the RPS target of 33 percent of California's energy coming from renewable sources by 2020. In order to meet the SB 32 GHG emissions reduction mandate, the 2017 Scoping Plan relies on achievement of the RPS target of 50 percent of California's energy coming from renewable sources by 2030. The project and other similar projects are essential to achieving the RPS.

The main contribution of GHG emissions from the project would be from construction equipment usage during the construction phase and motor vehicles trips by employees during project operations. Transportation sources account for approximately 39 percent of California's total GHG emissions (CARB, 2019). The project's emissions would, therefore, contribute to the increase in emissions in the transportation sector. Construction emissions would be finite and temporary and would cease at the end of construction activities.

Although the project would result in a contribution to cumulative GHG emissions in California, operation of the project could offset emissions from the electricity generation sector estimated at over 700,000 MTCO₂e over its 35-year lifespan (refer to Table 4.8-3, *Displaced GHG Emissions Over 35-Year Operational Lifetime*). Therefore, the total GHG construction emissions that would be associated with the project could likely be offset by less than one month of operations. Overall, the project clearly would not contribute to cumulative GHG emissions in California because operation of the project would provide electric power with negligible operational GHG emissions over the long term when compared to traditional fossil-fueled generation technologies. Thus, the project would not have a cumulatively considerable impact on global climate change, and cumulative impacts would therefore be less than significant.

CEQA Guidelines Section 15130 notes that sometimes the only feasible mitigation for cumulative impacts may be to adopt ordinances or regulations rather than impose conditions on a project-by-project basis. Global climate change is this type of issue. GHG impacts are considered to be exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA, 2008). Causes and effects are not just regional or Statewide, they are worldwide. Because the project's operational GHG emissions could be offset and no mitigation is required, any other feasible reductions would be accomplished through CARB regulations adopted pursuant to AB 32 and SB 32. Cumulative impacts of the project on global climate change would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than significant.

Section 4.9

Hazards and Hazardous Materials

4.9.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting for hazards and hazardous materials in the study area. It also describes the project's potential impacts on residences and other sensitive receptors that could be exposed to these hazards (other than geologic hazards; see Section 4.7, *Geology and Soils*, of this EIR) and presents mitigation measures where applicable. Information in this section is based primarily on the Phase I Environmental Site Assessment (Northern Property) (Terracon, 2015) and the Phase I Environmental Site Assessment (Southern Property) (SEI, 2014), both located in Appendix H of this EIR. Information from the Glare Study and subsequent updates (Power Engineers, 2018 and 2019) located in Appendix B of this EIR was also used. For the purposes of discussion in this section, the overall project site includes the Phase 1 and Phase 2 sites.

4.9.2 Environmental Setting

This section discusses the existing conditions related to hazards and hazardous materials in the project area and describes the environmental setting for hazardous materials and waste, airports, electromagnetic fields (EMFs), and wildfire hazards. Residences and other sensitive receptors such as schools are also described as their proximate location to the project site affects their exposure to the potential hazards described below. A description of the project site relative to hazards and hazardous materials can also be found below.

Existing Setting

The project site includes two separate phases. The site phases may be combined and constructed at the same time as a single, 26.6-megawatt (MW) alternating current (AC) solar facility with advanced energy battery storage units on approximately 166.5 acres or alternatively, it could be developed as two independent solar facilities: (1) Phase 1: a 20 MW solar facility on approximately 124.56 acres; and (2) Phase 2: a 6.6 MW solar facility on approximately 41.93 acres. Phase 2 is directly north and adjacent to Phase 1. The approximate 124.56-acre Phase 1 site and approximate 41.93-acre Phase 2 site consist of private, undeveloped idle land with native vegetation and an asphalt-paved road located on the northern portion of the Phase 1 site (Terracon, 2015). The project site is relatively flat and has an elevation that ranges from approximately 2,300 to 2,400 feet (700 to 730 meters) above mean sea level (amsl). The surrounding area of the project site is similarly undeveloped with a few residential land uses. The nearest residence is located approximately 500 feet east of the project site across United States Highway 395 (US 395) and Clodt Road. The closest school to the project site is Inyokern Elementary School, located approximately 0.22 miles southwest of the project site in the community of Inyokern. The nearest airport to the project site is the Inyokern Airport, located approximately 0.30 miles west of the project site. The project site is approximately 8 miles west of the China Lake Naval Air Weapons Station (NAWS). US 395 runs adjacent to the east border of the northern property. State Route 14 (SR-14) is located approximately 3.2 miles east of the project.

Hazardous Materials and Waste

A hazardous material is any substance that, because of its quantity, concentration, or physical or chemical properties, may pose a hazard to human health and the environment. Under Title 22 of the California Code of Regulations (CCR), the term “hazardous substance” refers to both hazardous materials and hazardous wastes. Both of these are classified according to four properties: (1) toxicity, (2) ignitability, (3) corrosiveness, and (4) reactivity (22 CCR 11, Article 3). A hazardous material is defined as:

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (22 CCR 66260.10).

Various forms of hazardous materials can cause death; serious injury; long-lasting health effects; and damage to buildings, homes, and other property. Hazards to human health and the environment can occur during production, storage, transportation, use, or disposal of hazardous materials.

Recognized Environmental Concern (REC) is one of the terms used to identify environmental liability within the context of a Phase I Environmental Site Assessment. The American Society for Testing and Materials (ASTM) defines an REC 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. De minimis conditions are not recognized environmental conditions” (ASTM, 2017). A Phase I Environmental Site Assessment was conducted for the project site and was used to determine potential risks of encountering legacy contaminants at the site. No RECs were identified in relation to the project site (Terracon, 2015; SEI, 2014).

Photovoltaic Solar Panels and Cadmium Telluride

Photovoltaic (PV) solar panels that would be installed on the project site are made from polycrystalline silicon or thin film technology. Polycrystalline silicon solar panels may include small amounts of solid materials that are considered to be hazardous. Because such materials are in a solid and non-leachable state, broken polycrystalline silicon solar panels would not be a source of pollution to surface water, stormwater, or groundwater. Polycrystalline silicon panels removed from the site would be recycled or otherwise disposed at an appropriate waste disposal facility. In addition, the energy storage facility could include ion batteries which contain chemical contents that are considered hazardous, as well as lead acid, sodium sulfur, and sodium or nickel hydride.

The semiconductor layer in the modules is in the environmentally stable form of a compound rather than the leachable form of a metal. The Cadmium Telluride (CdTe) compound is encapsulated in the PV module with the PV module containing less than 0.1 percent Cd content by weight. Due to optimal optical properties, only a 3-micron-thin layer of CdTe is used to absorb incident sunlight, with Cd content per 8 square feet of PV module less than that of one C-size flashlight nickel-cadmium (NiCd) battery.

It has been demonstrated that standard operation of CdTe PV systems does not result in cadmium emissions to air, water, or soil. During the PV module manufacturing process, CdTe is bound under high temperature

to a sheet of glass by vapor transport deposition, coated with an industrial laminate material, insulated with solar edge tape, and covered with a second sheet of glass. The module design results in the encapsulation of the semiconductor material between two sheets of glass thereby preventing the exposure of CdTe to the environment.

Several peer-reviewed studies have evaluated the environmental, health, and safety aspects of CdTe PV modules. These studies have consistently concluded that during normal operations, CdTe PV modules do not present an environmental risk. CdTe releases are also unlikely to occur during accidental breakage or fire due to the high chemical and thermal stability of CdTe. Disposal risks of end-of-life CdTe PV modules are minimized because of the low solubility of CdTe and because the modules can be effectively recycled at the end of their approximately 30-year life. The PV module manufacturer provides CdTe module collection and recycling services. Since 2005, the end-of-life CdTe PV modules are currently characterized as federal non-hazardous waste, and as a California-only hazardous waste. Solar equipment and infrastructure would be recycled as practical or disposed of in compliance with applicable laws. CdTe PV modules are an article of commerce, and are not classified as a hazardous material for shipping purposes under either federal or State law.

Historical Property Use

The project site and vicinity consisted of undeveloped land from at least the early-1940s through the late-1940s. The site was developed with railroad tracks on the southern portion and western boundary of the site at some time in the early 1950s. The railroad tracks are no longer visible in the 1972 aerial photograph. An apparent approximately 200 by 350-foot pit is visible in the aerial photographs from the mid-1980s through the present. The pit was reportedly associated with the development of the off-ramp adjacent to the eastern boundary of the pit (Terracon, 2015).

Brown Road to the west and Inyokern Road to the east are visible in the 1952 aerial photograph, as well as railroad tracks just west of the site. Multiple dirt trails and roads are present on the site in the northern and southern portions of the property since the 1950s. Permanent structures may have been present on the site from 1952 through 2000. US 395 on- and off-ramps appear to be present adjacent to the eastern borders of the site around the mid-1970s. SR-178 is evident in the 1984 aerial of the project site (SEI, 2014).

The surrounding properties consisted of undeveloped land with railroad tracks and a paved road to the west from at least the early-1940s through the early-1950s, when the property to the southwest was developed with a recreational vehicle and mobile home park. By the early 1970s, the railroad tracks to the west had been cleared and the property to the east was developed with a highway and single-family residences. By the mid-2000s, the property to the north was developed with appears to be water treatment facility. The surrounding properties have remained relatively unchanged through the present (Terracon, 2015).

Electromagnetic Fields

Electromagnetic fields (EMFs) are associated with electromagnetic radiation, which is energy in the form of photons. Radiation energy spreads as it travels and has many natural and human-made sources. The electromagnetic spectrum, the scientific name given to radiation energy, includes light, radio waves, and x-rays, among other energy forms. Electric and magnetic fields are common throughout nature and are produced by all living organisms. Concern over EMF exposure, however, generally pertains to human-

made sources of electromagnetism and the degree to which they may have adverse biological effects or interfere with other electromagnetic systems.

Commonly known human-made sources of EMF are electrical systems, such as electronics and telecommunications, as well as electric motors and other electrically powered devices. Radiation from these sources is invisible, non-ionizing, and of low frequency. Generally, in most environments, the levels of such radiation added to natural background sources are low.

Electric voltage (electric field) and electric current (magnetic field) from transmission lines create EMFs. Power frequency EMF is a natural consequence of electrical circuits and can be either directly measured using the appropriate measuring instruments or calculated using appropriate information. The project would construct one or two onsite 33 kV electrical generation tie lines from the proposed project transformers to the existing 33 kV Sawmill circuit, which is located along the 20 MW facility's eastern boundary. Power generated by the proposed project would be transferred directly to Southern California Edison's Inyokern 33 kV line.

In addition to transmission lines, the project proposes up to two onsite energy storage systems (ESS), with one on each of the individual sites. The ESS would measure approximately 65 feet by 150 feet and would consist of battery storage modules placed in multiple prefabricated enclosures near the onsite substation. ESS would consist of battery banks housed in electrical enclosures and buried electrical conduit. The battery enclosures would have fire suppression equipment installed that automatically suppress thermal emergencies. The energy storage technology and design for the ESS has not been determined at this time, but could include any commercially available battery technology, including but not limited to lithium ion, lead acid, sodium sulfur, and sodium or nickel hydride. Either way, the energy storage would occur as direct current (DC) which produce static EMFs and has not been associated with adverse health effects.

Increase in Ambient Temperatures

All exposed surfaces (e.g., houses, cars, rocks) absorb heat produced by the sun. A "heat island" effect is generated when cities cover miles of land with structures (e.g., concrete buildings and asphalt roads), which absorb and store significantly more heat during the day than undeveloped earth. Additionally, these cities are filled with energy-consuming devices (e.g., engines, appliances, and heating, air-conditioning, and ventilation [HVAC] systems) that generate waste heat.

Solar arrays consist of solar panels mounted on aluminum and steel support structures. The support structures have little or no exposure to sunlight. The project site would not be covered entirely with solar panels. The amount of the sun's heat absorbed by a solar panel is similar to the amount of the sun's heat absorbed by open land. However, solar panels store less heat than the earth because they consist of a thin, lightweight glass that is surrounded by airflow. Therefore, heat dissipates quickly from a solar panel compared with solid earth, which dissipates heat slowly. The project would have energy-consuming devices (e.g., inverters). Therefore, the project would generate marginal amounts of waste heat on the project site. However, there is nothing in the record to date that would indicate that the project would increase ambient air temperatures at or around the project site.

Hazardous Materials Transportation

US 395 runs adjacent to the east border of both property sites, and SR-178 (or Inyokern Road) to the south of the property site. The project site would be directly accessed from Inyokern Road and/or Brown Road. Other major north-south roadways in the region are SR-14, a four-lane highway located approximately 3.2 miles east of the project. The transportation of hazardous materials within the State of California is subject to various federal, State, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway that is not designated for that purpose, unless the use of a highway is required to permit delivery or the loading of such materials (California Vehicle Code, Sections 31602 (b) and 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Information on CHP requirements and regulatory authority is provided in Section 4.9.3, *Regulatory Setting*, below. According to Section 2.5.4 of the Kern County General Plan Circulation Element, US 395 is designated as an adopted commercial hazardous materials shipping route.

Airports

The nearest public airport to the project site is Inyokern Airport, located approximately 0.30 miles west of the project site. It is owned and operated by the Indian Wells Valley Airport District, and serves the northeastern communities of Kern County, California. The airport covers 1,640 acres at an elevation of 2,457 feet, with three asphalt paved runways that can accommodate almost any class of civilian, commercial, or military aircraft. In operation since 1935, the airport serves an average of 78 flight operations per day. According to the Kern County Airport Land Use Compatibility Plan (ALUCP), the project site is located within Compatibility Zones B1 and C of Inyokern Airport.

The ALUCP provides restrictions and criteria for development of land within each of the Compatibility Zones including density limits, height limits, and restrictions on uses which may be inappropriate due to the types of users normally associated with each use such as schools, hospitals, and nursing homes. Projects located within an Airport Influence Area must also meet the requirements of Federal Aviation Regulation 14 Code of Federal Regulations (CFR) Part 774, described below. **Table 4.9-1, ALUCP Compatibility Criteria**, describes the Compatibility Criteria for each zone.

Another nearby airport is the NAWS China Lake, located approximately 8 miles east of the project site and is managed by the United States Navy. All aircraft operations at NAWS China Lake are conducted at Armitage Field, a military airfield, which has three runways with more than 26,000 feet (7,900 meters) of taxiway. This airport has been in operation since 1952. The project site is located within a large complex of airspace associated with the NAWS China Lake, approximately 20,000 square miles, known as the R-2508 Complex.

TABLE 4.9-1: ALUCP COMPATIBILITY CRITERIA

Zone	Location	Impact Elements	Maximum Densities		Required Open Land
			Residential (du/ac)	Other Uses (people/ac)	
A	Runway Protection Zone or within Building Restriction Line	<ul style="list-style-type: none"> • High risk • High noise level 	0	10	All Remaining
B1	Approach/Departure Zone and Adjacent to Runway	<ul style="list-style-type: none"> • Substantial risk – aircraft commonly below 400 feet AGL or within 1,000 feet of runway • Significant noise 	0.1	60	30%
B2	Extended Approach/Departure Zone	<ul style="list-style-type: none"> • Significant risk – aircraft commonly below 800 feet AGL • Significant noise 	0.5	60	30%
C	Common Traffic Pattern	<ul style="list-style-type: none"> • Limited risk – aircraft at or below 1,000 feet AGL • Frequent noise intrusion 	15	150	15%
D	Other Airport Environs	<ul style="list-style-type: none"> • Negligible risk • Potential for annoyance from overflights 	No Limit	No Limit	No Requirement
E	Special Land Use	<ul style="list-style-type: none"> • Compatibility issues 	15	150	No Requirement

Additional criteria are provided in Table 2A of the Kern County Airport Land Use Compatibility Plan.

Fire Hazard Areas

The California Department of Forestry and Fire Prevention requires counties within the State to develop fire protection management plans that address potential threats of wildland fires. The Kern County Wildland Fire Management Plan identifies federal, State, and local responsibility areas for the entire County to facilitate coordination efforts for fire protection services. The project site is sparsely vegetated and not within an area identified by the California Department of Forestry and Fire Protection as having substantial or very high fire risk, as determined by the Kern County General Plan or CAL FIRE (CAL FIRE, 2007a).

4.9.3 Regulatory Setting

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) was established in 1970 to consolidate in one agency a variety of federal research, monitoring, standard-setting, and enforcement activities to ensure environmental protection. The EPA's mission is to protect human health and to safeguard the natural environment—air, water, and land—upon which life depends. The EPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for using permits and for monitoring and enforcing compliance. Where national standards are not met, the EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the EPA to regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the “cradle to grave” system of regulating hazardous wastes.

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,” were enacted by Congress on December 11, 1980. This law (42 United States Code [USC] 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 enables the revision of the National Contingency Plan (NCP). The NCP (CFR Title 40, 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. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Clean Water Act/Spill Prevention, Control, and Countermeasure Rule

The Clean Water Act (CWA) (33 USC 1251 et seq., formerly known as the Federal Water Pollution Control Act of 1972) was enacted with the intent of restoring and maintaining the chemical, physical, and biological

integrity of waters of the United States. As part of the CWA, the EPA oversees and enforces the Oil Pollution Prevention regulation contained in 40 CFR 112, which is often referred to as the “SPCC rule” because the regulations describe the requirements for facilities to prepare, amend, and implement spill prevention, control, and countermeasure (SPCC) plans. A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, or the total aboveground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the “Navigable Waters” of the United States.

Federal Aviation Administration Part 77

The Federal Aviation Administration (FAA) regulates aviation at regional, public, and private airports. The FAA regulates objects affecting navigable airspace. According to 49 CFR Part 77.9, any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA of:

- Any construction or alteration exceeding 200 feet above ground level;
- Any construction or alteration:
 - Within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway where the longest airport runway exceeds 3,200 feet in actual length;
 - Within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway where the longest airport runway is less than 3,200 feet in actual length; and
 - Within 5,000 feet of a public use heliport which exceeds a 25:1 surface;
- Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the above standards;
- When requested by the FAA; and
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

The U.S. and California Departments of Transportation also require the proponent to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration. According to 14 CFR Part 77.5, notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace. Any structure that would constitute a hazard to air navigation, as defined in 14 CFR Part 77, requires issuance of a permit from the California Department of Transportation’s Aeronautics Program. The permit is not required if the FAA aeronautical study determines that the structure has no impact on air navigation.

Failure to comply with the provisions of Federal Aviation Regulation Part 77 is subject to civil penalty under Section 902 of the Federal Aviation Act of 1958, as amended, and pursuant to 49 USC Section 46301(a).

Federal Aviation Administration Solar Policy

The Solar Policy sets forth the standards for measuring ocular impact, the required analysis tool, and the obligations of the Airport Sponsor when a solar energy system is proposed for development on a federally-obligated airport. Although the Policy only applies to projects located on federally-obligated airports, the FAA urges proponents of off-airport solar-installations to voluntarily implement its provisions. These provisions include preparation of a glare study to ensure impacts of a solar project would not affect air traffic via glare (IWVAD, 2017).

Other Regulations

Other federal regulations overseen by the EPA relevant to hazardous materials and environmental contamination include 40 CFR Parts 100 to 149, Water Programs; 40 CFR Parts 239 to 259, Solid Wastes; and 40 CFR Parts 260 to 279, Hazardous Waste. These regulations designate hazardous substances under the Federal Water Pollution Control Act; determine the reportable quantity for each substance that is designated as hazardous; and establish quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration's (OSHA's) mission is to ensure the safety and health of U.S. workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. The OSHA staff 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 (HASP). 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 meeting the requirements of this paragraph before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards. These employees shall receive any necessary review training.

National Weather Service

Under extreme fire weather conditions, the National Weather Service (NWS) issues Red Flag Warnings for all affected areas. A Red Flag Warning means that any ignition could result in a large-scale damaging wildfire. The project site is located in the NWS Hanford region. Red Flag Warning criteria are as follows:

- Relative humidity 15 percent or less with either sustained winds of 25 miles per hour (mph) or greater or frequent gusts of 35 mph or greater (for duration of 6 hours or more);
- Relative humidity 10 percent or less with 15 mph sustained winds or greater or frequent gusts of 25 mph (for duration of 6 hours or more); and
- Relative humidity of 15 percent or less with 25 mph sustained winds (for duration of 8 hours or more).

State

California Public Utilities Commission General Order 95: Rules for Overhead Electric Line Construction

General Order 95 (GO 95) is the key standard governing the design, construction, operation, and maintenance of overhead electric lines within the State of California. It was adopted in 1941 and updated most recently in 2012. GO 95 includes safety standards for overhead electric lines, including minimum distances for conductor spacing, minimum conductor ground clearance, and standards for calculating maximum sag, electric line inspection requirements, and vegetation clearance requirements. The latter, governed by Rule 35, and inspection requirements, governed by Rule 31.2, are summarized below:

- Rule 35, *Tree Trimming*, defines minimum vegetation clearances around power lines. Rule 35 guidelines require 10-foot radial clearances for any conductor of a line operating at 110,000 volts or more, but at less than 300,000 volts. This requirement would apply to the proposed 230 kV lines.
- Rule 31.2, *Inspection of Lines*, requires that lines be inspected frequently and thoroughly for the purpose of ensuring that they are in good condition, and that lines temporarily out of service be inspected and maintained in such condition so as not to create a hazard.

California Electromagnetic Field Consensus Group

On January 15, 1991, the CPUC initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, the California EMF Consensus Group, was created by the CPUC to advise it on this issue. The California EMF Consensus Group's fact-finding process was open to the public, and its report incorporated public concerns. Its recommendations were filed with the CPUC in March 1992. Based on the work of the California EMF Consensus Group, written testimony, and evidentiary hearings, CPUC's decision (93-11-013) was issued on November 2, 1993, to address public concern about possible EMF health effects from electric utility facilities. The conclusions and findings included the following:

"We find that the body of scientific evidence continues to evolve. However, it is recognized that public concern and scientific uncertainty remain regarding the potential health effects of EMF exposure. We do not find it appropriate to adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value."

This continues to be the stance of the CPUC regarding standards for EMF exposure. Currently, the State has not adopted any specific limits or regulations regarding EMF levels from electric power facilities.

Power Line Hazard Reduction

Public Resources Code (PRC) Section 4292 requires a 10-foot clearance around any tree branches or ground vegetation at the base of power poles carrying more than 110 kV. The firebreak clearances required by PRC Section 4292 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from minimum clearance requirements by provisions of PRC Section 4296. Project structures would be exempt primarily because of their design specifications.

Power Line Clearance Required

PRC Section 4293 provides guidelines for line clearance, including a minimum of 10 feet of vegetation clearance around any conductor operating at 110 kV or higher.

Minimum Clearance Provisions

With respect to minimum clearance requirements, 14 CCR 1254 presents guidelines pertaining to non-exempt utility poles. The project structures would be exempt from the clearance requirements, with the exception of cable poles and dead-end structures.

The firebreak clearances required by 14 CCR 1254 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead-end or corner pole, unless such pole or tower is exempt from the minimum clearance requirements by the provisions of 14 CCR 1255 or PRC Section 4296. The radius of the cylindroid is 10 feet, which is measured horizontally from the outer circumference of the specified pole or tower, with the height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid to an intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole or tower. Flammable vegetation and materials located wholly or partially within the firebreak space would be treated as follows:

- At ground level: Remove flammable materials, including ground litter, duff, and dead or desiccated vegetation that would propagate fire.
- From 0 to 8 feet above ground level: Remove flammable trash, debris, or other materials, grass, and herbaceous and brush vegetation. Remove all limbs and foliage of living trees up to a height of 8 feet.
- From 8 feet to the horizontal plane of highest point of the conductor attachment: Remove dead, diseased, or dying limbs and foliage from living sound trees and any dead, diseased, or dying trees in their entirety.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as unsafe raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste. A Hazardous Materials Business Plan (HMBP) must be submitted to the local Certified Unified Program Agency (CUPA) (the Kern County Public Health Services Department/Environmental Health Division) if the facility handles, uses or stores a hazardous material or mixture containing a hazardous material that has a quantity equal to or greater than 55 gallons of liquid, 500 pounds of a solid substance, or 200 cubic feet of compressed gas, a hazardous compressed gas in any amount, or hazardous waste in any amount. A HMBP must include the following:

- Inventory of hazardous materials at a facility;
- Emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material; and

- Training for all new employees and annual training for all employees in safety procedures in the event of a release or threatened release of a hazardous material.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the State Hazardous Waste Management Program, which is similar to but more stringent than the federal RCRA program. The act is implemented by regulations contained in Title 26 CCR, which describes the following required aspects for the proper management of hazardous waste:

- Identification and classification
- Generation and transportation
- Design and permitting of recycling, treatment, storage, and disposal facilities
- Treatment standards
- Operation of facilities and staff training
- Closure of facilities and liability requirements

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the California Department of Toxic Substances and Control (DTSC).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Senate Bill 1082 (1993) created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a CUPA. The Program Elements consolidated under the Unified Program are as follows:

- Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs (i.e., Tiered Permitting)
- Aboveground Petroleum Storage Tank Program
- Hazardous Materials Release Response Plans and Inventory Program (i.e., Hazardous Materials Disclosure or “Community-Right-to-Know”)
- California Accidental Release Prevention Program (Cal ARP)
- Underground Storage Tank (UST) Program
- Uniform Fire Code Plans and Inventory Requirements

The Unified Program is intended to provide relief to businesses in complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another

local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA. The CUPA in Kern County is the Environmental Health Division of the Kern County Public Health Services Department (Kern County, 2014)

California Code of Regulations – Hazardous Substances

Under CCR Title 22, the term “hazardous substance” refers to both hazardous materials and hazardous wastes. Both of these are classified according to four properties: (1) toxicity, (2) ignitability, (3) corrosiveness, and (4) reactivity (22 CCR 11, Article 3). A hazardous material is defined as:

A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (22 CCR 66260.10).

CCR Title 8 (Chapter 3.2, Article 5, Section 339) includes a list of identified hazardous substances. Hazardous materials in various forms can cause death; serious injury; long-lasting health effects; and damage to buildings, homes, and other property (DHS, 2016).

California Environmental Protection Agency

The California Environmental Protection Agency (Cal/EPA) was created in 1991 and unified California’s environmental authority in a single cabinet-level agency and brought the California Air Resources Board (CARB), State Water Resource Control Board (SWRCB), Regional Water Quality Control Board (RWQCB), CalRecycle, DTSC, Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation (DPR) under one agency. These agencies were placed within the Cal/EPA “umbrella” for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Their mission is to restore, protect, and enhance the environment and to ensure public health, environmental quality, and economic vitality.

Department of Toxic Substances and Control

DTSC, a department of Cal/EPA, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the Federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

USC 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, Department of Health Services lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks or a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites with a known migration of hazardous waste/material.

California Office of Emergency Services

In order to protect public health and safety, and the environment, the California Office of Emergency Services (OES) is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release, or threatened release, of hazardous materials. The OES requires that basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) be available to firefighters, public safety officers, and regulatory agencies. Typically, this information should be included in business plans in order to prevent or mitigate damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code, Article 1, Hazardous Materials Release Response and Inventory Program (Sections 25500 to 25520), and Article 2, Hazardous Materials Management (Sections 25531 to 25543.3).

Title 19 CCR, Public Safety, Division 2, Office of Emergency Services, Chapter 4, Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4, Minimum Standards for Business Plans, establishes minimum statewide standards for hazardous materials business plans. These plans must include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7, (2) emergency response plans and procedures in accordance with Section 2731, and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business will prepare a hazardous materials business plan if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance;
- 55 gallons of a liquid;
- 200 cubic feet of compressed gas;
- A hazardous compressed gas in any amount; or
- Hazardous waste in any quantity.

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.

California Highway Patrol

A valid Hazardous Materials Transportation License, issued by the CHP, is required by the laws and regulations of State of California Vehicle Code Section 3200.5 for transportation of either:

- Hazardous materials shipments for which the display of placards is required by State regulations; or
- Hazardous materials shipments of more than 500 pounds, which would require placards if shipping greater amounts in the same manner.

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by the CHP under the authority of the State Vehicle Code. Transportation of explosives generally requires consistency with additional rules and regulations for routing, safe stopping distances, and inspection stops (14 CCR 6 [1] [1150–1152.10]). Inhalation hazards face similar, more restrictive rules and regulations (13 CCR 6 [2.5] [1157–1157.8]). Transportation of radioactive materials is restricted to specific safe routes.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for hazards and hazardous materials applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1: Land Use, Open Space and Conservation Element

1.3: Physical and Environmental Constraints

Policy

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes 2.6–2.9 and Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in an unmitigated significant impact.

Chapter 2: Circulation Element

2.5.4: Transportation of Hazardous Materials

Transportation-related accidents and spills of hazardous materials pose a serious threat to the traveling public and nearby sensitive land uses. Transportation of hazardous materials poses a short-term threat to public health.

Goal

Goal 1: Reduce risk to public health from transportation of hazardous materials.

Policies

Policy 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.

Implementation Measure

Measure A: Roads and highways utilized for commercial shipping of hazardous waste destined for disposal will be designated as such pursuant to Vehicle Code Sections 31303 et seq. Permit applications shall identify commercial shipping routes they propose to utilize for particular waste streams.

Chapter 4: Safety Element**4.2: General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint*****Implementation Measure***

Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.

4.9: Hazardous Materials***Implementation Measure***

Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.

Chapter 5: Energy Element**5.4.5: Solar Energy Development*****Policy***

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan but are unique to the specific needs of the of the Inyokern Area. The Land Use, Open Space, and Conservation Element of the Inyokern Specific Plan has the purpose of identifying physical constraints, public, residential, commercial, and industrial facilities as well as cultural and biological resources within the Plan area. The policies in the Inyokern Specific Plan for hazards and hazardous materials applicable to the project are provided below. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore,

they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

Land Use, Open Space, and Conservation Element

1.1: Physical Constraints

Policies

- Policy 1: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.
- Policy 4: Kern County building, health, and fire codes and standards shall be strictly enforced to minimize the possibility of hazards relevant to certain physical constraints.

1.2: Public Facilities

Policy

- Policy 7: New development will be required to demonstrate the availability of adequate fire protection and suppression facilities.

Kern County Multi-Hazard Mitigation Plan

The latest Kern County Multi-Hazard Mitigation Plan was developed in 2006. The Plan was developed by a Hazard Mitigation Planning Committee and identifies goals, objectives and actions pertaining to mitigating impacts from identified natural hazards. The public at large had an opportunity to comment prior to the completion of the Plan's final draft. FEMA realizes the importance of mitigation planning and offers incentives to communities that develop one. By following FEMA guidelines for approval of this plan, Kern County can be eligible for grant funding intended for mitigation projects (KCFD, 2018a).

Kern County Wildland Fire Management Plan

The Kern County Wildland Fire Management Plan documents the assessment of wildland fire situations throughout the State Responsibility Areas (SRAs) within the County. The Kern County Fire Department Wildland Fire Management Plan provides for systematically assessing the existing levels of wildland protection services and identifying high-risk and high-value areas that are potential locations for costly and damaging wildfires. The goal of the plan is to reduce costs and losses from wildfire by protecting assets at risk through focused pre-fire management prescriptions and increasing initial attack success. Based on this assessment, preventive measures are implemented, including the creation of wildfire protection zones.

Kern County Airport Land Use Compatibility Plan

The Kern County ALUCP establishes procedures and criteria in which the County and affected incorporated cities can address compatibility issues when making planning decisions in regards to airports and the land uses around them. The Kern County ALUCP policies apply to 16 airports located within Kern County, including Inyokern Airport. The ALUCP maps airport influence areas as zones as A, B1, B2, C, D, E1 and

E2, ranging from the most restrictive Zone A to the least restrictive Zone E, and identifies policies and compatibility criteria within each of those zones.

Proposals for public or private land use developments that occur within defined airport influence areas are subject to compatibility review. The principal airport land use compatibility concerns addressed by the ALUCP are (1) exposure to aircraft noise, (2) land use safety with respect to both people and property on the ground and the occupants of the aircraft, (3) protection of airport air space, and (4) general concerns related to aircraft overflights.

According to the Kern County ALUCP, and as shown on **Figure 4.9-1, ALUCP Area of Influence in Relation to the Project Site**, the project site is in the Airport Influence Area of the Inyokern Airport. Section 4.5 of the ALUCP addresses the Inyokern Airport and the land uses and procedures relative to its aviation and includes height restrictions, and other compatibility criteria.

In addition, due to the location of the site within the R-2508 Complex, the project falls within the following notification categories established in Section 4.17.3 of the ALUCP:

- Any structure within 75 miles of the R-2508 Complex that is greater than 50 feet tall.
- Any environmental document or discretionary project within 25 miles of the military installation boundaries.
- Any project that would create environmental impacts (e.g., visibility, elevated obstructions) within 25 miles of the R-2508 Complex.
- Any project within 25 miles of the centerline of any route/corridor.

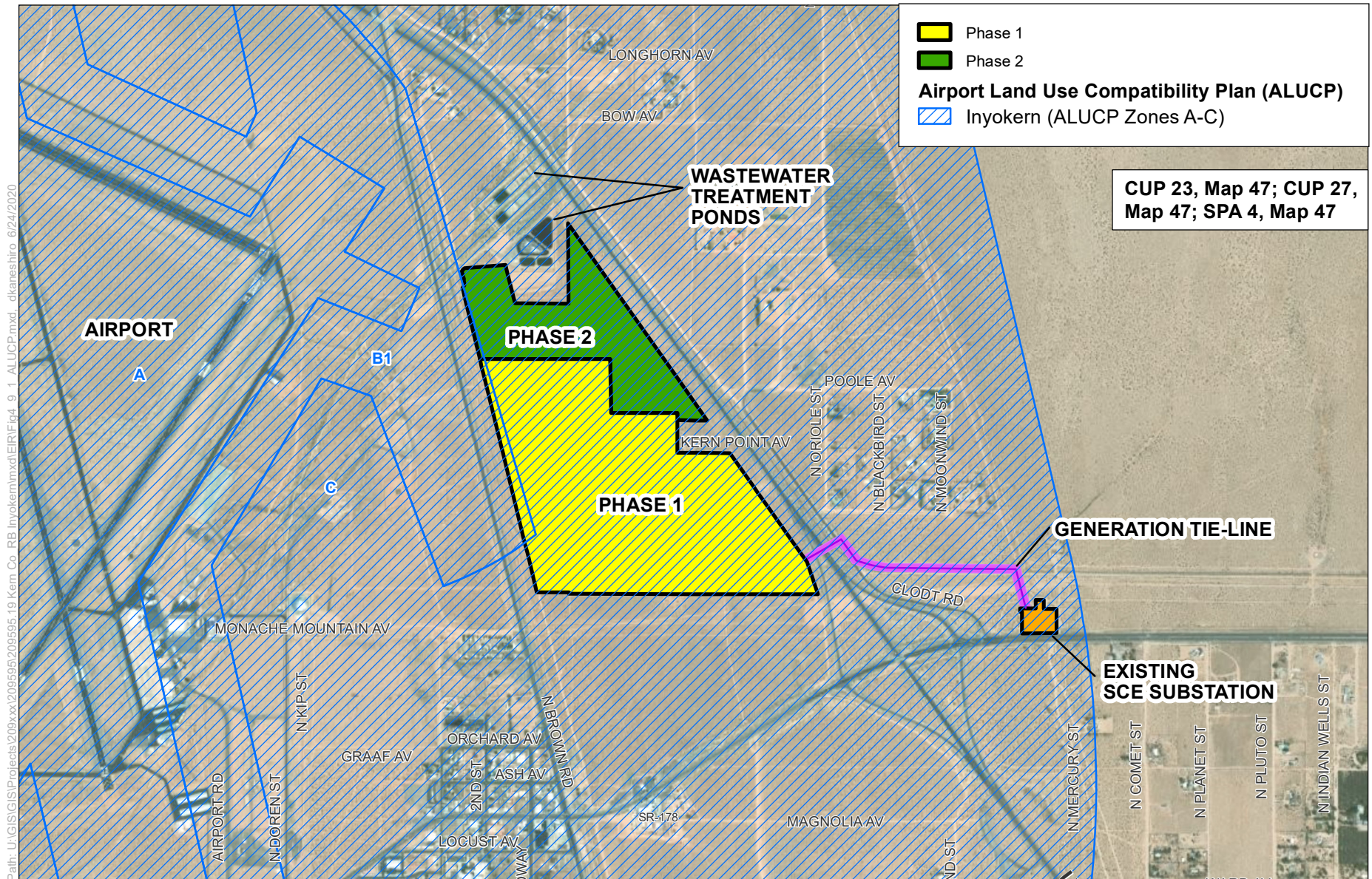


Figure 4.9-1: ALUCP IN RELATION TO THE PROJECT SITE

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2016 California Fire Code and the 2015 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees.

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in Battalions 1, 5, and 7, and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 7 of KCFD, which encompasses 253,776 acres of the northeastern portion of Kern County and includes nine fire stations.

Fire Prevention Standard No. 503-507 Solar Panels

The Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2019c).

Kern County Department of Environmental Health Services Division

The County of Kern Environmental Health Services Department is the CUPA for the project area, which provides site inspections of hazardous materials programs (above ground storage tanks, USTs, hazardous waste treatment, hazardous waste generators, hazardous materials management and response plans, and the

California Fire Code). This Department also provides emergency response to hazardous materials events, performing health and environmental risk assessment and substance identification.

Kern County and Incorporated Cities Hazardous Waste Management Plan

In response to the growing public concern regarding hazardous waste management, State Assembly Bill 2948 enacted legislation authorizing local governments to develop comprehensive hazardous waste management plans. The intent of each plan is to ensure that adequate treatment and disposal capacity is available to manage the hazardous wastes generated within the local government's jurisdiction.

The Kern County and Incorporated Cities Hazardous Waste Management Plan (Hazardous Waste Plan) was first adopted by Kern County and each incorporated city before September 1988 and was subsequently approved by the State Department of Health Services. The Hazardous Waste Plan was updated and incorporated by reference into the Kern County General Plan in 2004 as permitted by Health and Safety Code Section 25135.7(b) and, thus, must be consistent with all other aspects of the Kern County General Plan.

The Hazardous Waste Plan provides policy direction and action programs to address current and future hazardous waste management issues that require local responsibility and involvement in Kern County. In addition, the Hazardous Waste Plan discusses hazardous waste issues and analyzes current and future waste generation in the incorporated cities, county, and State and federal lands. The purpose of the Hazardous Waste Plan is to coordinate local implementation of a regional action to affect comprehensive hazardous waste management throughout Kern County. The action program focuses on development of programs to equitably site needed hazardous waste management facilities; to promote onsite source reduction, treatment, and recycling; and to provide for the collection and treatment of hazardous waste from small-quantity generators. An important component of the Hazardous Waste Plan is the monitoring of hazardous waste management facilities to ensure compliance with federal and State hazardous waste regulations.

4.9.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to hazards and hazardous materials have been evaluated using a variety of resources, including both Phase I Environmental Site Assessments prepared for the project (Terracon, 2015; SEI, 2014). One of the Phase I reports (SEI, 2014) is actually for a site that is south of the project site when a different location was being evaluated. However, considering that Phase I reports examine a 1-mile radius of a location, it was still used as relevant to the proposed project locations. The proposed project was evaluated for adequate accessibility for emergency responders based on the project location, construction plans, and site plans, and any potential alterations to existing evacuation routes and plans. The methodology for determining impacts relating to wildland fires focuses on the fire severity at the project site and the surrounding areas based on existing State and local maps and land characteristics. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect related to hazards and hazardous materials.

A project would have a significant impact related to hazards and hazardous materials if it would:

- a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- b. 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;
- c. Emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school;
- d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- e. For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- f. Impair implementation of, or physically interferes with, an adopted emergency response plan or emergency evacuation plan;
- g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires; or
- h. Generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold:

The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

- i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and
- ii. Are associated with design, layout, and management of project operations; and
- iii. Disseminate widely from the property; and
- iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

As lead agency, Kern County determined in the Notice of Preparation/Initial Study (NOP/IS) (located in Appendix A of this EIR) that the proposed project would not result in significant impacts to some of these environmental issue areas; these issue areas are thus scoped out of this EIR. It was determined that the project would not:

- c. Emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school;

- d. 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;
- f. Impair implementation of, or physically interferes with, an adopted emergency response plan or emergency evacuation plan;
- h. Implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold:

The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

- i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and
- ii. Are associated with design, layout, and management of project operations; and
- iii. Disseminate widely from the property; and
- iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.

As discussed in the IS/NOP, the project site is not identified in any of the hazardous materials databases listed in the Phase I Environmental Site Assessments and, therefore, would not create a significant hazard to the public or environment. Since the project site is located in an area with several alternative access roads allowing access in the event of an emergency, access would be maintained throughout construction, and appropriate detours would be provided in the event of potential road closures. Construction and operation of the proposed solar arrays and associated facilities would not produce excessive wastes, standing water, or other features that would attract nuisance pests or vectors. No further analysis for these issues areas is warranted in the EIR.

The IS/NOP incorrectly concluded Inyokern Elementary School (the closest school to the project site) was located approximately 0.6 miles southwest of the project site. The more accurate distance is 0.22 miles southwest of the project site. Therefore, the proposed project could result in hazards and hazardous materials-related impacts within close proximity to a school. Thresholds of Significance (c) has been analyzed in the Project Impacts section below.

Project Impacts

Impact 4.9-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Construction

The project, including the solar facilities and the gen-tie connection, would not involve the routine transport, use, or disposal of hazardous materials, as defined by the Hazardous Materials Transportation Uniform Safety Act. Most of the hazardous waste generated by the project would occur during the temporary construction period and would consist of liquid waste, including cleaning fluids, dust palliative, herbicides,

and solvents. Some solid hazardous waste, such as welding materials and dried paint, may also be generated during construction. These materials would be transported to the project site during construction, and any hazardous materials that are produced as a result of the construction of the project would be collected and transported away from the site. During construction of the project, safety data sheets for all applicable materials present at the site would be made readily available to onsite personnel in accordance with required BMPs as part of a Stormwater Pollution Prevention Plan (see Section 4.10, *Hydrology and Water Quality*). Workers would be trained to properly identify and handle all hazardous materials. Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped offsite for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location. During construction of the facilities, non-hazardous construction debris would be generated and disposed of in local landfills. Sanitary waste would be managed using portable toilets located onsite. Mitigation Measure MM 4.17-1 would require debris and waste generated during construction to be recycled to the extent feasible during construction, operation, and decommissioning and the designation of a Recycling Coordinator to facilitate recycling of all waste through coordination with the onsite contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes.

Fuels and lubricants used on field equipment would be subject to the Material Disposal and Solid Waste Management Plan, and SPCC plan and other measures to limit releases of hazardous materials and wastes (see further discussion of best management practice (BMP) requirements in Section 4.10, *Hydrology and Water Quality*, of this EIR). Recyclable materials including wood, shipping materials, and metals would be separated when possible for recycling. Liquids and oils in the transformer and other equipment would be used in accordance with applicable regulations. The disposal of all oils, lubricants, and spent filters would be performed in accordance with all applicable regulations including the requirements of licensed receiving facilities. Overall the relatively limited use of hazardous materials, and subsequently transport and disposal of such materials, during construction would be controlled through compliance with applicable regulations including the Kern County and Incorporated Cities Hazardous Waste Management Plan. As such, construction impacts would be less than significant.

Operation

Operation and maintenance (O&M) activities associated with PV solar facilities are relatively minor when compared to other land uses such as conventional power plants and would require very limited use of hazardous materials. Any hazardous materials that would be used would be stored onsite and in designated areas in accordance with an HMBP (see below). The project site would be enclosed by an approximately 7- and 8-foot fence to prevent public access to hazardous materials and the PV panels. The interconnection (power line) portions of the project would not require use of hazardous materials during operation (see EMF discussion below).

The O&M building will be unmanned and not used on a daily basis. Typical O&M activities that would occur on the project site during operation include, but are not limited to: operations of inverters; site security and management; additional communication protocol; repair and maintenance of solar facilities and other project facilities; and periodic panel washing. No heavy equipment would be used during normal project operation. O&M vehicles would include trucks (pickup, flatbed), forklifts, and loaders for routine and unscheduled maintenance, and water trucks for solar panel washing. Large heavy-haul transport equipment and cranes may be brought to the project site infrequently for equipment repair or replacement. Long-term maintenance and equipment replacement would be scheduled in accordance with manufacturer

recommendations. Solar panels are warranted for 25 years or longer and are expected to have a life of 30 or more years. Moving parts, such as motors and tracking module drive equipment, motorized circuit breakers and disconnects, and inverter ventilation equipment, would be serviced on a regular basis, and unscheduled maintenance would be conducted as necessary. Mitigation Measure MM 4.9-1, which requires the preparation of an HMBP that would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to maintenance workers and/or the public.

The PV modules that would be installed on the project site utilize CdTe thin film technology. As described above in the Environmental Setting, CdTe is generally bound to a glass sheet by a vapor transport deposition during the manufacturing process, followed by sealing the CdTe layer with a laminate material, and then encapsulating it in a second glass sheet. It has been demonstrated that standard operation of CdTe PV systems does not result in cadmium emissions to air, water, or soil. The modules meet rigorous performance testing standards demonstrating durability in a variety of environmental conditions. The PV modules with CdTe thin film technology conform to the International Electrotechnical Commission (IEC) test standards IEC 61646 and IEC61730 PV as tested by a third party testing laboratory certified by the IEC. In addition, the PV modules also conform to Underwriters Laboratory (UL) 1703 a standard established by the independent product safety certification organization. In accordance with UL 1703, the PV modules undergo rigorous accelerated life testing under a variety of conditions to demonstrate safe construction and monitor performance. During normal operations, CdTe PV modules do not present an environmental risk. CdTe releases are also unlikely to occur during accidental breakage or fire due to the high chemical and thermal stability of CdTe. Disposal risks of end-of-life CdTe PV modules are minimized because of the low solubility of CdTe and because the modules can be effectively recycled at the end of their approximately 30-year life. Studies indicate that unless the PV module is purposefully ground to a fine dust, use of CdTe in PV modules do not generate any emissions of CdTe (Fthenakis, 2003). The project includes operational and maintenance protocols that would be used to identify and remove damaged or defective PV modules during annual inspections. The PV module manufacturer created the first global and comprehensive module collection and recycling program in the PV industry in 2005. Therefore, the use of a CdTe PV system would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during normal operations.

Project operations would require the use of transformer oil at the project substations and the energy storage system (ESS) could contain battery acids, as well as lithium ion, lead acid, sodium sulfur, and sodium or nickel hydride. All 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 components would have a comprehensive SPCC plan, in accordance with all applicable federal, State, and local regulations. Dust palliatives and herbicides, if used during operations to control vegetation, may be transported to the project site. These materials would be stored in appropriate containers to prevent accidental release. US 395 would be the designated route for the transport of hazardous materials located on or immediately adjacent to the project site. In addition, implementation of Mitigation Measure MM 4.9-1 would further reduce impacts related to hazards to a less-than-significant level.

Further, implementation of the project would not result in the significant risk of EMFs associated with overhead power lines, as the project would connect into the existing gen-tie line connecting to the SCE Inyokern Substation. In addition, the project would not construct sensitive uses under the existing lines but would adhere to applicable CPUC requirements on location of gen-tie lines. As the State has not adopted

any specific limits or regulations regarding EMF levels from electric power facilities, impacts in this regard would be less than significant.

Decommissioning and Disposal

During the decommissioning and disposal process, it is anticipated that all project structures would be fully removed from the ground. Above-ground equipment that would be removed would include electrical wiring, equipment on the inverter pads, and the interconnection transformer pad and associated equipment. Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment offsite. Removal of the PV modules would include removal of the racks on which the solar panels are attached, and their placement in secure transport crates and a trailer for storage, for ultimate transportation to another facility.

Once the PV modules have been removed, the racks would be disassembled, and the structures supporting the racks would be removed. All other associated site infrastructure would be removed, including fences, concrete pads that may support the inverters, transformers and related equipment, and underground conduit/electrical wiring. The fence and gate would be removed, and all materials would be recycled to the extent feasible. The area would be thoroughly cleaned and all debris removed. As discussed above, most panel materials would be recycled, with minimal disposal to occur in landfills in compliance with all applicable laws.

The PV module manufacturer would likely provide CdTe module collection and recycling services. In any case, current CdTe PV modules pass federal leaching criteria for non-hazardous waste, due in part to the low solubility of CdTe, which means they would not pose a significant risk for cadmium leaching if they reached a landfill. As noted above, several peer-reviewed studies have evaluated the environmental, health, and safety aspects of CdTe PV modules. CdTe releases are unlikely to occur during accidental breakage or fire due to the high chemical and thermal stability of CdTe. Disposal risks of end-of-life CdTe PV modules are minimized because of the low solubility of CdTe and because the modules can be effectively recycled at the end of their approximately 30-year life. Studies indicate that unless the PV module is purposefully ground to a fine dust, use of CdTe in PV modules do not generate any emissions of CdTe (Fthenakis, 2003). These studies have consistently concluded that use of CdTe PV modules do not present an environmental risk.

As described in Section 4.17, *Utilities and Service Systems*, Mitigation Measure MM 4.17-1 requires that an onsite recycling coordinator be designated by the project proponent to facilitate recycling of all waste through coordination with the onsite contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The onsite recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal. The name and phone number of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits. Given that the normal use and disposal of CdTe PV modules would not present an environmental risk, project implementation would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during decommissioning and disposal activities. In addition, implementation of Mitigation Measure MM 4.17-1, would further reduce impacts related to hazards to a less-than-significant level.

Mitigation Measures

Implementation of Mitigation Measure MM 4.17-1 would be required (see Section 4.17, *Utilities and System Services*, for full text of Mitigation Measure MM 4.17-1).

MM 4.9-1: During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan, as applicable, pursuant to Article 1 and Article 2 of California Health and Safety Code 6.95 and in accordance with Kern County Ordinance Code 8.04.030, by submitting all the required information to the California Environmental Reporting System at <http://cers.calepa.ca.gov/> for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The Hazardous Materials Business Plan shall:

- Delineate hazardous material and hazardous waste storage areas
- Describe proper handling, storage, transport, and disposal techniques
- Describe methods to be used to avoid spills and minimize impacts in the event of a spill
- Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction and operation
- Establish public and agency notification procedures for spills and other emergencies including fires
- Include procedures to avoid or minimize dust from existing residual pesticides and herbicides that may be present on the site

The project proponent shall ensure that all contractors working on the project are familiar with the facility's Hazardous Materials Business Plan as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted Hazardous Materials Business Plan from the California Environmental Reporting System shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the projects permanent record.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1 and MM 4.17-1, impacts would be less than significant.

Impact 4.9-2: The project would 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.

Construction

According to the California Geologic Energy Management Division (CalGEM) (formerly known as the Division of Oil, Gas and Geothermal Resources, the project site is not located within a known oil production field, nor does the project site have any known active or abandoned oil wells (CalGEM, 2020c). As a result, construction and development of the proposed project is unlikely to expose employees or construction workers to the dangers associated with operating a facility near an oil well.

Potential impacts that may result from construction of the project includes the accidental release of materials, such as cleaning fluids and petroleum products including lubricants, fuels, and solvents. Implementation of Mitigation Measure MM 4.9-1, which would provide methods to be used to avoid spills and minimize impacts in the event of a spill by providing procedures for handling and disposing hazardous materials as well as public and agency notification procedures for spills and other emergencies including fires, would reduce this impact to a less-than-significant level.

Despite the relatively open spaces surrounding the site, nearby sensitive receptors could be exposed to pollutant emissions during construction of the project, resulting in a potentially significant impact. An adverse risk related to exposure to hazardous materials could result from the, grading of the site, the application of herbicides, or other construction or operation processes because of the distance between the sensitive receptors and the project site. Implementation of Mitigation Measure MM 4.9-2, which regulates the use of herbicides as described below, would reduce impacts related to sensitive receptors to a less-than-significant level.

Operation

Operation of the project would produce no hazardous waste. The PV modules and inverters would produce no hazardous waste during operation. Each enclosed transformer at the substation would include mineral oil, but secondary containment would be provided in accordance with applicable federal, State, and local laws and regulations. The mineral oil contained in each transformer does not normally require replacement, and mineral oil disposal would be in accordance with all applicable federal, State, and local laws and regulations.

As stated in the environmental setting above, it has been demonstrated that standard operation of polycrystalline silicon PV systems does not result in pollution emissions to air, water, or soil. Polycrystalline silicon panels removed from the site would be recycled or otherwise disposed at an appropriate waste disposal facility. Hazardous materials are unlikely to occur during accidental breakage of the polycrystalline silicon solar panels. Similarly, fire damage would not result in the release of hazardous materials. The polycrystalline silicon PV panel does not pose a threat to nearby residences.

In the event that CdTe PV modules are used for the project, CdTe releases are unlikely to occur from accidental breakage of or fires involving the PV modules. CdTe is a highly stable semiconductor compound due to strong chemical bonding that translates to extremely low solubility in water, low vapor pressure, and a melting point greater than 1,000 degrees Celsius (°C). Potential impacts to soil, air, and groundwater quality from broken CdTe PV modules are highly unlikely to pose a potential health risk as they are below both human health screening levels and background levels (Sinha et al., 2011)

Potential CdTe emissions from fire are unlikely to occur at the project site because of the lack of fuel to support a sustained wildfire. Grass fires are the most likely fire exposure scenario for ground-mounted PV systems, and these fires tend to be short-lived due to the thinness of grass fuels. As a result, these fires are unlikely to expose PV modules to prolonged fire conditions or to temperatures high enough to volatilize CdTe, which has a melting point of 1,041°C. Moreover, even if a desert wildfire could reach that temperature, the actual CdTe emissions from a PV module would be insignificant (~0.04 percent) due to encapsulation in the molten glass matrix (Fthenakis et al., 2003).

Potential CdTe emissions from broken PV modules exposed to precipitation are also unlikely. Based on warranty return data, the breakage rate of CdTe PV modules is low, 1 percent over 25 years, which translates to an average of 0.04 percent per year. This breakage rate is an overestimate because over one-third of PV module breakage occurs during shipping and installation. Modules that break during shipping and installation are removed from the construction site and returned to a manufacturing facility for recycling. Even if the CdTe

semiconductor layer becomes exposed to the environment, it strongly resists being released from the PV module into the environment, and CdTe has an extremely low solubility in water.

The CdTe PV modules do not pose a threat to nearby residences. The use of CdTe PV modules at the project site would not result in human or aquatic exposure of cadmium. A recent research article, Fate and Transport Evaluation of Potential Leaching Risks from Cadmium Telluride Photovoltaics (Sinha et al, 2011), further substantiates that during operation, CdTe PV modules do not pose a threat to human health or the environment due to its construction. The study evaluates the worst-case scenario to estimate potential exposures to CdTe compounds in soil, air or groundwater. The results show that exposure point concentrations in soil, air, and groundwater are one to six orders of magnitude below human health screening levels and below background levels, indicating that it is highly unlikely that exposures would pose potential health risks to onsite workers or offsite residents.

In addition, the hazardous materials that would be present in the ESS would be contained within specifications that follow applicable federal State and local requirements. OSHA requirements call for the inclusion of appropriate ventilation, acid resistant materials, and presence of spill protection supplies.

Removal and/or maintenance of vegetation may require pesticide and herbicide use during both construction and operation. If not handled properly, use of these products could create a hazard to the public (construction workers, maintenance employees, and nearby residences), resulting in a potentially significant impact. Mitigation Measure MM 4.9-2 would reduce impacts related to use of pesticides and herbicides to a less-than-significant level.

As noted above, the project would not involve the routine transport, use, or disposal of substantive quantities of hazardous materials, as defined by the Hazardous Materials Transportation Uniform Safety Act. The closest designated route for the transport of hazardous materials is US 395, which is located adjacent to the project site. Adherence to regulations and standard protocols during the storage, transportation, and usage of any hazardous materials would minimize and avoid the potential for significant impacts related to upset and accident conditions.

Overall, adherence to regulations and standard protocols during the storage, transportation, and usage of any hazardous materials, and implementation of Mitigation Measure MM 4.9-2 would minimize or reduce potential impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials, to a less-than-significant level.

Decommissioning and Disposal

The decommissioning and disposal process is described under Impact 4.9-1, above. Most panel materials would be recycled to the extent feasible, with minimal disposal to occur in landfills in compliance with all applicable laws. Current CdTe PV modules pass federal leaching criteria for non-hazardous waste, due in part to the low solubility of CdTe, which means they would not pose a significant risk for cadmium leaching if they reached a landfill. Batteries within the energy storage facility would also be recycled to the extent feasible, with minimal landfill disposal.

Mitigation Measure MM 4.17-1 requires that an onsite recycling coordinator be designated by the project proponent to facilitate recycling of all waste through coordination with the onsite contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The onsite recycling coordinator shall also be responsible for ensuring that wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal. The name and phone number of the

coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.

Mitigation Measures

Implementation of Mitigation Measures MM 4.9-1 and MM 4.17-1 would be required (see Section 4.17, *Utilities and System Services*, for full text of Mitigation Measure MM 4.17-1).

MM 4.9-2: The project proponent/operator shall continuously comply with the following:

- a. The construction contractor or project personnel shall use herbicides that are approved by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service. Personnel applying herbicides shall have all appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use.
- b. Herbicides shall be mixed and applied in conformance with the manufacturer's directions.
- c. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and water bodies, herbicides shall not be applied directly to wildlife.
- d. Products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed; and herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water.
- e. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.
- f. A written record of all herbicide applications on the site, including dates and amounts shall be furnished to the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1, impacts would be less than significant.

Impact 4.9-3: The project would emit hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school.

The project site is located approximately 0.22 miles northeast from Inyokern Elementary School in the community of Inyokern. The next closest school is Gateway Elementary School, which is located approximately 5.3 miles southeast of the project site in the City of Ridgecrest. As described under Impact 4.9-1 and Impact 4.9-2 above, the proposed project would require the use of hazardous materials and could accidentally release hazardous materials during construction and operation. However, compliance with Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1 (see Section 4.17, *Utilities and System Services*, for full mitigation text) would require the implementation of an HMBP, appropriate application and use of herbicides, and the designation of an onsite recycling coordinator. Project-related

infrastructure would not emit hazardous materials or involve inappropriate handling hazardous or acutely hazardous materials, substances, or waste. Impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1 would be required (see Section 4.17, *Utilities and System Services*, for full text of Mitigation Measure MM 4.17-1).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1, impacts would be less than significant.

Impact 4.9-4: The project would result in a safety hazard or excessive noise for people residing or working in the project area, for a project located within the adopted Kern County Airport Land Use Compatibility Plan.

The County's ALUCP requires that projects located within the planning boundary or Airport Influence Area for each airport comply with the height restriction standards and procedures set forth in FAA Part 77. Section 4.5 of the ALUCP defines policies associated with the Inyokern Airport, including requirements regarding the height of proposed structures as well as certain land use characteristics, such as glare. The project site is located approximately 0.3 miles east of the Inyokern Airport's western boundary and is within the airport influence area. Specifically, the project site is located in Compatibility Zones B1 and C. According to the Kern County ALUCP, areas within Zone B1 are in an area subject to potential high risk from aircraft within 400 feet whereas Zone C would be impacted by "limited risk" due to aircraft at or below 1,000 feet above ground level. Per Section 3.3.3 of the ALUCP, the maximum height of structures or other objects is restricted to 35 feet above ground level for projects within Zone C and may be less for Zone B1 unless approved by the FAA and the Airport Land Use Commission. Therefore, the majority of the project is not anticipated to interfere with airspace because of the relatively short height (up to 12 feet above ground surface) of the arrays and their non-reflective surfaces, which have about half the reflectance of standard residential and commercial glass. If gen-tie lines were to exceed the 35-foot height limit, the proposed project would require approval by the FAA and Airport Land Use Commission. Although they can produce glare and glint, modern solar panels reflect as little as 2 percent as incoming sunlight, similar to water (Palmer and Laurent, 2014). As noted in Section 4.1, *Aesthetics*, the Glare Study (Power Engineers, 2018) located in Appendix B of this EIR determined no glare would be visible from the proposed solar operations due to the orientation of the PV panels and their rotational limits. Although the project is not anticipated to create glare, per Mitigation Measure MM 4.1-5 and MM 4.1-6, the project would be designed to minimize distracting glare emanating from the solar facility. Therefore, the project would minimize glare impacts to overpassing air traffic and would not conflict with the ALUCP. Impacts would be less than significant.

The project would be required to comply with the County's ALUCP and applicable FAA regulations regarding project approval to ensure that there is no conflict with airport operations and no safety hazards are presented. Implementation of Mitigation Measure MM 4.9-3 would ensure the proposed project would be consistent with the ALUCP and General Plan policies of Kern County by requiring the developer to coordinate notification of the project to the Inyokern Airport and FAA, if applicable. Impacts would be less than significant.

Furthermore, the proposed project would not result in an increase in air traffic levels or a change in location of air traffic patterns that would result in a substantial safety risk, as air traffic patterns would not be

affected. The project would not introduce new permanent residents to the project area, and only temporary employees would be present at the site intermittently throughout the year to perform routine maintenance and panel washing. The proposed project would not result in safety or operational hazards to aircraft that would represent a safety hazard to people residing or working in the area. In addition, the nature of operation of the solar facilities is not known to result in any operational issues or safety hazards to aircraft that would be a safety hazard to people or expose people to excessive noise. Impacts would be less than significant.

See also Section 4.1, *Aesthetics*, for analysis of glare impacts and Section 4.13, *Noise*, for analysis of noise impacts.

Mitigation Measures

Implementation of Mitigation Measures MM 4.1-5 and MM 4.1-6 would be required (see Section 4.1, *Aesthetics*, for full text of Mitigation Measures MM 4.1-5 and MM 4.1-6).

MM 4.9-3: Prior to the issuance of building and grading permits, the project proponent/operator shall comply with the following:

- a. Submit Form 7460-1 (Notification of Proposed Construction or Alteration) to the Federal Aviation Administration, in the form and manner prescribed in Code of Federal Regulation 77.17 (if applicable).
- b. Provide documentation to the Kern County Planning and Natural Resources Department demonstrating that a copy of the final site plans has been provided to the operators of the Inyokern Airport.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-5, MM 4.1-6, and MM 4.9-3, impacts would be less than significant.

Impact 4.9-5: The project would 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.

The project site is located within a moderate fire hazard severity zone (KCFD, 2009). However, there is sparse vegetation onsite and site preparation would involve the removal of additional vegetation, although natural vegetation may be maintained if it does not interfere with project construction or the health and safety of onsite personnel. The project would also include a battery energy storage system component which has a very low likelihood of producing a fire (generally a result of thermal runaway event from an internal short with cascading events) and a very low likelihood of catching fire (due to the non-flammable material that are used for the structure and absence of flammable vegetation or other materials nearby). However, battery systems still have the possibility of catching fire under the right circumstances (which are rare) or being damaged by fire and generate fumes and gases that are extremely corrosive in those instances. Dry chemical, carbon dioxide, and foam are the preferred methods for extinguishing a fire involving batteries as water is generally not effective in extinguishing battery fires. Class D extinguishers are used for lithium-metal fires only. To further increase safety, the battery units are usually low voltage, encased in a steel enclosure and are set apart from combustible materials. They are built with a thermal management system that includes coolant pumps, fans and a refrigerant system to further maintain cool temperatures within the unit.

As discussed further in Section 4.14, *Public Services*, of this EIR, the project proponent would implement Mitigation Measure MM 4.14-1, which would require the preparation and submittal of a Fire Safety Plan to the Kern County Fire Department for review and approval. The purpose of the Fire Safety Plan would be to eliminate causes of fire, prevent loss of life and property by fire, to comply with County and County Fire Protection District standards for solar facilities, and to comply with the OSHA standard of fire prevention, 29 CFR 1910.39. The fire safety plan would address fire hazards of the different components of the project, including the battery energy storage system, and would include BMPs to reduce the potential for fire and extinguishment techniques if a fire were to occur. As discussed in more detail in Section 4.18, *Wildfire*, the project would not place the gen-tie and electrical collection system, energy storage facility, or internal/perimeter dirt maintenance roads within a high fire hazard zone, and would clear all necessary vegetation, which would reduce fire risks.

The project site is located adjacent to the community of Inyokern and there are multiple residences in proximity to the project site. While the project is not anticipated to significantly increase the risk of wildfire, Mitigation Measure MM 4.14-1 would be implemented which includes the development and implementation of a fire safety plan for construction and operation of the project. With mitigation, potential impacts from wildfire would be reduced to a less-than-significant level.

See also Section 4.18, *Wildfire*, of this EIR for additional discussion of wildfire issues.

Mitigation Measures

Implementation of Mitigation Measure MM 4.14-1 would be required (see Section 4.14, *Public Services*, for full text of Mitigation Measure MM 4.14-1).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.14-1, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, multiple projects, including several utility-scale solar and wind energy production facilities, are proposed throughout Kern County. As shown in Table 3-5, *Cumulative Projects List*, non-solar and two solar energy projects are proposed within the Indian Wells Valley. The geographic scope of impacts associated with hazardous materials generally encompasses the project sites and a 0.25-mile-radius area around the project sites. A 0.25-mile-radius area allows for a conservative cumulative analysis that ensures that all potential cumulative impacts will be assessed. 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 since they tend to be related to onsite existing hazardous conditions and/or hazards caused by the project's construction or operation. A geographic scope of a 0.25-mile-radius area also coincides with the distance used to determine whether hazardous emissions or materials would have a significant impact upon an existing or proposed school, as discussed above. Although the Inyokern Elementary School is 0.22 miles from the project site, compliance with Mitigation Measures MM 4.9-1 (preparation of a HMBP), MM 4.9-2 (limiting use of herbicides onsite), and MM 4.17-1 (appropriate recycling of debris and waste) would avoid hazardous material-related impacts from occurring at the school.

Impacts regarding the handling, use, and/or storage of hazardous materials would be project specific and would not cumulatively contribute to impacts. An accident involving a hazardous material release during

project construction or operation through upset or accident conditions including site grading and the use and transport of petroleum-based lubricants, solvents, fuels, batteries, herbicides, and pesticides to and from the project site would be location specific. Conformance with existing State and County regulations, as well as project safety design features and the implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.17-1 identified above would further reduce cumulative impacts. In addition, implementation of appropriate safety measures during construction of the project, as well as other cumulative projects, would reduce the impact to a level that would not contribute to cumulative effects. Given the minimal risks of hazards at the project site, cumulative impacts are unlikely to occur. Therefore, impacts would not be cumulatively significant.

Hazardous materials to be used during decommissioning and removal activities are of low toxicity and would consist of fuels, oils, and lubricants. Because these materials are required for operation of construction vehicles and equipment, BMPs would be implemented to reduce the potential for or exposure to accidental spills or fires involving the use of hazardous materials. Impacts from minor spills or drips would be avoided by thoroughly cleaning up minor spills as soon as they occur. While foreseeable projects have the potential to cause similar impacts, it is assumed these projects would also implement similar BMPs. Conformance with existing State and County regulations, as well as implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, and MM 4.14-1 (implementation of a Fire Safety Plan), and MM 4.17-1, would further reduce the potential for cumulative impacts. In addition, implementation of appropriate safety measures during construction of the project, as well as any other cumulative project, would reduce the impact to a level that would not contribute to cumulative effects. Therefore, impacts related to the use of hazardous materials would not be cumulatively significant.

The project site is located within Zones B1 and C of the Inyokern Airport Land Use Plan influence area. However, the project would not introduce permanent residents on the project site and only temporary employees would be at the project site for routine maintenance. The proposed project would be in compliance with County zoning requirements and FAA regulations per Mitigation Measure MM 4.9-3, including design measures related to glare, as required. Modern solar panels reflect as little as 2 percent as incoming sunlight. Furthermore, implementation of Mitigation Measures MM 4.1-5 and MM 4.1-6 requires light shielding and the use of non-reflective and anti-glare materials. This would ensure that solar panels and building surfaces are designed to minimize glare impacts to overpassing air traffic. Therefore, impacts related to hazards in an airport land use plan influence area would not be cumulatively significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.9-3, MM 4.1-5, MM 4.1-6, MM 4.14-1, and MM 4.17-1 would be required.

Level of Significance

With implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.9-3, MM 4.1-5, MM 4.1-6, MM 4.14-1, and MM 4.17-1, cumulative impacts would be less than significant.

4.10.1 Introduction

This section of the Environmental Impact Report (EIR) describes the hydrological environmental and regulatory settings, addresses potential impacts of the project on hydrology and water quality, and discusses mitigation measures to reduce impacts, where applicable. The information in this section is based on multiple online sources and published documents, as well as the Geotechnical Engineering Report (Terracon, 2015b) and the Hydrology Investigation (SEI, 2014 and 2020) prepared for the project, located in Appendices G and I of this EIR, respectively, as well as the Groundwater Sustainability Plan for the Indian Wells Valley Groundwater Basin (IWVGA, 2020).

4.10.2 Environmental Setting

Regional Setting

The project site is located in the northern portion of the Mojave Desert in the Indian Wells Valley Groundwater Basin (IWVGB), which is bounded on the east by the Argus Range, on the south by the El Paso Mountains, on the north by a low ridge and the Coso Range, and on the west by the Sierra Nevada Mountain Range. The IWVGB is located within portions of Kern, Inyo, and San Bernardino Counties, with 73 percent of the Basin lands being in Kern County. Surface water flow from the surrounding mountain ranges drains to China Lake, a large dry lake or playa, located in the central northeast part of the Basin. Overdraft conditions in the IWVGB have existed since at least the 1960s (Dutcher and Moyle, 1973). Annual recharge to the Basin is approximately 7,650 acre-feet per year (AFY) (IWVGA, 2020).

Indian Wells-Searles Valleys Hydrologic Unit

The project site is located in the Indian Wells-Searles Valleys Hydrologic Unit (HU) or watershed, which covers approximately 1.3 million acres and includes portions of the counties of Kern, Inyo, and San Bernardino. The project site is located within the Kern County portion of the HU, along with multiple unincorporated communities including Inyokern, the City of Ridgecrest, and the China Lake Naval Air Weapons Center. The HU is divided into multiple smaller subwatersheds; its surface waters include Little Dixie Wash and several unnamed drainages. The beneficial uses for the minor surface waters in the Indian Wells HU are municipal and domestic supply, agricultural supply, groundwater recharge, noncontact and contact water recreation, warm freshwater habitat, and wildlife habitat (LRWQCB, 2016).

Groundwater Resources

Groundwater Sustainability Plan

The Indian Wells Valley is 100 percent dependent on groundwater and has been designated by the California State Department of Water Resources (DWR) as being in a condition of overdraft and of medium priority for groundwater management based on the criteria established by the passage of the Sustainable Groundwater Management Act of 2014 (SGMA). Being in a condition of overdraft was a term developed by DWR to identify basins where “continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts.” Overdraft has serious long-term consequences and as such, in compliance with the SGMA, the associated groundwater sustainability agency (GSA) is required to submit a Groundwater Sustainability Plan (GSP) by January 31, 2020 to achieve local sustainable management of groundwater resources. The Indian Wells Valley Groundwater Authority (IWVGA) Board of Directors adopted Resolution No. 02-16, *Joint Exercise of Powers Agreement creating the Indian Wells Valley Groundwater Authority*, on December 8, 2016 to establish the IWVGA as the exclusive GSA for the entirety of the IWVGB and undertake the management of groundwater resources pursuant to SGMA. The IWVGA Board established an eleven-person, voting-member Policy Advisory Committee (PAC) to advise the Board on all policy-related matters of the Board and to develop non-binding proposals on policy matters pertaining to the GSP. In addition, the IWVGA Board also established a Technical Advisory Committee (TAC) for the express purpose of giving interested parties a reasonable opportunity to review and conduct a thorough valuation of each technical element of the GSP prior to its finalization by the Water Resources Manager.

In compliance with SGMA, as set forth in California Water Code Section 10720.1, a GSP was developed that discusses Basin management strategies that will culminate in the absence of undesirable and unsustainable Groundwater conditions in the IWVGB. The GSP recommends management actions and projects and provides measurable sustainability objectives and milestones that are intended to achieve Basin sustainability while considering the unique geologic and hydrogeologic conditions of the IWVGB. The recommendations in the GSP are designed to provide for long-term sustainable groundwater management in the IWVGB within 20 years of GSP implementation. The GSP was adopted via Resolution 01-20 by the IWVGA Board on January 16, 2020; however, the GSP has not been approved or adopted by DWR.

Aquifers

There are two principal aquifer units within the IWVGB. The shallow aquifer contains coarse sediments near the Sierra Nevada with increased interbedded silts and clays towards the center of the Basin associated with the lacustrine and includes China Lake’s playa deposits. The best quality of water is at shallow to medium depths in the southwestern part of the valley, closer to the Sierra Nevada. The deeper aquifer is also composed of gravel, sand, silt and clay. It is strongly connected to the shallow aquifer in the west and southwest of the Basin; and is confined in other parts of the Basin. Existing multi-level monitoring wells show semi-confined artesian conditions within the deeper aquifer where it occurs beneath the lacustrine and other fine-grained sediments (IWVGA, 2020).

Interbasin Flow

Previous studies on the IWVGB have primarily considered the IWVGB to be a closed basin with little to no subsurface outflow to Salt Wells Valley. However, the Desert Research Institute (DRI) concluded “the absence of a large accumulation of salinity in Indian Wells Valley suggests that the basin may not be hydrologically closed” and noted that water levels within the Indian Wells Valley “are higher than in Salt Wells Valley, which indicates that interbasin groundwater flow is a possibility given large enough transmissivities.” DRI performed a hydraulic analysis of the Salt Wells Valley and concluded that it is possible that currently approximately 50 AFY of the groundwater flow in the Salt Wells Valley originates as underflow from the IWV as distinguished from mountain front recharge from the Argus Range.

In addition, the IWVGB is an inland basin, and as such, is not hydraulically connected to a sea or ocean. The City of Ridgecrest is over 100 miles from both the Pacific Ocean and the Salton Sea. There are no significant interconnected surface water systems that interact with groundwater in the IWVGB. Streams in the valley are typically ephemeral and the majority of recharge occurs as mountain front recharge (IWVGA, 2020).

Overdraft

According the GSP, the IWVGB is currently in overdraft with a current loss of storage of approximately 25,000 AFY. This significant reduction of groundwater in storage is directly related to the chronic lowering of groundwater levels, water quality degradation, and land subsidence. The Basin is primarily recharged through mountain front inflow, and natural recharge estimates have been reported by the DRI at a rate of 7,650 AFY. The current average estimated water budget for IWV, defined as the years 2011 to 2015, is illustrated below in **Table 4.10-1, Current Water Budget (2011 to 2015 Average)**, and shows that outflows are approximately four times the estimated inflows.

TABLE 4.10-1: CURRENT WATER BUDGET (2011 TO 2015 AVERAGE)

Water Budget Element	Estimated Volume (AFY)
Inflows	
Mountain Front Recharge	7,650
Total Inflow	7,650
Outflows	
Evapotranspiration	4,850
Interbasin Subsurface Flow	50
Groundwater Extractions	27,740
Total Outflow	32,640
Change of Groundwater in Storage	-24,990

Sustainable Yield

DWR states that the “SGMA requires local agencies to develop and implement GSPs that achieve sustainable groundwater management by implementing projects and management actions intended to

ensure the Basin is operated within its sustainable yield by avoiding undesirable results.” Consequently, sustainable yield is a crucial and fundamental element for the development of implementation measures of the GSP. As discussed above, the estimated long-term average natural recharge to the IWVGB is 7,650 AFY and therefore, this is considered the Current Sustainable Yield of the Basin.

Beneficial Uses

According to California Water Code Section 10723.2, the IWVGA must “consider the interest of all beneficial uses and users of groundwater...” The groundwater user categories in the IWV currently are:

- Municipal
- Domestic (De Minimis private well owners and mutuals/co-ops)
- City/County
- NAWS China Lake
- Industrial
- Large Agriculture
- Small Agriculture

The IWVGA does not have legal authority to restrict, assess, or regulate production for NAWS China Lake; therefore, NAWS China Lake groundwater production is considered of highest beneficial use. California Water Code Section 106 expressly declares that it is “the established policy of this State that the use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation.” Accordingly, aside from NAWS China Lake production and use by SGMA defined de minimis pumpers, the highest beneficial use of water in the IWVGB is for domestic purposes including human consumption, cooking, and sanitary uses. In the IWVGB, groundwater pumpers in the domestic category which would provide the highest beneficial use include production by the IWVWD, Inyokern CSD, individual domestic well owners (de minimis pumpers), and mutual water companies serving domestic users. These groundwater pumpers can and should implement additional conservation measures; however, the allocations for these pumpers would be continual and annual.

The beneficial uses of other groundwater users, including agricultural and industrial users, will subsequently be evaluated based on water rights priorities. The IWVGA will allow all IWVGB groundwater pumpers the opportunity to provide documentation on historical groundwater production and other pertinent information. Current groundwater production that has existed and has been continuous prior to the establishment of NAWS China Lake will be given a priority over more recent pumping that has occurred since the IWVGB has been documented to be in overdraft conditions, at least since the 1960s. Accordingly, all groundwater users and uses will be equitably considered and prioritized, as required by SGMA.

Climate and Precipitation

As described above, the project site is located within the Mojave Desert, which is considered a warm-temperature desert situated between the subtropical Sonoran Desert to the south and the cold-temperature Great Basin to the north. The Mojave Desert is characterized by dramatic variations in daily temperatures and more arid conditions than other North American desert regions. Freezing temperatures regularly occur during winter months, particularly at higher elevations. Summer months are typically hot, dry, and windy.

Precipitation in the region ranges from 3 to 5 inches per year. Almost all precipitation arrives in the winter, but the region also experiences rare, intense summer thunderstorms.

More specifically, the project site is located in the community of Inyokern, where temperature ranges from a high of 102.7 degrees Fahrenheit in July to a low below freezing of 30.2 degrees Fahrenheit in December. Average rainfall is approximately 4.17 inches annually (WRCC, 2020).

Site Hydrology

Surface Hydrology and Drainage

The project site is relatively flat and has an elevation that ranges from approximately 2,300 to 2,400 feet (700 to 730 meters) above mean sea level (amsl). A small gully is located to the north of the Phase 1 site. The gully is fed by stormwater runoff from two distinct watersheds identified as the Northern and Southern Watersheds. The Northern Watershed and Southern Watershed cover approximately 19,420 acres and 4,620 acres, respectively. Both watersheds merge south of the Inyokern Airport and flow east to the project site via the Inyokern Airport diversion trenches. (SEI, 2014). There are no drainage formations on the project site itself. Surface runoff on the project site occurs as sheet flows and generally follows the contours of the ground surface; although the project site is relatively flat, the Phase 1 site slopes gradually towards the north, and the Phase 2 site slopes gradually towards the north-northwest (Terracon, 2015b). The project site is currently undeveloped and contains minimal vegetation (Terracon, 2015a); most drainage flow originating in the study area infiltrates into the soil in the vicinity of the study area.

Floodplains

The Federal Emergency Management Agency (FEMA) delineates flood hazard areas on its Flood Insurance Rate Maps (FIRMs); FIRMs are discussed in more detail below under Section 4.10.3, “Regulatory Setting.” According to the most recent FEMA FIRMs (Nos. 06029C1015E, 06029C1020E and 06029C1018E), the entire project site, with the exception of a small segment of Phase 1 site along its southern border, would be located within a 100-year flood zone (FEMA, 2008a; FEMA, 2008b; FEMA, 2008c) (see Figure 3-4, *Flood Zones*, in Chapter 3, *Project Description*). Areas within a 100-year flood zone have a 1 percent chance for flooding annually.

Soil Types and Erosion

Native soils encountered on site during preliminary soil testing generally consisted of well-graded sand with clay and poorly-graded sand with silt. Subgrade soils exhibit a slight collapse potential when saturated (Terracon, 2015b). Sandy soils typically have low cohesion and have a relatively higher potential for erosion when exposed to wind or moving water. Erosion potential onsite based on soil texture, slope length and slope steepness is low. Since the project site has minimal to no vegetation cover, erosion potential is slightly higher than it would be if it was densely vegetated. See Section 4.7, *Geology and Soils*, for more information on soil erosion potential.

4.10.3 Regulatory Setting

Federal

Clean Water Act

The Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA required states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint – source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Board (RWQCBs). The project site is within the Lahontan RWQCB. Projects that disturb 1 acre or more, including the proposed project, are required to obtain NPDES coverage under the Construction General Permits.

Section 402, National Pollutant Discharge Elimination System. Section 402 of the CWA authorizes the State Water Resources Control Board (SWRCB) to issue a NPDES General Construction Stormwater Permit (Water Quality Order 2009-0009-DWQ), referred to as the “General Construction Permit.” Construction activities can comply with and be covered under the General Construction Permit provided that they:

- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters.
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.
- Perform inspections of all BMPs.

NPDES regulations are administered by the Lahontan RWQCB at the project site.

National Flood Insurance Act

FEMA is responsible for managing the National Flood Insurance Program (NFIP), which makes federally-backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be elevated to or above the 100-year flood level (known as base flood elevation), and a requirement that subdivisions be designed to minimize exposure to flood hazards.

To facilitate identifying areas with flood potential, FEMA has developed FIRMs that can be used for planning purposes, including floodplain management, flood insurance, and enforcement of mandatory flood insurance purchase requirements. Kern County is a participating jurisdiction in the NFIP and, therefore, all new development must comply with the minimum requirements of the NFIP.

State

Department of Water Resources

The major responsibilities of the California Department of Water Resources (DWR) include preparing and updating the California Water Plan to guide development and management of the state's water resources; planning, designing, constructing, operating, and maintaining the State Water Resources Development System; regulating dams; providing flood protection; assisting in emergency management to safeguard life and property; educating the public; and serving local water needs by providing technical assistance. In addition, DWR cooperates with local agencies on water resources investigations, supports watershed and river restoration programs, encourages water conservation, explores conjunctive use of ground and surface water, facilitates voluntary water transfers, and, when needed, operates a state drought water bank.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.), passed in 1969, requires protection of water quality by appropriate designing, sizing, and construction of erosion and sediment controls. The Porter-Cologne Act established the SWRCB and divided California into nine regions, each overseen by a RWQCB. The SWRCB is the primary State agency responsible for protecting the quality of the State's surface and groundwater supplies and has delegated primary implementation authority to the nine RWQCBs. The Porter-Cologne Act assigns responsibility for implementing the Clean Water Act Sections 401 through 402 and 303(d) to the SWRCB and the nine RWQCBs.

The Porter-Cologne Act requires the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters, provide the technical basis for determining waste discharge requirements, identify enforcement actions, and evaluate clean water grant proposals. The basin plans are updated every 3 years. Compliance with basin plans is primarily achieved through implementation of the NPDES, which regulates waste discharges as discussed above.

The Porter-Cologne Water Quality Control Act requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the "waters of the State," file a report of waste discharge. Absent a potential effect on the quality of "waters of the State," no notification is required. However, the RWQCB encourages implementation of BMPs similar to those required for NPDES stormwater permits to protect the water quality objectives and beneficial uses of local surface waters as provided in the Lahontan Region Water Quality Control Plan (Basin Plan) (RWQCB, 2016).

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act requires the formation of local-controlled groundwater sustainable agencies in high- and medium-priority groundwater basins. These groundwater sustainability agencies are responsible for developing and implementing a groundwater sustainability plan to ensure the basin is operated within its sustainable yield without causing undesirable results (DWR, 2020). In December of 2016, the Indian Wells Valley Groundwater Authority (IWVGA) elected to undertake sustainable groundwater management for the entirety of the Indian Wells Valley Groundwater Basin

(DWR, 2016c). A groundwater sustainability plan has been drafted and was adopted by the IWVGA on January 16, 2020 (IWVGA, 2020).

Streambed Alteration Agreement (California Fish and Game Code)

Section 1602 of the California Fish and Game Code protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the California Department of Fish and Wildlife (CDFW) in which there is, at any time, any existing fish or wildlife resources, or benefit for the resources. Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state, and requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that will:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

During final engineering and design of a project, if it is determined that any project-related actions would have the potential to necessitate a streambed alteration agreement, such an agreement would be prepared and implemented prior to construction of the project, thus maintaining compliance with Section 1602 of the California Fish and Game Code. A streambed alteration agreement is required if the CDFW determines the activity could substantially adversely affect an existing fish and wildlife resource. The agreement includes measures to protect fish and wildlife resources while conducting the project. The CDFW must comply with CEQA before it may issue a final lake or streambed alteration agreement; therefore, the CDFW must wait for the lead agency to fully comply with CEQA before it may sign the draft lake or streambed alteration agreement, thereby making it final.

Local

Indian Wells Valley Water District's Water Supply Enhancement General Plan

The Indian Wells Valley Water District (IWVWD) is a County Water District serving approximately thirty thousand (30,000) people in and around the Ridgecrest, California area. The District has but a single source of supply, the local ground water aquifer underlying the Indian Wells Valley. To address concerns arising from decline of the Valley's ground water levels, the District has developed this Water Supply Enhancement Plan. This Plan is intended to assist the District in addressing not just the present needs, but also future needs.

The goal of the *Indian Wells Valley Water District Water Supply Enhancement General Plan* is to further the IWVWD's ongoing efforts to optimize use of the existing water supply (Valley ground water) and to evaluate the feasibility of obtaining or developing one or more supplemental water supplies for potential future use. The Plan determined the costs of optimizing existing groundwater supply and consideration of supplemental water from within and outside the Valley (IWVWD, 2013).

Indian Wells Valley Groundwater Authority's Groundwater Sustainability Plan

The IWVGA Board of Directors adopted Resolution No. 02-16 *Joint Exercise of Powers Agreement creating the Indian Wells Valley Groundwater Authority*, on December 8, 2016, to establish the IWVGA as the exclusive GSA for the entirety of the IWVGB. Five agencies, including Kern County, Inyo County, San Bernardino County, Ridgecrest, and the IWVWD entered into a joint exercise of powers agreement to form the IWVGA and serve as General Members on the IWVGA Board of Directors, which governs the IWVGA as a whole. A significant amount of land overlying the IWVGB comprises either the NAWS China Lake or public lands managed by the United States Bureau of Land Management (BLM). The U.S. Navy and BLM serve as Associate Members (non-voting) on the IWVGA Board of Directors.

The IWVGA Board established an eleven-person, voting-member Policy Advisory Committee (PAC) to advise the Board on all policy-related matters of the Board and to develop non-binding proposals on policy matters pertaining to the GSP. The PAC is comprised of voting members from the following constituent groups:

- 2 representatives from Large Agriculture
- 1 representative of Small Agriculture
- 2 representatives from Business Interests
- 2 representatives from Domestic Well Owners
- 2 representatives from residential customers of a public water agency supplier
- 1 representative from the Eastern Kern County Resource Conservation District
- 1 representative from Wholesaler and Industrial User

The PAC is also comprised with non-voting members from the following agencies:

- U.S. Navy
- IWVWD
- BLM
- Kern County

The IWVGA Board also established a Technical Advisory Committee (TAC) for the express purpose of giving interested parties a reasonable opportunity to review and conduct a thorough evaluation of each technical element of the GSP prior to its finalization by the Water Resources Manager. The TAC is comprised of members from the following constituent groups:

- Large Agriculture
- Business Interests
- Residential Customers of a Public Water Agency
- Domestic Well Owners
- Eastern Kern County Resource Conservation District
- Wholesale and Industrial User
- Indian Wells Valley Water District

- United States Navy (Non-voting member)
- Kern County Water Agency

A Groundwater Sustainability Plan (GSP) was developed that discusses Basin management strategies that will culminate in the absence of undesirable and unsustainable Groundwater conditions in the IWVGB. The GSP recommends management actions and projects and provides measurable sustainability objectives and milestones that are intended to achieve Basin sustainability while considering the unique geologic and hydrogeologic conditions of the IWVGB. The recommendations in the GSP are designed to provide for long-term sustainable groundwater management in the IWVGB within 20 years of GSP implementation. The GSP was adopted via Resolution 01-20 by the IWWVGA Board on January 16, 2020; however, the GSP has not been approved or adopted by DWR.

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for hydrology and water resources applicable to the proposed project are provided below. Policies, goals, and implementation measures in the General Plan that are not specific to development are not listed below. However, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Land Use, Open Space, and Conservation Element

1.3: Physical and Environmental Constraints

Policies

- Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes from 2.6 – 2.9, Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.
- Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.
- Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.
- Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

- Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.

- Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.
- Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.
- Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.9: Resources

Policy

- Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.

1.10: General Provisions, 1.10.6: Surface Water and Groundwater

Policies

- Policy 34: Ensure that water quality standards are met for existing users and future development.
- Policy 40: Encourage utilization of community water system rather than the reliance on individual wells
- Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.
- Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.
- Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measure

- Measure Y: Promote efficient water use by utilizing measures such as:
- (i) Requiring water-conserving design and equipment in new construction;
 - (ii) Encouraging water-conserving landscaping and irrigation methods; and
 - (iii) Encouraging the retrofitting of existing development with water conserving devices.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. The Land Use, Open Space, and Conservation Element of the Inyokern Specific Plan has the purpose of identifying physical constraints, public, residential, commercial, and industrial facilities as well as cultural and biological resources within the Plan area. The goals, policies, and implementation measures in the Inyokern Specific Plan for hydrology and water quality applicable to the project are provided below. Additionally, the Seismic Safety and Safety Element of the Inyokern Specific Plan includes goals and policies that relate to flooding hazards. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

Land Use, Open Space, and Conservation Element

1.1: Physical Constraints

Goal

Goal 1: To promote a safe and healthful living environment, reduce the potential for property damage and injury and minimize economic and social diseconomies in general by requiring development standards which adequately mitigate the physical constraints of noise and flood hazard.

Policy

Policy 2: Development may occur on lands within flood hazard areas, other than established designated floodways, if measures are incorporated to ensure that it will not be hazardous, increase flood depths or velocities, or cause water quality to deteriorate.

Implementation Measures

Measure 1: Site development shall be accomplished in compliance with the Kern County Flood Damage Prevention Ordinance. Development standards and prohibitions shall be the same as in that ordinance.

Measure 2: Permanent structures within the secondary floodplain areas shall comply with the Flood Damage Prevention Ordinance.

1.4: Commercial

Implementation Measure

Measure 2: Development within areas subject to flooding shall be in accordance with the Kern County Flood Hazard Ordinances.

1.5: Industrial

Goal

Goal 3: To promote economic strength without detriment to environmental quality.

Policies

Policy 2: Industrial development must demonstrate the ability to provide adequate water, sewer and other public services.

Policy 6: Industrial development within floodplain areas shall conform to the requirements of the Kern County Flood Hazard Ordinances.

Implementation Measure

Measure 4: All new industrial subdivisions and, where applicable, PD (Precise Development) plans shall include provisions for standard street access, alleys where necessary, and sewer and water connections to the Inyokern CSD.

1.6: Resources

Policy

Policy 4: Encourage effective management of the groundwater resource for the long-term economic benefit of the community by any or all of the following: (a) artificial groundwater replenishment; (b) conjunctive use of surface water supplies and the groundwater supplies; (c) development of alternative local and imported surface water supplies; and (d) requiring permits for well construction, modification, or abandonment.

Seismic Safety and Safety Element

Goal

Goal 1: To ensure the safety of the area residents from environmentally related hazards.

Policy

Policy 3: Measures shall be taken to minimize the impacts of flood hazards to area residents.

Implementation Measures

Measure 2: All new development shall provide for the containment of on-site drainage waters. Drainage plans must meet the approval of the Kern County Department of Planning and Development Services.

Measure 4: Requirements of Floodplain Management Section of the Department of Planning and Development Services shall be met prior to the issuance of Certification of Occupancy.

Kern County Zoning Ordinance

Chapter 19.70: Floodplain Combining District

Section 19.70.040 prohibits the following uses in the Floodplain Combining District, as applicable to the proposed project:

Implementation Measures

- Measure B: All uses that will likely increase the flood hazard or affect the water-carrying capacity of the floodplain beyond the limits resulting from encroachment as specified in Section 19.70.130.
- Measure C: Dumping, stockpiling, or storage of floatable substances or other materials which, in the opinion of the Kern County and Survey Services Department, will add to the debris loads of the stream or watercourse, unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with Section 19.70.130.
- Measure D: Storage of junk or salvage operations.
- Measure E: Oil storage tanks or processing equipment, unless flood-proofed or sufficiently elevated above the Base Flood Elevation, as determined by the Kern County Public Works Department.
- Measure F: Individual sewage disposal systems (e.g., septic tank systems), unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with the requirements of the Kern County Health Department so as to minimize infiltration of floodwaters into the systems and discharges from the systems into the floodwaters.
- Measure G: Sources of water supply (e.g., wells, springs) unless protected by flood control devices approved by the Kern County Public Works Department and constructed in accordance with the requirements of the Kern County Health Department so as to minimize infiltration of floodwaters.

Kern County Grading Ordinance Code of Building Regulations

Grading Code (Chapter 17.28)

Chapter 17.28, Kern County Grading Code. Requirements of the Kern County Grading Code will be implemented. A grading permit will be obtained prior to commencement of construction activities. Of particular note with respect to hydrology and water quality is Section 17.28.140, Erosion Control, which addresses the following:

- **Slopes.** The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting. The protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

- **Other Devices.** Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.
- **Temporary Devices.** Temporary drainage and erosion control shall be provided as needed at the end of each work day during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

Kern County Floodplain Management Ordinance (17.48)

Any construction that takes place within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County will comply with the requirements and construction design specifications of this ordinance. Any required development permits will be obtained prior to commencement of construction activities. Sections 17.48.250 through 17.48.350 of the ordinance elaborate on the standards of construction in the special flood hazards area. This includes the requirement of one-foot of freeboard clearance above the calculated maximum flood depths for all facilities within a 100-year floodplain.

Kern County Development Standards

The Kern County Development Standards apply to all developments within Kern County that are outside of incorporated cities. These standards establish minimum design and construction requirements that will result in improvements that are economical to maintain and will adequately serve the general public. The requirements set forth in these standards are considered minimum design standards and will require the approval of the entity that will maintain the facilities to be constructed prior to approval by the County.

Kern County Water Quality Control Plan

Each of the nine RWQCBs adopts a Water Quality Control 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 these plans, along with the causes, if 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 Kern County Public Works Department, Engineering and Survey Services Division, requires the completion of an *NPDES Applicability Form* for all construction projects disturbing 1 acre or more within Kern County. This form requires the project proponent to provide background information on construction activities. Applicants must apply for the permit under one of the following four conditions:

1. All stormwater is retained onsite and no stormwater runoff, sediment, or pollutants from onsite construction activity can discharge directly or indirectly offsite or to a river, lake, stream, municipal storm drain, or offsite drainage facilities.
2. All stormwater runoff is not retained on site, but does not discharge to a Water of the United States (i.e., drains to a terminal drainage facility). Therefore, a SWPPP has been developed and BMPs must be implemented.

3. All stormwater runoff is not retained on site, and the discharge is to a Water of the United States. Therefore, a Notice of Intent (NOI) must be filed with the State Regional Water Resources Control Board prior to issuance of the building permit. Also, a SWPPP has been developed and BMPs must be implemented.
4. Construction activity is between 1 to 5 acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.

4.10.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to hydrology and water quality have been evaluated using a variety of resources, including multiple online sources and published documents, as well as the Geotechnical Engineering Reports (Terracon, 2015b) and the Hydrology Investigation (SEI, 2014 and 2020) prepared for the project, located in Appendices G and I of this EIR, respectively, as well as the Groundwater Sustainability Plan for the Indian Wells Valley Groundwater Basin (IWVGA, 2020). Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on hydrology and water quality.

A project could have a have a significant impact on hydrology and water quality if it would:

- a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - i. Result in substantial erosion or siltation onsite or offsite;
 - ii. Substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite;
 - iii. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
 - iv. Impede or redirect flood flows;
- d. Result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

As lead agency, Kern County determined in the Initial Study/Notice of Preparation (IS/NOP), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to some of these environmental issue areas; these issue areas are thus scoped out of this EIR. Please note that the environmental issue areas discussed in the IS/NOP are different from those noted above, as Appendix G of the *CEQA Guidelines* were revised in January 2019, which was after the IS/NOP was published. It was determined that the project would not:

- g. Places 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;
- i. Exposes 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; or
- j. Contribute to inundation by seiche, tsunami, or mudflow.

As detailed in the IS/NOP, the proposed project would not include the construction of housing and would thus not result in impacts to placement of housing within a flood zone. The proposed project site is not located within a dam inundation zone; therefore, there would be no impact related to flooding resulting from failure of a levee or dam. Additionally, the project site is not located near an ocean or enclosed body of water, and therefore would not be subject to inundation by seiche or tsunami. Due to the relatively flat topography of the project site and surrounding area, the potential to be inundated by mudflow is considered remote. Therefore, impacts related to flooding, seiches, tsunamis, or mudflow not anticipated. No further analysis for these issue areas is warranted in the EIR.

Project Impacts

Impact 4.10-1: The project would violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality.

Construction

Project construction would include mowing, excavation, and grading portions of the project site. Conventional grading would be performed as needed throughout the project site. However, because the project area is relatively flat, it is anticipated that grading would be limited in most areas. Grading and excavation would also be required for the proposed foundations of infrastructure such as the energy storage system, inverters, and transformers. Installation of the solar panels will not require grading of the site with the exception of roads to meet fire code standards. These activities would affect current drainage patterns and erosion on the project site; however, designing the site grading and access roads in compliance with County standards would prevent substantial alterations to drainage patterns and erosion within the project site. Impervious surfaces from construction of access roads, PV module foundations, substations, and other improvements would be relatively limited compared to the overall perviousness of the remaining 166.5-acre project site.

Potential impacts on water quality from erosion and sedimentation are expected to be localized and temporary during construction. Stormwater runoff from the project site would not discharge to waters of the United States since the project area is within a watershed that is not hydrologically connected to a navigable waterway. However, according to the *Kern County Public Works Department NPDES Applicability Form*, the project would be required to implement a SWPPP during construction. Per

Mitigation Measure MM 4.7-3 in Section 4.7, *Geology and Soils*, the SWPPP would include BMPs designed to prevent the occurrence of soil erosion and discharge of other construction-related pollutants that could contaminate water quality, and would be applicable to all areas of the project, including the solar fields and the gen-tie line. In addition, prior to the commencement of construction activities, the project proponent would be required to adhere to the requirements of the Kern County Grading Code. This includes implementation of various measures designed to prevent erosion and control drainage onsite, thereby further preventing the potential sedimentation and subsequent degradation of stormwater.

During project construction, any activity that results in the accidental release of hazardous or potentially hazardous materials could result in water quality degradation. Further, any construction activity that results in the accidental release of pollutants, hazardous or potentially hazardous materials could result in water quality degradation. Materials that could contribute to this impact include, but are not limited to, diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, lubricant grease, cement slurry, and other fluids utilized by construction and maintenance vehicles and equipment. Motorized equipment could leak hazardous materials such as motor oil, transmission fluid, or antifreeze due to inadequate or improper maintenance, unnoticed or unrepaired damage, improper refueling, or operator error.

As noted in Section 4.9, *Hazards and Hazardous Materials*, of this EIR, Mitigation Measure MM 4.9-1 would require the project proponent to provide a Hazardous Materials Business Plan that would delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, transport, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires. Therefore, with implementation of Mitigation Measures MM 4.7-3 and MM 4.9-1, impacts to water quality would be less than significant during construction.

Operation

The solar facilities would require limited use of certain hazardous materials for routine operations and maintenance. Accidental release of such materials could include fuels, paints, coatings, lubricants, and transformer oil, which would result in water quality degradation should the materials become entrained in stormwater. This would result in a potentially significant impact on water quality. However, as described above, implementation of Mitigation Measure MM 4.9-1 would require the implementation of a Hazardous Materials Business Plan that would ensure safe handling of hazardous materials onsite and provide the means for prompt cleanup in the event of an accidental hazardous material release. There would be no hazardous materials associated with operation of the gen-tie.

Water quality could also be degraded by non-hazardous materials during operation activities. During dry periods, impervious surfaces (i.e., hardscape surfaces such as foundations and buildings) can collect greases, oils, and other vehicle-related pollutants. During storm events, these pollutants can mix with stormwater and degrade water quality. However, per Mitigation Measure MM 4.10-1, a drainage plan would be prepared in accordance with the Kern County Development Standards and Kern County Code of Building Regulations. Therefore, the drainage plan would include post-construction structural and nonstructural BMPs that could include features such as drainage swales for collection of runoff prior to offsite discharge. Adherence to these requirements would minimize potential for operation period water quality degradation. Apart from infrequent cleaning of panels with water that would result in minimal runoff, no other discharges would occur when the project is operational. Therefore, with the implementation

of Mitigation Measures MM 4.9-1 and MM 4.10-1, project operation would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality.

Mitigation Measure

Implementation of Mitigation Measures MM 4.7-3 and MM 4.9-1 would be required (see Sections 4.7, *Geology and Soils*, and 4.9, *Hazards and Hazardous Materials*, for full text of Mitigation Measures MM 4.7-3 and MM 4.9-1, respectively).

MM 4.10-1: Prior to the issuance of a grading permit, the project proponent/operator shall complete a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site. The study shall include, but is not limited to the following:

- a. Numerical stormwater model for the project site and would evaluate existing and proposed (with project) drainage conditions during storm events ranging up to the 100-year event.
- b. The study shall also consider potential for erosion and sedimentation in light of modeled changes in stormwater flow across the project area that would result from project implementation.
- c. The drainage plan would include engineering recommendations to be incorporated into the project design and applied within the site boundary. Engineering recommendations will include measures to offset increases in stormwater runoff that would result from the project, as well as implementation of design measures to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding onsite or offsite.
- d. The final design of the solar arrays shall include one-foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures. Solar panel sites located within a 100-year floodplain shall be graded to direct potential flood waters without increasing the water surface elevations more than one foot or as required by Kern County's Floodplain Management Ordinance.
- e. The hydrologic study and drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards, and approved by the Kern County Public Works Department prior to the issuance of grading permits.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.7-3, MM 4.9-1, and MM 4.10-1, impacts would be less than significant.

Impact 4.10-2: The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

Construction

During construction of the proposed project, water would be initially required for site preparation and grading activities. During earthwork for grading of access road foundations, equipment pads and project components, the main use of water would be for compaction and dust control. Smaller quantities would be required for preparation of the concrete required for foundations and other minor uses. Subsequent to the earthwork activities, water usage would be used for dust suppression and normal construction water requirements that are associated with construction of the building, internal access roads, and solar arrays.

A sanitary water supply would not be required during construction, as restroom facilities would be provided by portable units to be serviced by licensed providers. It is assumed that bottled will be provided to construction workers

The overall construction water usage for dust control and site preparation is anticipated during construction of the two phases to be approximately 73.6 acre-feet (approximately 24 million gallons) during the 7- to 10-month construction period. Water required for construction of the proposed project would be provided from an onsite water well, trucked onto the site from the Inyokern Community Service District, or provided by an offsite water purveyor.

Please note this a worst case scenario of water usage during construction, as noted above, ground disturbance will be minimal, and the use of disintegrated gravel and soil stabilizer on those areas affected will reduce the need for water.

Operations

The only anticipated operational water needs for the project would be for cleaning of the panels. It is assumed that the panels would be washed four times per year and that each panel would require one-gallon of water per washing. Water required for proposed project operation would be provided from an onsite water well, trucked onto the site from the Inyokern Community Service District, or provided by an offsite water purveyor. Using these assumptions, assuming Phase 1 would have 74,424 panels and Phase 2 would have 24,556 panels, a total of 395,920 gallons per year (1.22 AFY) of water would be required four panel cleanings.

Water Sources

The project has received will-serve letters (located in Appendix M of this EIR) from the Inyokern Community Services District acknowledging sufficient water supplies are available for the project's estimated construction and operational water demand. In addition, the project proponent proposes to develop an onsite water well as the primary source of water for the project.

As mentioned above, the IWVGB is currently in overdraft with a current loss of storage of approximately 25,000 AFY and the amount of outflows exceeds the natural inflows into this basin by an approximate factor of 400 percent (IWVGA, 2020). Overdraft is not a result of decreased recharge as natural recharge today is nearly the same as it was prior to any development over a century ago. Instead, the overdraft is a

result of the amount of groundwater that is extracted for various purposes in the basin which far exceeds the amount of natural recharge that flows into the basin.

As a result of the overdraft conditions and the adoption of the GSP by the IWVGA, Mitigation Measure MM 4.10-2 would be implemented requiring the project proponent would be required to comply with any restrictions that result from the final GSP. The GSP was adopted on January 16, 2020 by the IWWVGA Board, and is designed to address overdraft conditions in the Basin and implement projects and management measures that will bring the Basin towards a safe yield. The primary initial management action will be to establish annual groundwater pumping allocations, which whenever exceeded, will require groundwater pumpers to pay augmentation fees. Therefore, the project's proposed use of water from the critically-overdrafted Basin, which would be highest during the initial construction period, could potentially exceed levels from the Annual Pumping Allocation in the Groundwater Sustainability Plan. While any augmentation fees assigned would be used to help fund other Basin improvement projects, this groundwater use would still likely exacerbate overdraft conditions, resulting in a significant and unavoidable impact to groundwater supply. In addition, per Mitigation Measure MM 4.10-3, the project proponent shall be required to verify the water source for operation and construction prior to the issuance of building and/or grading permits. For a more detailed discussion on water supply, please refer to Section 4.17, *Utilities and Service Systems*, of this EIR.

The project would result in an increase in impervious surfaces on the site from the equipment foundations as well as the operations and maintenance building and energy storage facility. The access roads would not be paved and would be constructed of compacted earthen or gravel materials which are pervious. Although the panels and panel foundations are impervious, stormwater falling on the panels would drip off and infiltrate into the surrounding pervious ground surfaces. The gen-tie line would be installed either belowground or aboveground; materials installed aboveground would not cover a large surface area and would therefore not substantively interfere with groundwater recharge. Therefore, the project would leave large areas of pervious surfaces intact that would continue to absorb stormwater runoff and would thus not result in a significant reduction of groundwater infiltration rates. The project would have a less than significant impact on groundwater recharge at the site, however due to groundwater use in a basin with an overdraft condition, the project will result in a significant and unavoidable impact to groundwater supplies.

Mitigation Measures

MM 4.10-2: The proposed project proponent/operator would be required to comply with all applicable restrictions on groundwater use as applicable to the Indian Wells Valley Groundwater Authority's Groundwater Sustainability Plan for the Indian Wells Valley Groundwater Basin. During construction, operation, and decommissioning, the project shall implement water conservation measures to the maximum extent possible.

MM 4.10-3: Prior to the issuance of a grading or building permit, written documentation shall be submitted to the Kern County Planning and Natural Resources Department that the project proponent has verified the water source for project construction and operation by one of the following methods:

- a. A will serve letter from the Inyokern Community Services District dated within 60 days of application for the grading or building permit; or
- b. A letter from the Indian Wells Valley Groundwater Authority dated within 60 days of application for the grading or building permit acknowledging that a new well drilled

and developed within the project boundaries, which is permitted by Kern County Public Health, can pump groundwater and state the amount of groundwater pumping allowed per year; or

- c. A letter from a water provider outside of the Basin, showing the source and amount of water and method of delivery to the site.

Level of Significance after Mitigation

Despite implementation of Mitigation Measures MM 4.10-2 and MM 4.10-3, impacts would be significant and unavoidable.

Impact 4.10-3: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner than would result in substantial erosion and/or sedimentation on-site or off-site.

Required grading activities for the proposed project would alter existing onsite drainage patterns and flowpaths, and could alter the way that stormwater flows onsite during major events. These changes could concentrate flows and thus, result in increased erosion of existing soils onsite and subsequent sedimentation downstream. Further, the impervious surfaces introduced to the site due to development of the project would generate additional stormwater runoff on site, which could exacerbate potential erosion and sedimentation on site or downstream.

As described above, the proposed project would implement a SWPPP per Mitigation Measure MM 4.7-3 that would require preservation of existing vegetation and topography to the maximum extent feasible, as well as include erosion and sediment control BMPs designed to prevent erosion and sedimentation from occurring during project construction. Compliance with the Kern County Grading Code requires erosion prevention measures be implemented. With regard to erosion and sedimentation during project operation caused by increased runoff from impervious surfaces, large amounts of pervious ground surface would remain during project operation that would continue to absorb the majority of surface flows. Further, Mitigation Measure MM 4.10-1 would require the completion of a hydrologic study and final drainage plan for the proposed project prior to the issuance of a grading permit; the plan would demonstrate that the project site has been designed to minimize potential increases in runoff. Minimization of runoff increases could require inclusion of a retention basin onsite to capture high storm flows. Any stormwater management features would be consistent with existing regulatory requirements and would minimize any erosion or sedimentation to less than significant levels. With implementation of Mitigation Measures MM 4.7-3 and MM 4.10-1, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.7-3 and MM 4.10-1 would be required (see Section 4.7, *Geology and Soils*, for text of Mitigation Measure MM 4.7-3).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-3 and MM 4.10-1, impacts would be less than significant.

Impact 4.10-4: The project would substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface runoff which would result in flooding on- or off- site.

As discussed under Impact 4.10-3 above, grading and installation of project facilities would alter existing onsite drainage patterns and flowpaths. This could cause localized flooding during major events along the margins of the project area, or within the project area, depending upon how stormwater is managed under final project design. During operation of the project, large amounts of pervious ground surface would remain onsite that would continue to absorb the majority of surface flows. In addition, Mitigation Measure MM 4.10-1 would require the preparation of a final hydrologic study and drainage plan prior to issuance of a grading permit that would detail the design and implementation of any necessary stormwater control features to onsite that would ensure runoff is not substantially increased by the proposed facilities. Mitigation Measure MM 4.10-1 would also require that grading for the project facilities does not alter the ground surface such that the extent of flooding during flood events is substantially increased. Therefore, impacts related to flooding would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-1 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

Impact 4.10-5: The project would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

The project site is located in a remote, rural region with no existing or planned stormwater infrastructure. There are no existing stormwater drainage systems on the project site, and no stormwater drainage systems are proposed as part of the project. The project would be required to adhere to Kern County Public Works Department stormwater requirements, which include measures to address stormwater controls on both management of runoff volume and water quality, including controlling erosion and protection of water quality of stormwater runoff. During operation, most of the project site would remain as pervious surfaces thus allowing infiltration of the runoff produced by the new minor impervious surfaces. The project would not exceed the capacity of any existing or planned infrastructure and the implementation of Mitigation Measure MM 4.10-1 would minimize potential increases in stormwater flow and other project-induced changes to drainage patterns to less than significant levels.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-1 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

Impact 4.10-6: The project would contribute to inundation by a flood hazard, tsunami, or seiche zones, that would result in risk of release of pollutants.

As discussed more thoroughly in Section 4.9, *Hazards and Hazardous Materials*, the project would not include the use, storage, or disposal of significant quantities of hazardous materials. As described above, implementation of Mitigation Measure MM 4.9-1 would require the implementation of a Hazardous Materials Business Plan that would ensure safe handling of hazardous materials onsite and provide the means for prompt cleanup in the event of an accidental hazardous material release. In addition, the project site is located well inland and far from the ocean or any enclosed or semi-enclosed water body such that there would be no potential threat from tsunami or seiche hazards. Therefore, while the project site is located within a 100-year flood zone, based on the characteristics of the project and the location, the project would have a less than significant potential to release pollutants from flooding, tsunamis, or seiche waves with the implementation of Mitigation Measure MM 4.9-1.

Mitigation Measures

Implementation of Mitigation Measure MM 4.9-1 would be required (see Section 4.9, *Hazards and Hazardous Materials*, for full text of Mitigation Measure MM 4.9-1).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.9-1, impacts would be less than significant.

Impact 4.10-7: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

As noted above, the project site is located within the South Lahontan RWQCB and is subject to the applicable requirements of the Basin Plan administered by the RWQCB in accordance with the Porter-Cologne Water Quality Control Act. The proposed project would implement a SWPPP, per Mitigation Measure MM 4.7-3, that would include BMPs designed to protect waters and drainages, within the Basin Plan, during project construction. Mitigation Measure MM 4.10-1 would require the preparation of a final hydrologic study and drainage plan prior to issuance of a grading permit that would detail the design and implementation of any necessary stormwater control features consistent with the goals of the Basin Plan. These required BMPs and drainage control requirements that would not conflict with or obstruct implementation of the Basin Plan and the potential impacts would be less than significant.

In addition, the project is located in the Indian Wells Valley Groundwater Basin and would be subject to the requirements of the IWVGA Groundwater Sustainability Plan (GSP) adopted in January 16, 2020. The Basin is in critical overdraft and required to comply with the Sustainable Groundwater Management Act. Implementation of Mitigation Measures MM 4.10-2 and MM 4.10-3 would ensure that the project's water usage complies with the GSP and therefore, would not conflict or obstruct implementation of this Plan.

Mitigation Measures

Implementation of Mitigation Measures MM 4.7-3 and MM 4.10-1 through MM 4.10-3 would be required (see Section 4.7, *Geology and Soils*, for full text of Mitigation Measure MM 4.7-3).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.7-3 and MM 4.10-1 through MM 4.10-3, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, of this EIR, six projects, including two solar facilities are proposed in the project vicinity. All projects excluding the 350 MW solar facility are located within the Indian Wells-Searles Valleys HU and Indian Wells Valley Groundwater Basin.

With regard to water supply, the proposed project's water purveyor (the Inyokern Community Services District) obtains its water supply from the Indian Wells Valley Groundwater Basin. The Basin is in a state of overdraft. Mitigation Measure MM 4.10-2 would require compliance any restrictions resulting from the adopted Groundwater Sustainability Plan prepared for the Indian Wells Valley Groundwater Basin, which is designed to address overdraft conditions and ensure the Basin is managed within a safe yield. The Inyokern Community Services District has provided multiple will-serve letters acknowledging sufficient supplies for both proposed project construction and operation. However, per Mitigation Measure MM 4.10-3, verification of the water source would be provided within 60 days of application for the grading or building permit. Despite the implementation of mitigation, the proposed project's water use, in combination with other cumulative scenario projects requiring water from the IWVGB during the same time frame, would result in significant and unavoidable impacts to groundwater supplies in the Basin.

Similar to the proposed project, all cumulative projects would not discharge to waters of the United States due to their location within the Indian Wells Valley, which is a closed basin with no outlet to the Pacific Ocean. Regardless, Mitigation Measure MM 4.7-3 would require the project to prepare and implement a SWPPP in accordance with County requirements. Similarly, all projects that would not retain all runoff onsite would be required to prepare a SWPPP, which would include BMPs designed to prevent the mixture of sediment and other pollutants with stormwater and degrading water quality. Furthermore, the proposed project would implement a Hazardous Materials Business Plan as part of Mitigation Measure MM 4.9-1 that would require appropriate handling of hazardous materials onsite to ensure they do not come into contact with stormwater and affect water quality. All other projects in the vicinity that would handle hazardous materials would be required to comply with hazardous material regulations. Therefore, cumulative scenario impacts associated with water quality degradation would not be cumulatively considerable, and the project would not contribute to a cumulative impact on water quality.

With respect to erosion, drainage, and flooding, the project would implement Mitigation Measure MM 4.10-1, which would minimize direct impacts on erosion, drainage, and flooding. It is anticipated that other cumulative scenario projects would be required to implement similar measures, in order to minimize erosion, drainage, and flooding related impacts. Additionally, drainage related impacts from cumulative scenario projects would be primarily localized. Therefore, cumulative scenario impacts on erosion, drainage, and flooding are not anticipated to be cumulatively considerable, and the project would not contribute to a cumulative impact on flooding, erosion, or drainage.

Mitigation Measures

Implementation of Mitigation Measures MM 4.7-3, MM 4.9-1, and MM 4.10-1 through MM 4.10-3 would be required (see Sections 4.7, *Geology and Soils*, and 4.9, *Hazards and Hazardous Materials*, for full text of Mitigation Measures MM 4.7-3 and MM 4.9-1, respectively).

Level of Significance after Mitigation

Despite implementation of Mitigation Measures MM 4.7-3, MM 4.9-1, and MM 4.10-1 through MM 4.10-3, impacts would be significant and unavoidable.

4.11.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting of the project for impacts that may affect land use and planning. It also describes the environmental and regulatory setting and discusses the need for mitigation measures where applicable. The information in this section is based primarily, but not exclusively, on a review of the Kern County General Plan, the Inyokern Specific Plan, and the Kern County Zoning Ordinance.

4.11.2 Environmental Setting

Onsite Land Uses

The project is located in the eastern high desert region of Kern County on undeveloped land. There are no residences or other structures on the project site. The project site is not located within the boundaries of an adopted Habitat Conservation Plan and is not designated by the California Department of Conservation (DOC) as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. No lands within the project site are subject to Williamson Act Land Use contracts.

According to the Kern County Airport Land Use Compatibility Plan (ALUCP), the project site is in the airport influence area of the Inyokern Airport. Section 4.5 of the ALUCP addresses the Inyokern Airport and land uses and procedures relative to its aviation and including height restrictions, and other compatibility criteria. Figure 4.9-1, *ALUCP in Relation to the Project Site*, in Section 4.9, *Hazards and Hazardous Materials*, of this EIR, shows the project site and its vicinity, with respect to the ALUCP zones.

Figure 3-4, *Flood Zones*, of Chapter 3, *Project Description*, shows that the project site is located within Flood Zone A by the Flood Insurance Rate Map (FIRM) (issued by the Federal Emergency Management Agency (FEMA)).

As shown in **Table 4.11-1, Project Site and Surrounding Land Uses**, and in Figures 3-6, *Existing General Plan and Inyokern Specific Plan Designations*, and 3-7, *Existing Zoning*, in Chapter 3, *Project Description*, of this EIR, the project site is located within the administrative boundaries of both the Kern County General Plan and the Inyokern Specific Plan. Further, the project is subject to the provisions of the Kern County Zoning Ordinance. The project site is designated as Inyokern Specific Plan Map Code 7.2/2.5 (Service Industrial/Flood Hazard). The 7.2 (Service Industrial) land use designation is applied to commercial or industrial activities which involve outdoor storage or use of heavy equipment and are visually obtrusive and are not generally suited for locations next to residential uses. Uses include automobile auto and truck parking, welding, automobile body and painting shop, freighting or trucking yards, and lumberyard. The 2.5 (Flood Hazard) land use designation is applied to Special Flood Hazard Areas (Zone A), as identified on the Flood Insurance Rate Maps (FIRM) of the Federal Emergency Management Agency (FEMA) and supplemented by floodplain delineating maps that have been approved by the Kern County Engineering and Survey Services Department.

TABLE 4.11-1: PROJECT SITE AND SURROUNDING LAND USES

	Existing Land Use	Existing Land Use Designations	Existing Zoning Classifications
Project Site	Undeveloped, Partially Disturbed Land	7.2/2.5 (Service Industrial/Flood Hazard)	M-2 (Medium Industrial)
North	Largely Undeveloped, Industrial, Wastewater Treatment Plant	7.3/2.5 (Heavy Industrial/Flood Hazard)	M-2 (Medium Industrial)
South	Undeveloped land	1.1/2.5 (State or Federal Land)	OS (Open Space)
East	Roadway, undeveloped, Scattered residences	5.6 (Residential – Minimum 2.5 Gross Acres/Unit); 5.8 (Residential – 5 Gross Acres/Unit); 7.3/2.5 (Heavy Industrial/Flood Hazard)	OS (Open Space) M-2 (Medium Industrial) E (2.5) RS MH (Estate 2.5 acres – Residential Suburban – Mobile Home Combining) E (20) RS MH (Estate 20 acres – Residential Suburban – Mobile Home Combining) A-1 MH (Limited Agriculture – Mobile Home Combining)
West	Roadway, Inyokern Airport	7.2/2.5 (Service Industrial/Flood Hazard)	M-2 (Medium Industrial)

The Kern County Zoning Ordinance designates the project site as zoned M-2 (Medium Industrial). The purpose of the Medium Industrial (M-2) zone district is to designate areas for general manufacturing, processing, and assembly activities. Uses may not produce fumes, odor, dust, smoke, gas, or vibrations extending beyond zoning district boundaries. Uses in this district include emergency shelter or mobile homes, agricultural uses, recreation, entertainment and tourist facilities, commercial and industrial uses and services, and institutional or educational uses. According to the Kern County Zoning Ordinance Section 19.38.030 G, solar energy electrical generators, when not accessory to a permitted or conditionally permitted use, are permitted within the M-2 Zone District subject to the approval of a Conditional Use Permit (CUP). The proposed zoning classification of the project site are consistent with the current Inyokern Specific Plan Map Code designation, as solar energy-generating facilities are an allowable use under the 7.2 (Service Industrial) designation.

Surrounding Land Uses

As described in Table 4.11-1, surrounding land uses are composed primarily of a wastewater treatment plant, the Inyokern Airport, scattered single-family residences, and undeveloped, open space. The project site is located within the community of Inyokern, and approximately 3 miles east of the community of

Indian Wells and 8 miles west of the China Lake Naval Air Weapons Station. Land uses in the project area are both industrial and residential, as well as some open space.

Surrounding land uses are designated as 7.3/2.5 (Heavy Industrial/Flood Hazard), 1.1/2.5 (State or Federal Land), 5.6 (Residential – Minimum 2.5 Gross Acres/Unit), and 5.8 (Residential – 5 Gross Acres/Unit) and are within the M-2 (Medium Industrial), OS (Open Space), E (2.5) RS MH (Estate 2.5 acres – Residential Suburban – Mobile Home Combining), E (20) RS MH (Estate 20 acres - Residential Suburban- Mobile Home Combining), and A-1 MH (Limited Agriculture – Mobile Home Combining) zone districts.

4.11.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

There are no applicable State regulations for this issue area.

Local

Land use and planning decisions within and adjacent to the project site are guided and regulated by the Kern County General Plan, Inyokern Specific Plan, and Kern County Zoning Ordinance. The Kern County General Plan contains goals, objectives, and policies and provides an overall foundation for establishing land use patterns. The Inyokern Specific Plan contains goals and policies particular to the Inyokern community. The Kern County ALUCP contains regulations and policies related to development located within airport influence areas of Kern County airports. For this land use impact analysis, this section lists all relevant goals, objectives, policies, and implementation measures related to the proposed project. The Zoning Ordinance contains regulations through which the General Plan's provisions are implemented.

Kern County General Plan

The Kern County General Plan is a policy document designed to provide long-range guidance for planning decisions that affect the growth and resources of unincorporated Kern County. Included in the Kern County General Plan is the Land Use, Open Space, and Conservation Element, which provides for a variety of land uses for future economic growth while also assuring the conservation of Kern County's agricultural, natural, and resource attributes. Within the Land Use, Open Space and Conservation Element, policy areas are separated by overlay designations, known as "Map Codes", which are identified on the Kern County General Plan maps for each section of the County and include the following categories: (1) non-jurisdictional land (State and federal); (2) environmental constraints overlay; (3) public facilities; (4) non-jurisdictional land (accepted county plan areas, rural communities and specific plan required); (5) residential; (6) commercial; (7) industrial; and (8) resource.

As discussed above, the project site is located within Map Codes 4.1 (Non-jurisdictional land: Accepted County Plan Areas) and is within the boundaries of the Inyokern Specific Plan. Each Map Code/overlay area contains specific goals, policies, and implementation measures to guide development within them.

In addition to the Land Use, Open Space, and Conservation Element, the Kern County General Plan includes other elements related to circulation, noise, and energy. Each element establishes goals, policies, and implementation measures that guide planning decisions in unincorporated Kern County. The goals, policies, and implementation measures relevant to the project are listed below.

1: Land Use, Open Space, and Conservation Element; 1.3: Physical and Environmental Constraints

Goal

Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.

Policies

Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained ((Map Code 2.1 (Seismic Hazard), Map Code 2.2 (Landslide), Map Code 2.3 (Shallow Groundwater), Map Code 2.5 (Flood Hazard), Map Codes from 2.6 – 2.9, Map Code 2.10 (Nearby Waste Facility), and Map Code 2.11 (Burn Dump Hazard) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.

Policy 3: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.

Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.

Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.

Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.

Policy 11: Protect and maintain watershed integrity within Kern County.

Implementation Measures

Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.

- Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.
- Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.
- Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.
- Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.

1.4: Public Facilities and Services

Goals

- Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.

Policies

- Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.
- Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.
- Policy 6: The County will ensure adequate fire protection to all Kern County residents.
- Policy 7: The County will ensure adequate police protection to all Kern County residents.

Implementation Measures

- Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.
- Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.
- Measure D: Involve utility providers in the land use and zoning review process.
- Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.

1.5: Special Treatment Areas

Goal

Goal 1: To recognize the validity of existing Specific Plan and Rural Community Plan decisions and to identify areas for which similar detailed planning efforts should be undertaken in the future so as to best meet the needs and concerns of local residents.

Map Code

Map Code 4.1: Accepted County Plan Areas. A designation of areas for which specific land use plans have already been prepared and approved. These plans are accepted and incorporated by this reference and the respective land use map associated with each such plan is hereby adopted as the General Plan diagram for each such area. Each plan area is indicated on the General Plan map.

1.9: Resources

Goals

Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.

Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.

Goal 3: To ensure that the development of resource areas minimizes effects of neighboring resource lands.

Goal 4: Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.

Goal 5: Conserve prime agricultural lands from premature conversion.

Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.

Policy 7: Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.

- Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.
- Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.
- Policy 14: Emphasize conservation and development of identified mineral deposits.
- Policy 16: The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Implementation Measures

- Measure F: Prime agricultural lands, according to the Kern County Interim-Important Farmland 2000 map produced by the Department of Conservation, which have Class I or II soils and a surface delivery water system shall be conserved through the use of agricultural zoning with minimum parcel size provisions.
- Measure H: Use the California Geological Survey's latest maps to locate mineral deposits until the regional and statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act.

1.10: General Provisions

Goal

- Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

1.10.1: Public Services and Facilities

Policies

- Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.
- Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.
- Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measure

Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.

1.10.2: Air Quality**Policies**

- Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.
- Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:
- (a) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and
 - (b) The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.
- Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.
- Policy 21: The County shall support air districts efforts to reduce PM₁₀ and PM_{2.5} emissions.
- Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, state, and local standards.

Implementation Measures

Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.

- Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:
- a. Minimizing idling time.
 - b. Electrical overnight plug-ins.
- Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:
- a. Pave dirt roads within the development.
 - b. Pave outside storage areas.
 - c. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans.
 - d. Use of alternative fuel fleet vehicles or hybrid vehicles.
 - e. Use of emission control devices on diesel equipment.
 - f. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces.
 - g. Environmental Protection Agency certified, low emission natural gas fireplaces.
 - h. Provide bicycle lockers and shower facilities on site.
 - i. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).
 - j. The use and development of park and ride facilities in outlying areas.
 - k. Other strategies that may be recommended by the local Air Pollution Control Districts.
- Measure J: The County should include PM10 control measures as conditions of approval for subdivision maps, site plans, and grading permits.

1.10.3: Archaeological, Paleontological, Cultural, and Historical Preservation

Policy

- Policy 25: The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.

Implementation Measures

- Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.
- Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.
- Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.
- Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be

accomplished through the established procedures for discretionary projects and CEQA documents.

Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.

1.10.5: Threatened and Endangered Species

Policies

- Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.
- Policy 28: County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.
- Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.
- Policy 30: The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, State, and Federal programs concerning endangered species conservation issues.
- Policy 31: Under the provisions of the California Environmental Quality Act, the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document is prepared.
- Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

Implementation Measures

- Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.
- Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.
- Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.

1.10.6: Surface Water and Groundwater

Policies

- Policy 34: Ensure that water quality standards are met for existing users and future development.

- Policy 39: Encourage the development of the County's groundwater supply to sustain and ensure water quality and quantity for existing users, planned growth, and maintenance of the natural environment.
- Policy 40: Encourage utilization of community water system rather than the reliance on individual wells.
- Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.
- Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.
- Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

Implementation Measure

- Measure Y: Promote efficient water use by utilizing measures such as: (i) Requiring water-conserving design and equipment in new construction; (ii) Encouraging water-conserving landscaping and irrigation methods; and (iii) Encouraging the retrofitting of existing development with water conserving devices.

1.10.7: Light and Glare***Policies***

- Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.
- Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.

Implementation Measure

- Measure AA: The County shall utilize CEQA guidelines and the provisions of the Zoning Ordinance to minimize the impacts of light and glare on adjacent properties and in rural undeveloped areas.

Chapter 2: Circulation Element; 2.1: Introduction***Goals***

- Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.
- Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County.

2.3.3: Highway Plan

Goal

Goal 5: Maintain a minimum Level of Service (LOS) D.

Policies

Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and mid-section lines. This is because the road center line can be determined by an existing survey.

Policy 2: This plan requires, as a minimum, construction of local road widths in areas where the traffic model estimates little growth through and beyond 2010. Where the Kern County Planning and Natural Resources Department's growth estimates indicate more than a local road is required, expanded facilities shall be provided. The timing and scope of required facilities should be set up and implemented through the Kern County Land Division Ordinance. However, the County shall routinely protect all surveyed section lines in the Valley and Desert regions for arterial right-of-way. The County shall routinely protect all midsection lines for collector highways in the same regions. The only possible exceptions shall be where the County adopts special studies and where Map Code 4.1 (Accepted County Plan) areas occur. In the Mountain Region where terrain does not allow construction on surveyed section and midsection lines, right-of-way width shall be the size shown on the diagram map. No surveyed section and midsection "grid" will comprehensively apply to the Mountain Region.

Policy 3: This plan's road-width standards are listed below. These standards do not include State highway widths that would require additional right-of-way for rail transit, bike lanes and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis.

Expressway [Four Travel Lanes]:	Minimum 110-foot right-of-way
Arterial [Major Highway]:	Minimum 110-foot right-of-way; County Standard 110 feet
Collector [Secondary Highway]:	Minimum 90-foot right-of-way; County Standard 90 feet
Commercial-Industrial Street:	Minimum 60-foot right-of-way; County Standard 60 feet
Local Street [Select Local Road]:	Minimum 60-foot right-of-way; County Standard 60 feet

Implementation Measure

Measure A: The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.

2.3.4: Future Growth

Goal

Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.

Policies

Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below Level of Service (LOS) D. Utilization of the CEQA process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along State routes are necessary then roads shall be built to Caltrans standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.

Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.

Policy 6: The County may accept a developer's road into the county's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.

Implementation Measure

Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

2.3.6: Vacation of Existing or Recorded Future Streets, Highways, or Public Easements

Goal

Goal 2: Kern County intends to set up a system maintaining and coordinating road vacation procedures in all elements of the General Plan and the incorporated cities general plans.

Policies

- Policy 1: A road vacation influencing the construction or operation of expressway, an arterials or collector highway may occur with, or after, amending this Element. Kern County will not vacate any public expressway, arterial or collector highway right-of-way without amendment to this Element. The County will need to amend the right-of way status to local or commercial-industrial streets.
- Policy 2: A study, prepared at the applicant's expense, shall accompany the road vacation application. The study should provide information that will aid in finding the importance of the entire length of the right-of-way. The study would include a review of existing and proposed land uses and localized traffic modeling. This will help Kern County decide what corresponding changes are needed to the Land Use, Open Space and Conservation Element, or affected specific plan. This also will help Kern County decide if additional public road services or other traffic management are required elsewhere.
- Policy 3: If the road vacation applicant is a private entity, all costs for the public hearing shall be borne by the applicant. Also, costs associated with providing any necessary additional public road services or other traffic management caused by the road vacation shall be paid by the applicant.
- Policy 4: The vacation of a road shall not take away legal access to adjacent properties or "land-lock" any legal lot or parcel of record. Legal access shall be determined through a report submitted with the application for road vacation.
- Policy 5: If Kern County determines that the right-of-way is not needed for circulation in the general area, a road vacation may be authorized. An acceptable project shall be determined through a report submitted with the road vacation application and in keeping with traffic modeling parameters of this Plan.
- Policy 6: A road vacation may be authorized if physical conditions such as natural, or manmade topography prevent rational extension of the facility. Physical conditions affecting roadways shall be determined through a report submitted with the road vacation application.
- Policy 7: A road vacation shall only affect public, recorded rights-of-way or public service easements. The potential effects of a road vacation upon rights-of-way and easements are to be determined by a report submitted with the road vacation application. A vacation of private access or private service easement is not under County jurisdiction. Kern County considers these matters "civil" actions. These civil actions should be acted upon accordingly.
- Policy 8: A road vacation may be authorized if the right-of-way is not improved or used for its original purpose. Existing improvements and facility use shall be determined by a report submitted with the road vacation application.
- Policy 9: A road vacation may be authorized to remove excess right-of-way caused by relocation, or at the beginning of a general plan amendment proceeding. Excess right-of-way shall be determined through a report submitted with the road vacation application.

- Policy 10: A road vacation may be approved if there is an agreement to close a public street. A road vacation may be approved with acknowledgment of an impassable street. A road vacation may be approved with a land division map over the area of vacation if the project has comparable methods of vehicular access.
- Policy 11: A road vacation procedure may be used for considering public service easement or utility service easement abandonments. The procedure is the same as any public right-of-way vacation.
- Policy 12: A vacation of improved road right-of-way, or public service easement, should not occur until the lead agency makes findings. One important finding is the land is no longer needed for public use. A vacation of improved road right-of-way, or public service easement, should not occur until the right-of-way is superseded by relocation, and improved to acceptable Kern County Development standards. The Board of Supervisors shall have accepted the replacement facility into the maintained road system.
- Policy 13: A general vacation proceeding (consistent with State of California Streets and Highway Code) will require a public hearing when the vacation affects existing in place facilities or is a project caused by relocating right-of-way.
- Policy 14: A summary vacation shall be consistent with State of California Streets and Highway Code. A summary vacation may be used when the right-of-way does not exist, is unused, or moved. A summary vacation may be used where right-of-way is impassable, unnecessary for present or prospective public use, or is excess or public service easement land.

Implementation Measures

- Measure A: Kern County should require a research fee to determine if a complex vacation application is acceptable.
- Measure B: In resolving a vacation request, the Board of Supervisors will follow the policies and laws applicable to such vacation request. Before taking final action, the Board of Supervisors may require the applicant to submit additional study(s). Staff shall oversee the applicant's information gathering process and suggest alternatives if necessary.
- Measure C: The Planning Department shall issue guidelines for applicants to use in the preparation of road vacation applications and attendant reports.

2.5.1: Trucks and Highways

Goals

- Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.
- Goal 2: Reduce potential overweight trucks.
- Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.

Policies

- Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.

Policy 2: Start a program that monitors truck traffic operations.

Policy 3: Promote a monitoring program of truck lane pavement condition.

Implementation Measure

Measure A: Caltrans should further detail the need for improvement of pavement conditions on the State Highway System. This would encourage Caltrans implementation of the above Policies.

2.5.2: Airport Land Use Compatibility Plan

Goal

Goal 1: Plan for land uses that are compatible with public airport and military bases and mitigate encroachment issues.

Policies

Policy 1: Review land use designations and zoning near public and private airports, Edwards Air Force Base and Naval Air Weapons (NAWS) China Lake for compatibility.

Policy 2: To the extent legally allowable, prevent encroachment on public airport and military base operations from incompatible, unmitigated land uses.

Implementation Measure

Measure A: Review discretionary land use development applications within the airports influence area and the military base operating area as shown in the ALUCP for consistency.

2.5.4: Transportation of Hazardous Materials

Goal

Goal 1: Reduce risk to public health from transportation of hazardous materials.

Policy

Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.

Chapter 3: Noise Element; 3.3: Sensitive Noise Areas

Goals

Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.

Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

- Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.
- Policy 2: Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health.
- Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise
- Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.
- Policy 6: Ensure that new development in the vicinity of airports will be compatible with existing and projected airport noise levels as set forth in the ALUCP
- Policy 7: Employ the best available methods of noise control.

Implementation Measures

- Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.
- Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.
- Measure E: Review discretionary development plans to ensure compatibility with adopted Airport Land Use Compatibility Plans.
- Measure F: Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn} .
- Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:
- a) Be the responsibility of the applicant.
 - b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
 - c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.
- Measure I: Noise analyses shall include recommended mitigation, if required, and shall:
- a) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.

- b) Include estimated noise levels, in terms of CNEL, for existing and projected future (10–20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.
- c) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
- d) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.

Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.

Chapter 4: Safety Element; 4.1: Introduction

4.2: General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

Goal

Goal 1: Minimize injuries and loss of life and reduce property damage.

Implementation Measures

Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.

4.3: Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure

Policy

Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.

Implementation Measures

Measure B: Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.

Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.

4.5: Landslides, Subsidence, Seiche, and Liquefaction

Policies

- Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.
- Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.

4.6: Wildland and Urban Fire

Policies

- Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.
- Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.
- Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.
- Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.

Implementation Measures

- Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

4.9: Hazardous Materials

Implementation Measure

- Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.

Chapter 5: Energy Element; 5.4.5: Solar Energy Development

Goal

- Goal 1: Encourage safe and orderly commercial solar development.

Policies

- Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.

Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.

Policy 4: The County should encourage solar development in the desert and valley regions previously disturbed, and discourage development of energy projects in undisturbed land supporting State or federally protected plant and wildlife species.

5.4.7: Transmission Lines

Goal

Goal 1: To encourage the safe and orderly development of transmission lines to access Kern County's electrical resources along routes, which minimize potential adverse environmental effects.

Policy

Policy 5: The County should discourage the siting of above-ground transmission lines in visually sensitive areas.

Inyokern Specific Plan

The Inyokern Specific Plan was prepared in 1990 for the community of Inyokern, located in a small area of the western side of the IWV. The Specific Plan was prepared at the request of the local community to establish more localized development policies than those established by the Kern County General Plan that are implemented countywide. The Specific Plan considered development constraints and opportunities, and special development standards unique to the community. Among these are a requirement that new subdivisions with lots of 0.5 acre or smaller be connected to water and sewer lines, and a policy encouraging the clustering of new development to preserve open space. The Inyokern Specific Plan goals, policies and standards are compatible with the Kern County General Plan and the ALUCP.

According to the Inyokern Specific Plan Land Use Map, the project site is located within Map Code 7.2/2.5 (Service Industrial). Each Map Code/overlay area contains specific goals, policies, and implementation measures to guide development within them.

Chapter 1: Land Use, Open Space and Conservation Element; 1.1: Physical Constraints

Goal

Goal 1: To promote a safe and healthful living environment, reduce the potential for property damage and injury and minimize economic and social diseconomies in general by requiring development standards which adequately mitigate the physical constraints of noise and flood hazard.

Policies

Policy 1: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.

Policy 2: Development may occur on lands within flood hazard areas, other than established designated floodways, if measures are incorporated to ensure that it will not be hazardous, increase flood depths or velocities, or cause water quality to deteriorate.

Policy 4: Kern County building, health, and fire codes and standards shall be strictly enforced to minimize the possibility of hazards relevant to certain physical constraints.

Implementation Measures

Measure 1: Site development shall be accomplished in compliance with the Kern County Flood Damage Prevention Ordinance. Development standards and prohibitions shall be the same as in that ordinance.

Measure 2: Permanent structures within the secondary floodplain areas shall comply with the Flood Damage Prevention Ordinance.

Measure 4: All structural development must conform to the Uniform Building Code, as administered by Kern County, to provide an adequate level of protection from earthquake damage.

1.2: Public Facilities

Goal

Goal 1: To provide adequate public services and facilities to meet current and projected community needs.

Policies

Policy 1: All new development shall be required to pay its proportional share of the costs of local infrastructure improvements, such as streets, sewers, water lines, and park development.

Policy 7: New development will be required to demonstrate the availability of adequate fire protection and suppression facilities

Implementation Measures

Measure 1: A fiscal impact analysis will be required as part of all amendments to this Specific Plan. This analysis shall include impacts on the existing levels of sheriff and fire departments, school district, roads, parks, and CSD services.

Measure 2: The County shall consult with the Sierra Sands Unified School District and the Inyokern CSD prior to the approval of any zone change, conditional use permit, final map subdivision, or parcel map.

1.5: Industrial

Goal

Goal 2: To balance industrial and residential use so that residences are not adversely affected.

Map Provision

Map Code 7.2: Service Industrial. This designation is for commercial or industrial activities which involve outdoor storage or the use of heavy equipment. These industries can be visually obtrusive and are not generally suited for locations next to residential uses. Typical permitted land uses include auto and truck parking, welding, automobile body and painting shop, freighting or trucking yards, and lumber yard.

Primary land use zones include M-2 (Medium Industrial) and M-1 (Light Industrial). All commercially zoned property is compatible with this category.

Policies

- Policy 2: Industrial development must demonstrate the ability to provide adequate water, sewer, and other public services.
- Policy 5: Industrial development shall be encouraged on land south of the Inyokern Airport to minimize the potential noise and safety conflicts which may arise over Airport operation and expansion.
- Policy 6: Industrial development within floodplain areas shall conform to the requirements of the Kern County Flood Hazard Ordinances.
- Policy 8: Protect from development those areas of potential archaeological significance.

Implementation Measures

- Measure 2: The County shall require industrial developments and uses to meet the Special Development Standards set forth in the Kern County Zoning Ordinance.
- Measure 4: All new industrial subdivisions and, where applicable, PD (Precise Development) plans shall include provisions for standard street access, alleys where necessary, and sewer and water connections to the Inyokern CSD.
- Measure 5: All new industrial use shall meet the requirements of the Kern County Fire Department for fire flows, hydrants, access, and sprinklers.
- Measure 6: Any discretionary industrial project that disturbs property not previously developed/disturbed or is not substantially surround by urban density developments, as determined by the Director of the Kern County Department of Planning and Development Services, shall require the submittal of a biological survey for plants and animals as part of the application/permit process; said survey shall be completed in accordance with the most current guidelines prepared by the U.S. Fish and Wildlife Service and/or the State Department of Fish and Game. Any submittal shall also include mitigation measures satisfactory to the requires of said agencies and the Kern County Department of Planning and Development Services.
- Measure 7: Any discretionary industrial project that substantially disturbs property not previously developed/disturbed or is not substantially surround by urban density developments, as determined by the Director of the Kern County Department of Planning and Development Services, shall require the submittal of an archaeological survey or a clearance as part of

the application/permit process; said survey shall be completed in accordance with any guidelines supplied by the California Archaeological Inventory at California State University at Bakersfield. Any submittal shall also include mitigation measures satisfactory to the requirement of said inventory and the Kern County Department of Planning and Development Services.

1.6: Resource

Goal

Goal 1: To provide for development which does not impair the economic potential of the area, while not diminishing the other amenities which exist within the community.

Policies

Policy 2: The County will maintain and enhance air quality for the health and well-being of County residents by encouraging land uses which promote air quality and good visibility.

Policy 4: Encourage effective management of the groundwater resource for the long-term economic benefit of the community by any or all of the following: (a) artificial groundwater replenishment; (b) conjunctive use of surface water supplies and the groundwater supplies; (c) development of alternative local and imported surface water supplies; and (d) requiring permits for well construction, modification, or abandonment.

Policy 5: Encourage development of alternative energy sources by tailoring County zoning and subdivision ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.

Implementation Measure

Measure 3: Areas with potential archaeological resources shall be valued prior to the approval of discretionary land development permits. Specific mitigation measures shall be incorporated into development proposals.

Chapter 2: Circulation Element

Goals

Goal 1: To provide a simple network of local collector roads consistent with County circulation policy, and to amend the Circulation Element, where necessary, to eliminate unnecessary major and secondary highway alignments.

Goal 2: To promote smooth traffic flow and to avoid piecemeal road development.

Goal 3: To promote adequate road improvement standards for all new development.

Policies

Policy 1: When development occurs, street rights-of-way shall be dedicated to the County in accordance with all applicable County ordinances.

Policy 3: Where necessary, 60-foot industrial streets should be required to serve projected industrial uses.

Policy 5: Development which incorporates adequate circulation systems shall be encouraged.

Implementation Measures

Measure 1: As a requirement for Precise Development Plans, Conditional Use Permits, land divisions, and site plan reviews, streets shall be improved in accordance with the Kern County Land Division Ordinance.

Measure 3: Roadways serving commercial and industrial developments shall be constructed to 60-foot street standards, as set forth in the Kern County Land Division Ordinance, excepting those areas fronting on a major highway alignment or secondary collector requiring a 90-foot or 100-foot right-of-way.

Measure 4: Development roadways shall be in substantial conformity with the Circulation Plan contained in Figure 5 of this Plan text.

Chapter 4: Noise Element

Goals

Goal 1: To protect the health of Kern County residents.

Goal 2: To minimize disruption to human activities and conflicts resulting from excessive noise.

Goal 3: To establish reasonable noise level standards, consistent with the Countywide Noise Element.

Policies

Policy 1: Noise emissions from new development will be controlled.

Policy 3: Noise attenuation measures will be required of new development within areas subject to excessive noise.

Policy 4: Land uses will be categorized in the following manner and noise level standards adopted in accordance with the Kern County Noise Element:

(a) Insensitive Land Uses. The noise level does not affect the successful operation of the particular activity. A wide variety of uses can be included in this category, including public utilities, transportation systems, and other noise-related uses.

(b) Moderately Sensitive Land Uses. Some degree of noise control must be present if these activities are so successfully carried out. Included here are general business and recreational uses.

(c) Sensitive uses. Lack of noise control will result in many of the effects described earlier in the Element. This category primarily contains residential uses.

(d) Highly Sensitive Uses. A high degree of noise control is necessary for the successful operation of these activities. Examples include hospitals and churches.

Policy 5: The policies of the Kern County Noise Element are hereby adopted by reference.

Implementation Measures

Measure 1: The following standards are established as the maximum desired ambient noise levels:

Land Use Category	Day	Night	CNEL
Insensitive Uses	65	60	75
Moderately Sensitive Uses	60	55	70
Sensitive Uses	55	45	65
Highly Sensitive Uses	50	40	60

Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted in reference.

Chapter 5: Seismic Hazards and Safety Element**Goal**

Goal 1: To ensure the safety of the area residents from environmentally related hazards.

Policies

Policy 2: Development shall consider seismic hazards during new construction and include adequate safety measures.

Policy 3: Measures shall be taken to minimize the impacts of flood hazards to area residents.

Implementation Measures

Measure 1: All construction shall comply with the requirements of the Uniform Building Code (UBC) and the Uniform Fire Code (UFC) with regard to water supply, fire flow, and construction standards.

Measure 3: All construction shall comply with the standard of the UBC with regard to seismic hazard.

Kern County Zoning Ordinance

Title 19 of the Kern County Ordinance provides a description of permitted uses for the various zoning classifications within the County. The Zoning Ordinance consists of two primary parts: a Zoning Map that delineates the boundaries of zoning districts; and a Zoning Code that explains the purpose of the districts, specifies permitted and conditional uses, and establishes development and performance standards. The intent of the Zoning Code is to protect public health, safety, and the general welfare of residents and visitors in the County. Together with the Zoning Map, the Zoning Code identifies the particular uses permitted on each parcel of land in the County and sets forth regulations and standards for development to ensure that the policies, goals, and objectives of the General Plan are implemented. In addition to land use regulations, the Zoning Code contains development standards that can lessen a new structure's impacts on a location or area. These standards control the height, setbacks, parking, lot coverage, gross floor area, etc. for new structures. The Zoning Code also regulates which uses are permitted in each of the County's zoning districts to ensure compatibility between land uses.

County of Kern Airport Land Use Compatibility Plan

The Kern County ALUCP establishes procedures and criteria in which the County and affected incorporated cities can address compatibility issues when making planning decisions in regards to airports and the land uses around them. The project site is located within the vicinity of the Inyokern Airport, which is approximately 1 mile west of the project. The ALUCP policies applies to 16 airports located within Kern County, including Inyokern Airport.

According to the ALUCP, the project site is in the airport influence area of the Inyokern Airport and is located in a medium density residential land use area. Specifically, the project is located in Compatibility Zones B1 and C. Zone B1 prohibits schools/day care centers, libraries, hospitals, nursing homes, highly-noise sensitive uses, storage of highly flammable materials, and hazards to flights, such as glare, sources of dust, stream or smoke which make impair plot visibility, any use which may attract large flocks of birds, or any light which may cause visual discomfort or loss of orientation during critical phases of flight. Zone C prohibits schools, hospitals, nursing homes, and hazards to flights.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG) and was adopted in June 19, 2014. The 2014 RTP is a 26-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, State, and federal agencies. New to the 2014 RTP, California's Sustainable Communities and Climate Protection Act, or Senate Bill (SB) 375, calls for the Kern RTP to include a Sustainable Communities Strategy (SCS) that reduces greenhouse gas (GHG) emissions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low income housing needs and transportation planning. The 2014 RTP exceeds SB 375 reduction targets for the region and is consistent with the RHNA. Kern COG has placed a greater emphasis than ever before on sustainability and integrated planning in the 2014 RTP/SCS.

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to: improve economic vitality; improve air quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to community services; increase regional and local energy independence; and increase opportunities to help shape our community's future.

The 2014 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing local, State, and federal sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to State and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future State bonding programs, and mileage based user fees (Kern COG, 2018).

Kern County's Solid Waste Management Plan

The Solid Waste Management Plan is a comprehensive guide for all solid waste management activities in the County. The plan identifies the existing solid waste generation and disposal facilities in Kern County, estimates future solid waste disposal demand, and identifies programs to meet this future need.

Kern County and Incorporated Cities Hazardous Waste Management Plan

The Kern County and Incorporated Cities Hazardous Waste Management Plan focuses on the siting of hazardous waste disposal facilities, the transport of hazardous waste in the County, protection of water resources from hazardous waste contamination, and public education concerning the use and disposal of hazardous waste.

4.11.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to land use associated with the project are a comparison of the existing land use and the proposed land uses in consideration of the applicable planning goals identified above. Compliance with the aforementioned policies is illustrated in consistency tables provided in the Project Impacts section below. The change in the land use on the project site is significant if the effect described under the thresholds of significance below occurs as a result of the project. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on land use.

A project would have a have a significant adverse effect on land use if the project would:

- a. Physically divide an existing community or contribute to the decline of an existing community (a physical change that interrupts the cohesiveness of the established community);
- b. 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; or
- c. Conflict with any applicable habitat conservation plan or natural community conservation plan.

As lead agency, Kern County determined in the Initial Study/Notice of Preparation (IS/NOP), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to some of these

environmental issue areas; these issue areas are thus scoped out of this EIR. It was determined that the project would not:

- a. Physically divide an existing community or contribute to the decline of an established community (a physical change that interrupts the cohesiveness of the neighborhood); or
- c. Conflict with any applicable habitat conservation plan or natural community conservation plan.

As detailed in the IS/NOP, there are no residences or other structures on the project site. The nearest residence is approximately 139 feet south of the of the Phase 2 boundary and other scattered residential uses exist nearby, to the east across US 395. Given the proposed project site boundary changes since the publishing of the IS/NOP, the nearest residence is a small rural residential tract approximately 0.30-mile east of US 395, east of the Phase I eastern boundary and north of the proposed the gen tie-line. The project site is located within the community of Inyokern but the project would not physically divide or restrict access to the Inyokern community, or any other community, as the project site is located on undeveloped land with little residential development in the area. In addition, the project site is not located within the boundaries of any habitat conservation plan or natural community conservation plan. No further analysis for these issues areas is warranted in the EIR.

Project Impacts

Impact 4.11-1: The project would conflict with 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.

The Kern County General Plan, the Kern County Zoning Ordinance, and Inyokern Specific Plan establish land use policies and regulations that are applicable to the project. The following discussion evaluates the project's conformity to these plans, policies and regulations. The proposed project would require the following land use related discretionary approvals:

- Approval of Amendment to the Circulation Element of the Inyokern Specific Plan-Specific Plan Amendment (SPA) 4, Map 47
- Approval of Kern County CUP 23, Map 47 (Phase 1)
- Approval of Kern County CUP 27, Map 47 (Phase 2)
- Kern County construction, grading, building and encroachment permits

Kern County General Plan and Inyokern Specific Plan

Table 4.11-2, *Consistency Analysis with Kern County General Plan Policies for Land Use*, p. 4.11-35, presents an evaluation of the project's consistency with the Kern County General Plan. The table lists the goals and policies identified above in the regulatory setting and provides analysis on the project's general consistency with overarching policies. Additionally, the table provides goals and policies of issue areas that are presented in more detail in other sections of the EIR.

Table 4.11-3, *Consistency Analysis with the Inyokern Specific Plan Policies for Land Use*, p. 4.11-72, presents an evaluation of the project's consistency with the Inyokern Specific Plan. The table lists the goals and policies identified above in the regulatory setting and provides analysis on the project's general

consistency with overarching policies. Additionally, the table provides goals and policies of issue areas that are presented in more detail in other sections of the EIR. As evaluated in detail in Table 4.11-3, the project is consistent with the goals and policies of the Inyokern Specific Plan.

The project proposes to amend the Circulation Element of the Inyokern Specific Plan to eliminate a portion of the designated future secondary collector from Brown Road to the southern boundary of the project site, as shown in Figure 3-5, *Amendment to the Inyokern Specific Plan Circulation Element*, of Chapter 3, *Project Description*.

Implementation of the proposed project would establish a solar facility surrounding APN 352-501-04 on the north, west, and south. APN 352-501-04 is bounded to the east by Highway 395, from which exists no access to this parcel. Further, if approved, the amendment to the Circulation Element of the Inyokern Specific Plan would eliminate the flow of future traffic to this parcel. Therefore, implementation of Mitigation Measure MM 4.11-1 requiring the project proponent to keep adopted easements free and clear of development or provide proof that public access has been provided to APN 352-501-04 and approved by the Kern County Planning and Natural Resources Department Director prior to the issuance of grading and building permits. **Figure 4.11-1, Potential Access Routes to APN 352-501-04**, shows potential access routes to APN 352-501-04 as proposed by the project proponent.

Therefore, with implementation of the Specific Plan amendments and implementation of Mitigation Measure MM 4.11-1, the project would not result in a conflict with the applicable land use plan for the project area, and impacts would be less than significant.



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
RB INYOKERN SOLAR PROJECT

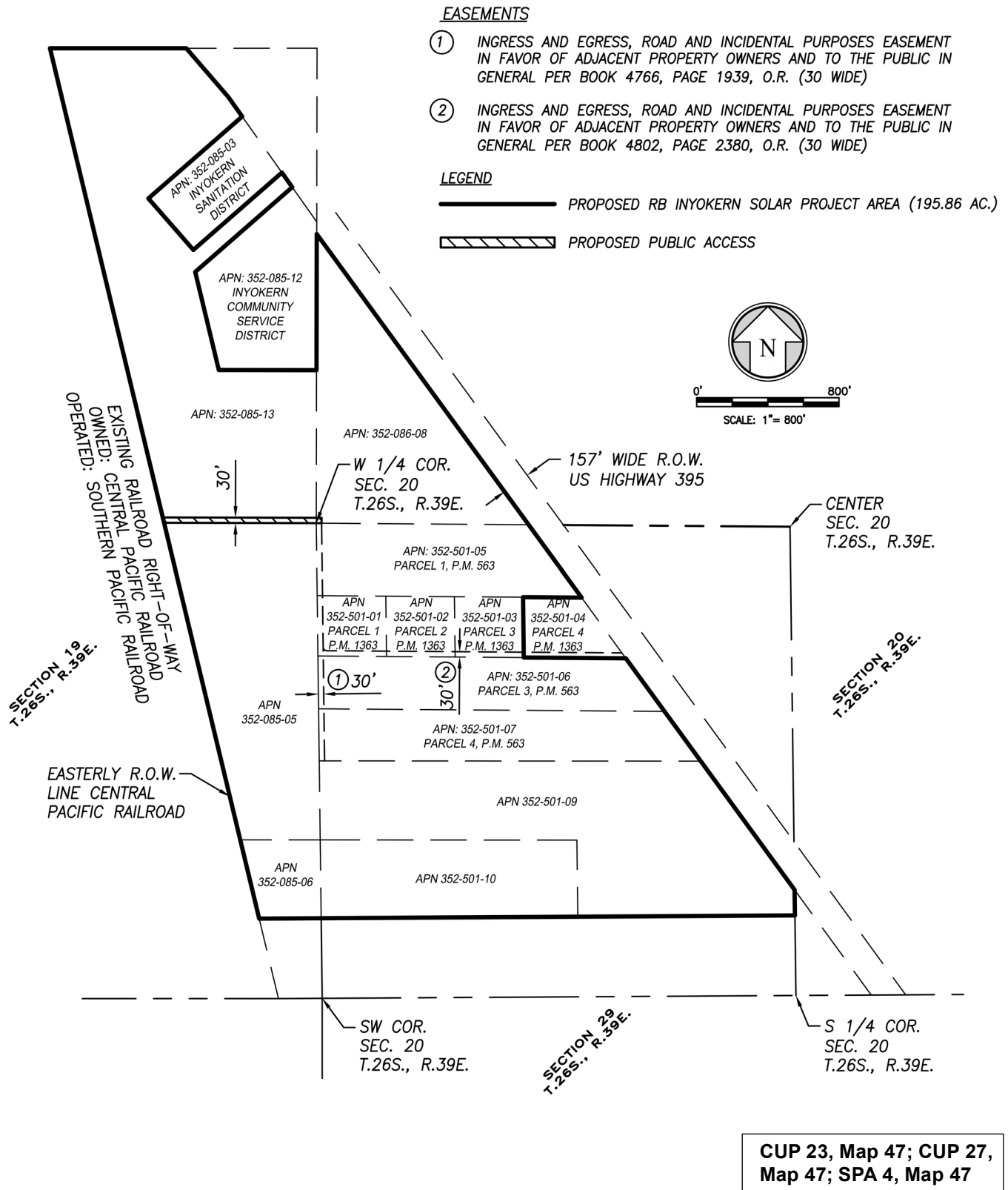


Figure 4.11-1: POTENTIAL ACCESS ROUTES TO APN 352-501-04

Kern County Zoning Ordinance

As shown in Table 4.11-1 and Figure 3-5, *Existing Zoning*, in Chapter 3, *Project Description*, the project site has the existing zoning classifications of M-2 (Medium Industrial).

The project would require the approval of two CUPs per Section 19.38.030 of the Kern County Zoning Ordinance in Maps 47 and 47-29. With these discretionary approvals, the project would be consistent with the Medium Industrial zoning classification, which allows solar facilities as a conditional use. The project proponent is requesting approval of two CUPs for the project to allow for construction and operation of a 32 MW solar facility within the M-2 Industrial Zone District. Therefore, with approval of CUPs, the project would be consistent with applicable land use policies and regulations, and impacts related to consistency with the zoning would be less than significant.

Consistency with the ALUCP

As part of the Kern County airport system, the Inyokern Airport is subject to the compatibility policies of the ALUCP. The ALUCP outlines compatibility criteria or Airport Land Use Compatibility Zones that apply to development proposals in the vicinity of all Kern County airports. Primary land use compatibility concerns include aircraft noise, safety with respect to both people and property on the ground and in the air, protection of airspace, and other general concerns related to aircraft overflights.

According to Section 4.5 of the ALUCP, the project would be located in the Compatibility Zones B1 and C. As mentioned above, Zones B1 and C prohibit schools, hospitals, nursing homes, and hazards to flight. In order to comply, the project would not produce hazards to aircraft in flight such as producing glare or distracting light, dust, steam, smoke that would impair the pilot visibility or sources of electrical interference with aircraft communications. As discussed in Section 4.1, *Aesthetics*, in this EIR, implementation of Mitigation Measures MM 4.1-4 and MM 4.1-6, which require the use of non-reflective and anti-glare materials, would ensure that solar panels and building surfaces are designed with glare-reducing technology and materials to minimize glare impacts to overpassing air traffic. With implementation of these mitigation measures, the project would not conflict with the ALUCP and impacts would be less than significant.

Future development within the RB Inyokern Solar project area that is located in any of the Airport Land Use Compatibility Zones must be consistent with those compatibility policies and criteria requirements and provisions contained in the Kern County ALUCP. Implementation of the project would not result in any significant conflict with the Airport Land Use Compatibility Zones or the ALUCP.

Mitigation Measures

Implementation of Mitigation Measures MM 4.1-4 and MM 4.1-6, would be required (see Section 4.1, *Aesthetics*, for full mitigation measure text).

MM 4.11-1: Prior to the issuance of grading/building permits, the project proponent shall either:

- a. Keep all recorded access easements within the project boundaries free and clear of development and revise site plans accordingly and provide an updated site plan to the Kern County Planning and Natural Resources Department showing the easement and panel setbacks; or

- b. Record a minimum 30-foot-wide public access easement traversable to a standard vehicle for APN 352-501-04 approved by the Kern County Planning and Natural Resources Director and provide an updated site plan to the Kern County Planning and Natural Resources Department showing the easement and panel setbacks.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-4, MM 4.1-6, and MM 4.11-1, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope of analysis for this chapter is Indian Wells Valley. This scope was selected to analyze the cumulative impact to regional land use patterns of project development in the area, and because there is some uniformity to existing land use patterns in this region. As described in more detail in Table 3-5, *Cumulative Projects List*, in Chapter 3, *Project Description*, of this EIR, six projects are proposed within the geographic scope, including two solar projects. While the surrounding area is still relatively rural in nature, the project, along with other proposed projects, has the potential to contribute to a cumulative influence on proposed land uses in and around the project site.

The anticipated impacts of the project in conjunction with cumulative development in the area of the project would increase the urbanization and result in the loss of open space. However, potential land use impacts require evaluation on a case-by-case basis because of the interactive effects of a specific development and its immediate environment. As described in Tables 4.11-2 and 4.11-3, the proposed project would be consistent with the goals and policies of the Kern County General Plan and the Inyokern Specific Plan, respectively. In addition, with approval of the CUPs and Specific Plan amendment, development of solar facilities for proposed project would be an allowable use that would not conflict with the land use or zoning classification for the project site. Therefore, as proposed the project would be consistent with the goals and policies of the Kern County General Plan, Inyokern Specific Plan, and the Kern County Zoning Ordinance and would therefore not contribute to a cumulatively considerable impact regarding land use.

Furthermore, all related projects would be required to undergo environmental review on a case-by-case basis in accordance with the requirements of CEQA. Each related project would also be required to demonstrate consistency with all applicable planning documents governing the project site, including the Kern County General Plan the Kern County Zoning Ordinance, Inyokern Specific Plan, and the Kern County ALUCP. Should potential impacts be identified, appropriate mitigation would be prescribed that would likely reduce potential impacts to less-than-significant levels. Additionally, should any related projects be within the Kern County ALCUP or an airport land use plan influence area, each would be required to comply with the policies and regulations of the Kern County ALUCP and FAA requirements, similar to the proposed project. As discussed above, implementation of Mitigation Measures MM 4.1-4 and MM 4.1-6, which require the use of non-reflective and anti-glare materials, would ensure that solar panels and building surfaces are designed with glare-reducing technology and materials to minimize glare impacts to overpassing air traffic. Compliance with applicable regulations and implementation of Mitigation Measures MM 4.1-4 and MM 4.1-6 would ensure that cumulative impacts are less than significant.

With regard to cumulative effects of utility-sized solar power generation facilities, there is a potential that outside factors, such as the development of newer technology, change in State or national policy that

encourages the construction of such facilities, or other economic factors, could result in the abandonment of such facilities. Unlike other facilities that, once constructed, can be retrofitted and utilized for another specific use, solar power generation facilities have little opportunity for other uses should the project not be in operation. The potential for the cumulative effects caused by the abandonment of multiple solar facilities in Kern County could result in impacts on surrounding land uses should it be determined that these facilities are no longer viable commercial operations. Therefore, a mitigation measure related to the decommissioning of solar facilities has been included to establish safeguards to ensure the maintenance of the health, safety, and welfare of the citizens of the County. While it is the intent of Kern County to promote the use of an alternative to fossil-fuel-generated electrical power in areas of the County that are identified to have suitable characteristics for production of commercial quantities of solar photovoltaic (PV)-generated electrical power, it is necessary to protect surrounding landowners from potential impacts associated with the abandonment of such facilities. Mitigation Measure MM 4.11-2 would require the implementation of a decommissioning plan to be carried out by the project proponent once the life of the project has ended. Mitigation Measure MM 4.11-3 is also being included to ensure that the proposed solar facility does not interfere with the telemetry operations associated with the nearby military installations. With the implementation of Mitigation Measures MM 4.1-4, MM 4.1-6, MM 4.11-2, and MM 4.11-3, cumulative land use impacts would be considered less than significant.

Mitigation Measures

MM 4.11-2: Prior to issuance of any building permit, the project operator shall provide a Decommission Plan for review and approval by the Kern County Engineering, Surveying, and Permit Services Department or a County-contracted consulting firm at a cost to be borne by the project operator. The Decommission Plan shall factor in the cost to remove the solar panels and support structures, replacement of any disturbed soil from removal of support structures, and control of fugitive dust on the remaining undeveloped land. Salvage value for the solar panels and support structures shall be included in the financial assurance calculations. The assumption, when preparing the estimate, is that the project operator is incapable of performing the work or has abandoned the solar facility, thereby requiring Kern County to hire an independent contractor to perform the decommissioning work. In addition to submitting a Decommission Plan, the project operator shall post or establish and maintain financial assurances with Kern County related to the deconstruction of the site as identified on the approved Decommission Plan in the event that at any point in time the project operator determines it is not in the company's best interest to operate the facility.

The financial assurance required prior to issuance of any building permit shall be established using one of the following:

- a. An irrevocable letter of credit;
- b. A surety bond;
- c. A trust fund in accordance with the approved financial assurances to guarantee the deconstruction work will be completed in accordance with the approved decommission plan; or
- d. Other financial assurances as reviewed and approved by the respective County administrative offices, in consultation with the Kern County Planning and Natural Resources Department.

The financial institution or Surety Company shall give the County at least 120 days' notice of intent to terminate the letter of credit or bond. Financial assurances shall be reviewed annually by the Kern County Engineering, Surveying, and Permit Services Department or County contracted consulting firm(s) at a cost to be borne by the project operator to substantiate those adequate funds exist to ensure deconstruction of all solar panels and support structures identified on the approved Decommission Plan. Should the project operator deconstruct the site on their own, the County will not pursue forfeiture of the financial assurance.

Once deconstruction has occurred, financial assurance for that portion of the site will no longer be required and any financial assurance posted shall be adjusted or returned accordingly. Any funds not utilized through decommission of the site by the County shall be returned to the project operator.

Should any portion of the solar field not be in operational condition for a consecutive period of 12 months that portion of the site shall be deemed abandoned and shall be removed within 60 days from the date a written notice is sent to the property owner and solar field owner, as well as the project operator, by the County. Within this 60-day period, the property owner, solar field owner, or project operator may provide the director of the Kern County Planning and Natural Resources Department a written request and justification for an extension for an additional 12 months. The Kern County Planning and Natural Resources Director shall consider any such request at a Director's Hearing as provided for in Section 19.102.070 of the Kern County Zoning Ordinance. In no case shall a solar field that has been deemed abandoned be permitted to remain in place for more than 48 months from the date the solar facility was first deemed abandoned.

MM 4.11-3: Prior to the operation of the solar facility, the operator shall consult with the Department of Defense to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military operations.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-4, MM 4.1-6, and MM 4.11-2 through MM 4.11-3, cumulative impacts would be less than significant.

Project Consistency with the Kern County General Plan

Table 4.11-2 summarizes the consistency of the project with all applicable goals and policies of the Kern County General Plan and relevant planning documents that are applicable to the project site.

Project Consistency with the Kern County General Plan and Inyokern Specific Plan

Table 4.11-3 summarizes the consistency of the project with all applicable goals and policies of the Inyokern Specific Plan and relevant planning documents that are applicable to the project site.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN CHAPTER 1, LAND USE, OPEN SPACE AND CONSERVATION ELEMENT		
1.3 Physical and Environmental Constraints		
Goal 1: To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.	Consistent with implementation of Mitigation Measure MM 4.10-1	See Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. The project site is located almost entirely within a 100-year flood zone. However, implementation of Mitigation Measure MM 4.10-1 would require preparation of a drainage plan that would design project facilities to have one-foot of freeboard clearance above the calculated maximum flood depths for the solar arrays or the finished floor of any permanent structures. Additionally, per Mitigation Measure MM 4.10-1, grading for the project would be designed so that water surface elevations during flood events would not be increased by more than one foot. Further, the project would be developed in accordance with the General Plan and Floodplain Management Ordinance. Seismic hazards are described and analyzed in Section 4.7, <i>Geology and Soils</i> , of this EIR. Mitigation Measure MM 4.7-1, which requires implementation of recommendations from the Geotechnical Engineering Report for the proposed project, would ensure site stability to the maximum extent possible during project construction and operation. Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project would not pose significant environmental or public health and safety hazards. Therefore, with implementation of mitigation measures the project would be consistent with this goal.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 (Seismic Hazard), Map Code 2.2 (Landslide), Map Code 2.3 (Shallow Groundwater), Map Code 2.5 (Flood Hazard), Map Codes from 2.6 – 2.9, Map Code 2.10 (Nearby Waste Facility), and Map Code 2.11 (Burn Dump Hazard)) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, of the Kern County General Plan, above.
Policy 3: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.	Consistent	Hazards and hazardous materials impacts are evaluated in Section 4.9, <i>Hazards and Hazardous Materials</i> , of this EIR. Consistent with this policy, the proposed project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.
Policy 8: Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.	Consistent with implementation of Mitigation Measure MM 4.10-1	See Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. As described therein, project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially increase flooding depths. Further, the project would be developed in accordance with the General Plan and Floodplain Management Ordinance and would implement Mitigation Measure MM 4.10-1, as described above. Therefore, the proposed project would be consistent with this policy.
Policy 9: Construction of structures that impede water flow in a primary floodplain will be discouraged.	Consistent with implementation of Mitigation Measure MM 4.10-1	See Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. Because the project site is located almost entirely within a 100-year flood zone, project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially increase flooding depths. Further, the project would be developed in accordance with the General Plan and Floodplain Management Ordinance and would implement MM 4.10-1, as described above. Therefore, the proposed project would be consistent with this policy.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 10: The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan. ⁷	Consistent with implementation of Mitigation Measure MM 4.10-1	See Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. Because the project would maintain flood flow conveyance, the project would not increase the potential for flooding beyond existing conditions. Flooding in this location would not result in a safety hazard, as the project would not establish a substantial permanent population onsite. Further, the project would be developed in accordance with the General Plan and Floodplain Management Ordinance. Therefore, the proposed project would be consistent with this policy.
Policy 11: Protect and maintain watershed integrity within Kern County.	Consistent with implementation of Mitigation Measure MM 4.10-1	As discussed in Section 4.10, <i>Hydrology and Water Quality</i> , the project site would implement best management practices during construction to avoid impacts to water quality. The project would also comply with a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the Indian Wells-Searles Valley watershed.
Measure D: Review and revise the County's current Grading Ordinance as needed to ensure that its standards minimize permitted topographic alteration and soil erosion while maintaining soil stability.	Consistent	As discussed in Section 4.7, <i>Geology and Soils</i> , the soils on the project site have relatively low soil erodibility. Additionally, a SWPPP is required for this project and will ensure that the appropriate BMPs to prevent erosion and sedimentation from occurring, are implemented. Therefore, the proposed project would be consistent with this measure.
Measure F: The County will comply with the Colbey-Alquist Floodplain Management Act in regulating land use within designated floodways.	Consistent with implementation of Mitigation Measure MM 4.10-1	See Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. Because the project site is located almost entirely within a 100-year flood zone, project facilities would be designed to maintain clearance above the maximum flood depths and grading would not substantially increase flooding depths. Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-1. Therefore, the proposed project would be consistent with this measure.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure H: Development within areas subject to flooding, as defined by the appropriate agency, will require necessary flood evaluations and studies.	Consistent with implementation of Mitigation Measure MM 4.10-1	Section 4.10, <i>Hydrology and Water Quality</i> discusses project compliance with all applicable flood regulations, including the County Floodplain Management Ordinance. Mitigation Measure MM 4.10-1 would require the project proponent shall complete a hydrologic study and final drainage plan designed to evaluate and minimize potential increases in runoff from the project site, prior to the issuance of a grading permit, which would ensure compliance with this measure.
Measure J: Compliance with the Floodplain Management Ordinance prior to grading or improvement of land for development or the construction, expansion, conversion or substantial improvements of a structure is required.	Consistent with implementation of Mitigation Measure MM 4.10-1	See 1.3, <i>Physical and Environmental Constraints</i> , Measure H, of the Kern County General Plan, above.
Measure N: Applicants for new discretionary development should consult with the appropriate Resource Conservation District and the California Regional Water Quality Control Board regarding soil disturbances issues.	Consistent	Section 4.10, <i>Hydrology and Water Quality</i> , discusses impacts related to soil-disturbing activities and required compliance with Kern County's National Pollutant Discharge Elimination System Applicability legislation, which requires projects to comply with the State Water Resources Control Board's Construction General Permit despite being in a closed watershed.
1.4 Public Facilities and Services		
Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.	Consistent with implementation of Mitigation Measure MM 4.14-2	As discussed in Section 4.14, <i>Public Services</i> , of this EIR, implementation of Mitigation Measure MM 4.14-2 would require the project to pay a fee assigned by the Kern County Planning and Natural Resources Department over the life of the proposed facilities in order to mitigate any potential impacts to fire or police protection services resulting from the proposed project. With payment of the required mitigation fee as assessed by the Kern County Planning and Natural Resources Department, any additional fire or police protection services, facilities or personnel required as a result of the proposed project would be appropriately funded.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.	Consistent with implementation of Mitigation Measure MM 4.14-2	As a part of the proposed project, there would be a generation-tie line connection made to the existing SCE substation. This infrastructure improvement would be fully funded by the project proponent. No further improvements are anticipated as a part of the project. However, should improvements be made, the project proponent would coordinate with the County to ensure that the cost of the infrastructure improvement is properly funded. Additionally, implementation of Mitigation Measure MM 4.14-2 would require the project to pay a fee assigned by the Kern County Planning and Natural Resources Department over the life of the proposed facilities in order to mitigate any potential impacts to fire or police protection services resulting from the proposed project.
Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.	Consistent	Public utility impacts are evaluated in Section 4.16, <i>Utilities and Service Systems</i> . The project has received a will-serve letter from serving utilities to confirm the availability of public utility services for this project included in Appendix M2 of this EIR.
Policy 6: The County will ensure adequate fire protection to all Kern County residents.	Consistent with implementation of Mitigation Measure MM 4.14-2	See 1.4, <i>Public Services and Facilities</i> , Goal 1, above.
Policy 7: The County will ensure adequate police protection to all Kern County residents.	Consistent with implementation of Mitigation Measure MM 4.14-2	See 1.4, <i>Public Services and Facilities</i> , Goal 1, above.
Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.	Consistent with implementation of Mitigation Measure MM 4.14-2	See 1.4, <i>Public Services and Facilities</i> , Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent	Project effects related to utilities are discussed in Section 4.16, <i>Utilities and Service Systems</i> , of this EIR. The project would result in less-than-significant impacts to utilities. Furthermore, the proposed project would include the development of two solar PV power generating facilities designed to produce approximately 32 MW of solar power that would be delivered to the grid, reducing dependence on fossil fuel based energy.
Measure D: Involve utility providers in the land use and zoning review process.	Consistent	See 1.4, <i>Public Services and Facilities</i> , Policy 3, above.
Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.	Consistent with implementation of Mitigation Measures MM 4.14 and MM 4.14-2	Impacts to fire protection services are evaluated in Section 4.14, <i>Public Services</i> , of this EIR. Mitigation Measure MM 4.14-1 requires implementation of a fire safety plan during project construction and operation that would include notification procedures and emergency fire precautions to help reduce fire risks and the consequential need for fire protection services onsite. Mitigation Measure MM 4.14-2 requires the project proponent to pay applicable fees and taxes to reduce significant impacts to fire or police protection services resulting from the project. Thus, it is not anticipated that new or physically altered Kern County Fire Department facilities would not be required to accommodate the proposed project.
1.5 Special Treatment Areas		
Goal 1: To recognize the validity of existing Specific Plan and Rural Community Plan decisions and to identify areas for which similar detailed planning efforts should be undertaken in the future so as to best meet the needs and concerns of local residents.	Consistent	Applicable goals, policies and implementation measures of the Inyokern Specific Plan have been listed in the regulatory settings of Chapter 4 sections and have been analyzed for consistency in this table. This EIR serves to comply with all policies, goals, and measures, of the Inyokern Specific Plan.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Map Code 4.1: Accepted County Plan Areas. A designation of areas for which specific land use plans have already been prepared and approved. These plans are accepted and incorporated by this reference and the respective land use map associated with each such plan is hereby adopted as the General Plan diagram for each such area. Each plan area is indicated on the General Plan map.	Consistent	Applicable goals, policies and implementation measures of the Inyokern Specific Plan have been listed in the regulatory settings of Chapter 4 sections and have been analyzed for consistency in this table. This EIR serves to comply with all policies, goals, and measures, of the Inyokern Specific Plan.
1.9 Resources		
Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.	Consistent	As discussed in Section 4.12, <i>Mineral Resources</i> , the project site is not located within the bounds of a mineral resource area. The project site is not located in areas of agricultural use or in areas containing petroleum, rangeland, or mineral resources. Nor would the proposed project diminish these amenities in other parts of the County. Therefore, the proposed project would be consistent with this goal.
Goal 2: Protect areas of important mineral, petroleum, and agricultural resource potential for future use.	Consistent	See 1.9, <i>Resource</i> , Goal 1, above. As discussed in Section 4.12, <i>Mineral Resources</i> , the project site is not located within the bounds of a mineral resource area.
Goal 3: Ensure the development of resource areas minimize effects on neighboring resource lands.	Consistent	The solar facilities are compatible with open space and other resource management land uses. Furthermore, the placement of solar arrays at the project site may deter other urban and suburban land uses from being developed nearby.
Goal 4: Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.	Consistent	The proposed project would develop a solar PV power generating facilities designed to produce and store up to approximately 26.6 MW of solar power. The location of the site would ensure a safe and orderly development of the solar facilities. Additionally, the NOP of this EIR was sent to state and federal agencies requesting their input to ensure that appropriate information about the project site were being gathered. Similarly, this EIR will also be circulated to these agencies, and staff will have the opportunity to comment on the environmental analyses. Therefore, the County is complying with this goal for the project.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Goal 5: Conserve prime agricultural lands from premature conversion	Consistent	As discussed in Section 4.2, <i>Agriculture and Forestry Resources</i> , the project site does not contain agricultural practices or areas designated for agriculture. Consistent with this policy, prime agricultural lands will not be affected by the proposed project.
Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.	Consistent	Consistent with this policy, the proposed project is the development of two solar PV power generating facilities designed to produce approximately 32 MW of solar power. The project would develop a clean energy source that would create fewer fossil fuel emissions; thus protecting the environment.
Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.	Consistent	Impacts on natural resources are avoided or minimized through the design of the project and would not affect long term use of the site. The project implements the General Plan policy of maximizing utilization of available solar resources.
Policy 7: Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.	Consistent	See 1.9, <i>Resource</i> , Goal 1, of the Kern County General Plan, above.
Policy 11: Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.	Consistent with implementation of Mitigation Measure MM 4.10-1	As discussed in Section 4.10, <i>Hydrology and Water Quality</i> , no drainages exist on the project site. Consistent with this policy, the proposed project would require the submission of a drainage plan to the County for review and would implement Mitigation Measure MM 4.10-1.
Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) as having high range-site value should be conserved for Extensive Agriculture uses or as Resource Reserve, if located within a County water district.	Consistent	As discussed in Section 4.2, <i>Agriculture and Forestry Resources</i> , the project site does not contain agricultural practices or areas designated for agriculture. Consistent with this policy, no high range-site value would be impacted by the proposed project.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 14: Emphasize conservation and development of identified mineral deposits.	Consistent	As discussed in Section 4.12, <i>Mineral Resources</i> , the project site does not contain mineral resources including petroleum. Consistent with this policy, no development would occur that would impact identified mineral deposits.
Policy 16: The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.	Consistent	The project proposes the development of two solar PV power generating facilities designed to produce approximately 26.6 MW of solar power. Consistent with this policy, the proposed project would generate solar energy and offset an equivalent amount of fossil fuel-generated electrical power.
Measure F: Prime agricultural lands, according to the Kern County Interim-Important Farmland 2000 map produced by the Department of Conservation, which have Class I or II soils and a surface delivery water system shall be conserved through the use of agricultural zoning with minimum parcel size provisions.	Consistent	As discussed in Section 4.2, <i>Agriculture and Forestry Resources</i> , the project site does not contain any prime farmland identified by the California Department of Conservation. Consistent with this policy, no prime agricultural lands, which have Class I or II soils and a surface delivery water system, would be impacted by the proposed project.
Measure H: Use the California Geological Survey's latest maps to locate mineral deposits until the regional and statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act.	Consistent	As discussed in Section 4.12, <i>Mineral Resources</i> , neither the project site nor surrounding areas contain State-designated mineral resource areas. Consistent with this measure, this EIR utilized the California Geological Survey's latest maps to identify local mineral deposits in the vicinity of the project site.
1.10 General Provisions		
Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.	Consistent	Consistent with this policy, the proposed project would develop two solar PV power generating facilities that are not located on a hazardous site. The project would develop a clean energy source that reduce fossil fuel emissions; thereby reducing GHG emissions, preserving natural resources, and promoting a safe and healthful environment.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
1.10.1 Public Services and Facilities		
Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.	Consistent with implementation of Mitigation Measure MM 4.14-2	See 1.4, <i>Public Facilities and Services</i> , Goal 1, above. Impacts to public services are evaluated in Section 4.14, <i>Public Services</i> , of this EIR. This EIR serves to comply with this policy.
Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.	Consistent	Public service impacts are evaluated in Section 4.14, <i>Public Services</i> , of this EIR. This EIR serves to comply with this policy.
Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.	Consistent	See 1.4, <i>Public Facilities and Services</i> , Goal 1 and Policy 1, above.
Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.	Consistent	Water impacts are evaluated in Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. The proposed project would not require new wastewater disposal systems to be constructed, as there would be no permanent employees on the project site; therefore, no septic tanks or permanent toilets would be required and no permanent water source would be necessary. Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project would not pose significant environmental or public health and safety hazards.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
1.10.2 Air Quality		
<p>Policy 18: The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.</p>	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9	Air quality and GHG impacts are evaluated in Sections 4.3, <i>Air Quality</i> , and 4.8, <i>Greenhouse Gas Emissions</i> , of this EIR. Consistent with this policy, the proposed project would have less-than-significant impacts on air quality and GHG emissions with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9. Air quality mitigation measures include fugitive dust control measures; preparation of a Phased Grading Plan which minimizes grading, dust palliatives, and water suppression; a Revegetation Plan; construction equipment measures; and wind erosion reduction measures.
<p>Policy 19: In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that:</p> <ol style="list-style-type: none"> 1. All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and 2. The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act. 	Consistent	See 1.10.2, <i>Air Quality</i> , Policy 18, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 20: The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.	Consistent with implementation of Mitigation Measures MM 4.3-6 and MM 4.3-8	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. As discussed in that section, implementation of Mitigation Measures MM 4.3-6 and MM 4.3-8 would further reduce fugitive dust emissions during construction and operation, in compliance with the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.
Policy 21: The County shall support air districts efforts to reduce PM ₁₀ and PM _{2.5} emissions.	Consistent with implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. As discussed in that section, implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7 would further reduce PM ₁₀ and PM _{2.5} emissions during construction and operation.
Policy 22: Kern County shall continue to work with the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District toward air quality attainment with federal, state, and local standards.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. Consistent with this policy, the proposed project would have less than significant impacts on air quality and GHG emissions with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9. The project would be in compliance with all applicable San Joaquin Valley Unified Air Pollution Control District, and Eastern Kern County Air Pollution Control District, rules and regulations.
Measure F: All discretionary permits shall be referred to the appropriate air district for review and comment.	Consistent	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. Consistent with this measure, the necessary discretionary permits shall be referred to the Eastern Kern Air Pollution Control District for review and comment.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
<p>Measure G: Discretionary development projects involving the use of tractor-trailer rigs shall incorporate diesel exhaust reduction strategies including, but not limited to:</p> <ol style="list-style-type: none"> 1. Minimizing idling time. 2. Electrical overnight plug-ins. 	Consistent with implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. Consistent with this measure, implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7 would require diesel exhaust reduction strategies.
<p>Measure H: Discretionary projects may use one or more of the following to reduce air quality effects:</p> <ol style="list-style-type: none"> 1. Pave dirt roads within the development. 2. Pave outside storage areas. 3. Provide additional low Volatile Organic Compounds (VOC) producing trees on landscape plans. 4. Use of alternative fuel fleet vehicles or hybrid vehicles. 5. Use of emission control devices on diesel equipment. 6. Develop residential neighborhoods without fireplaces or with the use of Environmental Protection Agency certified, low emission natural gas fireplaces. 7. Environmental Protection Agency certified low emission natural gas fireplaces. 8. Provide bicycle lockers and shower facilities on site. 9. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86). 10. The use and development of park and ride facilities in outlying areas. 11. Other strategies that may be recommended by the local Air Pollution Control Districts. 	Consistent with implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. Consistent with this measure, implementation of Mitigation Measures MM 4.3-3 and MM 4.3-7 would further reduce adverse air quality effects.
<p>Measure J: The County should include PM10 control measures as conditions of approval for subdivision maps, site plans, and grading permits.</p>	Consistent with implementation of Mitigation Measure MM 4.3-8	Air quality impacts are evaluated in Section 4.3, <i>Air Quality</i> , of this EIR. As discussed in that section, implementation of Mitigation Measure MM 4.3-8 would further reduce PM ₁₀ and PM _{2.5} emissions during construction and operation.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation		
Policy 25: The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.	Consistent with implementation of Mitigation Measures MM 4.5-1 through MM 4.5-7	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. This EIR serves to comply with this policy and includes mitigation measures to promote the preservation of cultural and historic resources where necessary.
Measure K: Coordinate with the California State University, Bakersfield's Archaeology Inventory Center.	Consistent	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. Consistent with this measure, a records search was conducted for the project at California State University Bakersfield.
Measure L: The County shall address archaeological and historical resources for discretionary projects in accordance with CEQA.	Consistent with implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 and MM 4.5-7	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. Consistent with this measure, impacts to archaeological and historical resources are evaluated in accordance with CEQA.
Measure M: In areas of known paleontological resources, the County should address the preservation of these resources where feasible.	Consistent with implementation of Mitigation Measures MM 4.5-4 through MM 4.5-6	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. This EIR serves to comply with this measure and includes Mitigation Measures MM 4.5-4 through MM 4.5-6, which would reduce potential impacts to known paleontological resources, where feasible.
Measure N: The County shall develop a list of Native American organizations and individuals who desire to be notified of proposed discretionary projects. This notification will be accomplished through the established procedures for discretionary projects and CEQA documents.	Consistent with implementation of Mitigation Measures MM 4.5-1 through MM 4.5-3	Tribal Cultural resource impacts are evaluated in Section 4.6, <i>Tribal Cultural Resources</i> . Consistent with this measure, notification regarding the proposed project would be accomplished in accordance with the established procedures for discretionary projects and CEQA documents.
Measure O: On a project-specific basis, the County Planning Department shall evaluate the necessity for the involvement of a qualified Native American monitor for grading or other construction activities on discretionary projects that are subject to a CEQA document.	Consistent with implementation of Mitigation Measure MM 4.5-2	Cultural resource impacts are evaluated in Section 4.5, <i>Cultural Resources</i> , of this EIR. This EIR serves to comply with this measure and includes Mitigation Measure MM 4.5-2, which would require the services of a qualified Native American monitor to be retained full-time during ground-disturbing activities.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
1.10.5 Threatened and Endangered Species		
Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.	Consistent with implementation of Mitigation Measures MM 4.4-2 and MM 4.4-6	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. Additionally, the project would be developed and operated in accordance with all local, state and federal laws pertaining to the preservation of sensitive species.
Policy 28: County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-13	Biological Resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. This EIR serves to comply with this policy and reduce potential impacts with mitigation. As part of the biological resources evaluation and habitat assessment conducted for the project, relevant state and federal agencies were contacted to ensure that appropriate information about the project site were being gathered. Specifically, an NOP of this EIR was sent to state and federal agencies requesting their input on the biological resource evaluation. Similarly, this EIR will also be circulated to these agencies, and staff will have the opportunity to comment on the biological resources evaluation. Therefore, the County is complying with this policy for the project.
Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.	Consistent with implementation of Mitigation Measures MM 4.4-2 and MM 4.4-6	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. Consistent with this policy, the project was determined to not conflict with the provisions of habitat conservation plans, natural community conservation plans, or other approved local, regional, or State habitat conservation plans. Additionally, implementation of Mitigation Measures MM 4.4-2 and MM 4.4-6 would further increase cooperative efforts with local, State, and federal agencies to support threatened and endangered plant and wildlife.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 31: Under the provisions of the California Environmental Quality Act, the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document is prepared.	Consistent	See 1.10.5, <i>Threatened and Endangered Species</i> , Policy 28, above.
Policy 32: Riparian areas will be managed in accordance with the USACE and the CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.	Consistent with implementation of Mitigation Measure MM 4.4-4, MM 4.4-6, and MM 4.4-10	Biological resource impacts and impacts to riparian areas, are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. Consistent with this measure, Mitigation Measures MM 4.4-4, MM 4.4-6, and MM 4.4-10 require consultation with the California Department of Fish and Wildlife. The County has and will respond to all comments from reviewing agencies during the CEQA process.
Measure Q: Discretionary projects shall consider effects to biological resources as required by CEQA.	Consistent	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. Consistent with this measure, the evaluation of impacts to biological resources was performed in accordance with CEQA.
Measure R: Consult and consider the comments from responsible and trustee wildlife agencies when reviewing a discretionary project subject to CEQA.	Consistent with implementation of Mitigation Measure MM 4.4-4, MM 4.4-6, and MM 4.4-10	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. Consistent with this measure, Mitigation Measures MM 4.4-4, MM 4.4-6, and MM 4.4-10 require consultation with the California Department of Fish and Wildlife. The County has and will respond to all comments from reviewing agencies during the CEQA process.
Measure S: Pursue the development and implementation of conservation programs with State and federal wildlife agencies for property owners desiring streamlined endangered species mitigation programs.	Consistent with implementation of Mitigation Measure MM 4.4-10	Biological resource impacts are evaluated in Section 4.4, <i>Biological Resources</i> , of this EIR. Consistent with this measure, Mitigation Measure MM 4.4-10 would incorporate conservation strategies for burrowing owls in accordance with State and federal wildlife agency programs and policies.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
1.10.6 Surface Water and Groundwater		
Policy 34: Ensure that water quality standards are met for existing users and future development.	Consistent with implementation of Mitigation measures MM 4.10-1	Water quality impacts are evaluated in Section 4.10, <i>Hydrology and Water Quality</i> . Consistent with this policy, the proposed project would implement best management practices during construction to avoid impacts to water quality. The project would also comply with a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the Indian Wells-Searles Valley watershed.
Policy 39: Encourage the development of the County's groundwater supply to sustain and ensure water quality and quantity for existing users, planned growth, and maintenance of the natural environment.	Consistent with implementation of Mitigation Measure MM 4.10-2	Impacts to groundwater are evaluated in Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. Mitigation Measure MM 4.10-2 would require utilization of water conservation measures to the maximum extent possible, and would require the project proponent to comply with any restrictions that result from the Groundwater Sustainability Plan that is anticipated to be drafted by 2020. Therefore, implementation of Mitigation Measure MM 4.10-2 would ensure project consistency with this policy.
Policy 40: Encourage utilization of community water system rather than the reliance on individual wells	Consistent	Section 4.16, <i>Utilities and Service Systems</i> , discusses the will-serve letter the project has received from its water supplier, Inyokern Community Services District.
Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.	Consistent	Section 4.16, <i>Utilities and Service Systems</i> , discusses the will-serve letter the project has received from its water supplier, Inyokern Community Services District.
Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.	Consistent with implementation of Mitigation Measure MM 4.10-1	Drainage plans and associated impacts are discussed in Section 4.10, <i>Hydrology and Water Quality</i> . Consistent with this policy, final project design would be required to conform to the Kern County Development Standards and Grading Ordinance. This would be confirmed during final plot plan review by the Kern County Planning and Community Development Department.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.	Consistent with implementation of Mitigation Measure MM 4.10-1	Section 4.10, <i>Hydrology and Water Quality</i> , discusses impacts and mitigation for potential impacts to the watershed during construction from pollutants, alteration of flow patterns, and changes in impervious surfaces. Consistent with this policy, construction-related impacts related to alteration of flow patterns and impervious surfaces would be less than significant.
Measure Y: Promote efficient water use by utilizing measures such as: (i) Requiring water-conserving design and equipment in new construction; (ii) Encouraging water-conserving landscaping and irrigation methods; and (iii) Encouraging the retrofitting of existing development with water conserving devices.	Consistent with implementation of Mitigation Measure MM 4.10-2	Section 4.10, <i>Hydrology and Water Quality</i> , discusses water demand, water supply, and associated mitigation measures to reduce project water use and impacts. Consistent with this measure, implementation of Mitigation Measure MM 4.10-2 would require utilization of water conservation measures to the maximum extent possible.
1.10.7 Light and Glare		
Policy 47: Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.	Consistent with implementation of Mitigation Measures MM 4.1-3 through MM 4.1-5	Aesthetic impacts are evaluated in Section 4.1, <i>Aesthetics</i> , of this EIR. Consistent with this policy, the project would have less than significant impacts on light and glare with implementation of Mitigation Measures MM 4.1-3 through MM 4.1-5. These mitigation measures would ensure the project designed to minimize glare and spectral highlighting and complies to the applicable provision of the Dark Skies Ordinance (Chapter 19.81 of the Kern County Zoning Ordinance), and demonstrates compliance with the use of nonreflective materials before the issuance of building permits.
Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.	Consistent with implementation of Mitigation Measures MM 4.1-3 through MM 4.1-5	See 1.10.7, <i>Light and Glare</i> , Policy 47, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure AA: The County shall utilize CEQA guidelines and the provisions of the Zoning Ordinance to minimize the impacts of light and glare on adjacent properties and in rural undeveloped areas.	Consistent with implementation of Mitigation Measures MM 4.1-3 through MM 4.1-5	Aesthetic impacts are evaluated in Section 4.1, <i>Aesthetics</i> , of this EIR. Consistent with this measure, implementation of Mitigation Measures MM 4.1-3 through MM 4.1-5 would further reduce impacts related to light and glare, in accordance with the <i>CEQA Guidelines</i> .
CHAPTER 2 CIRCULATION ELEMENT		
2.1 Introduction		
Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, of the Kern County General Plan, above.
Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Traffic and Transportation</i> , of this EIR. Consistent with this goal, the proposed project would maintain a minimum LOS C for all roads throughout the County.
2.3.3 Highways Plan		
Goal 5: Maintain a minimum Level of Service (LOS) D.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Traffic and Transportation</i> , of this EIR. Consistent with this goal, the proposed project would maintain a minimum LOS C for all roads throughout the County.
Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and mid-section lines. This is because the road center line can be determined by an existing survey.	Consistent	Section 4.15, <i>Traffic and Transportation</i> , of this EIR provides a discussion of County circulation consistency. The project would include internal service roads. Consistent with this policy, all road improvements would be completed per Caltrans and/or County code and regulations. If access roads need to be built along lines other than those on the circulation diagram map, the project proponent would negotiate necessary easements to allow this, in accordance with the County.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
<p>Policy 2: This plan requires, as a minimum, construction of local road widths in areas where the traffic model estimates little growth through and beyond 2010. Where the Kern County Planning and Natural Resources Department’s growth estimates indicate more than a local road is required, expanded facilities shall be provided. The timing and scope of required facilities should be set up and implemented through the Kern County Land Division Ordinance. However, the County shall routinely protect all surveyed section lines in the Valley and Desert regions for arterial right-of-way. The County shall routinely protect all midsection lines for collector highways in the same regions. The only possible exceptions shall be where the County adopts special studies and where Map Code 4.1 (Accepted County Plan) areas occur. In the Mountain Region where terrain does not allow construction on surveyed section and midsection lines, right-of-way width shall be the size shown on the diagram map. No surveyed section and midsection “grid” will comprehensively apply to the Mountain Region.</p>	Consistent	See 2.3.3, <i>Highway Plan</i> , Policy 1, of the Kern County General Plan, above.
<p>Policy 3: This plan’s road-width standards are listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis.</p> <ul style="list-style-type: none"> • Expressway [Four Travel Lanes] Minimum 110-foot right-of-way; • Arterial [Major Highway] Minimum 110-foot right-of-way; • Collector [Secondary Highway] Minimum 90-foot right-of-way; • Commercial-Industrial Street Minimum 60-foot right-of-way; and • Local Street [Select Local Road] Minimum 60-foot right-of-way. 	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Traffic and Transportation</i> , of this EIR. Consistent with this measure, the proposed project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to road standards and planning requirements.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure A: The Planning Department shall carry out the road network Policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.	Consistent	See 2.3.3, <i>Highway Plan</i> , Policy 3, of the Kern County General Plan, above.
2.3.4 Future Growth		
Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.	Consistent	See 2.3.3, <i>Highway Plan</i> , Policy 3, of the Kern County General Plan, above.
Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below Level of Service (LOS) D. Utilization of the CEQA process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Traffic and Transportation</i> , of this EIR. Consistent with this policy, the proposed project would maintain a minimum LOS C for all roads throughout the County. Additionally, implementation of Mitigation Measure MM 4.15-1 would require the preparation of a Construction Traffic Control Plan to be reviewed and approved by Kern County and Caltrans, which would further reduce impacts to traffic and transportation.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along State routes are necessary then roads shall be built to Caltrans standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.	Consistent	See 2.3.3, <i>Highway Plan</i> , Policy 1, above.
Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.	Consistent	Consistent with this policy, the project proponent would fund improvements to driveways that provide access to any County, city, or State roads.
Policy 6: The County may accept a developer's road into the county's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.	Consistent	The proposed project would not develop a public road. However, consistent with this policy, the project proponent would be required to negotiate approval with the County where the proposed private access driveways intersect public right-of-way.
Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.	Consistent	Traffic impacts are evaluated in Section 4.15, <i>Traffic and Transportation</i> , of this EIR. Consistent with this policy, the proposed project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
2.3.6 Vacation of Existing or Recorded Future Streets, Highways, or Public Easements		
Goal 2: Kern County intends to set up a system maintaining and coordinating road vacation procedures in all elements of the General Plan and the incorporated cities general plans.	Consistent	As discussed in Chapter 3, <i>Project Description</i> , of this EIR, the project has requested approval of a Specific Plan Amendment to the Circulation Element of the Inyokern Specific Plan to remove a portion of the designated, but not constructed, future secondary collector from Brown Road to the southern boundary of the project site from the Kern County Board of Supervisors. With the approval of the Specific Plan Amendment to the Circulation Element, the proposed project is consistent with this goal.
Policy 1: A road vacation influencing the construction or operation of expressway, an arterials or collector highway may occur with, or after, amending this Element. Kern County will not vacate any public expressway, arterial or collector highway right-of-way without amendment to this Element. The County will need to amend the right-of way status to local or commercial-industrial streets.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 2: A study, prepared at the applicant's expense, shall accompany the road vacation application. The study should provide information that will aid in finding the importance of the entire length of the right-of-way. The study would include a review of existing and proposed land uses and localized traffic modeling. This will help Kern County decide what corresponding changes are needed to the Land Use, Open Space and Conservation Element, or affected specific plan. This also will help Kern County decide if additional public road services or other traffic management are required elsewhere.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 3: If the road vacation applicant is a private entity, all costs for the public hearing shall be borne by the applicant. Also, costs associated with providing any necessary additional public road services or other traffic management caused by the road vacation shall be paid by the applicant.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 4: The vacation of a road shall not take away legal access to adjacent properties or “land-lock” any legal lot or parcel of record. Legal access shall be determined through a report submitted with the application for road vacation.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 5: If Kern County determines that the right-of-way is not needed for circulation in the general area, a road vacation may be authorized. An acceptable project shall be determined through a report submitted with the road vacation application and in keeping with traffic modeling parameters of this Plan.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 6: A road vacation may be authorized if physical conditions such as natural, or manmade topography prevent rational extension of the facility. Physical conditions affecting roadways shall be determined through a report submitted with the road vacation application.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 7: A road vacation shall only affect public, recorded rights-of-way or public service easements. The potential effects of a road vacation upon rights-of-way and easements are to be determined by a report submitted with the road vacation application. A vacation of private access or private service easement is not under County jurisdiction. Kern County considers these matters "civil" actions. These civil actions should be acted upon accordingly.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 8: A road vacation may be authorized if the right-of-way is not improved or used for its original purpose. Existing improvements and facility use shall be determined by a report submitted with the road vacation application.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 9: A road vacation may be authorized to remove excess right-of-way caused by relocation, or at the beginning of a general plan amendment proceeding. Excess right-of-way shall be determined through a report submitted with the road vacation application.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 10: A road vacation may be approved if there is an agreement to close a public street. A road vacation may be approved with acknowledgment of an impassable street. A road vacation may be approved with a land division map over the area of vacation if the project has comparable methods of vehicular access.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 11: A road vacation procedure may be used for considering public service easement or utility service easement abandonments. The procedure is the same as any public right-of-way vacation.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 12: A vacation of improved road right-of-way, or public service easement, should not occur until the lead agency makes findings. One important finding is the land is no longer needed for public use. A vacation of improved road right-of-way, or public service easement, should not occur until the right-of-way is superseded by relocation, and improved to acceptable Kern County Development standards. The Board of Supervisors shall have accepted the replacement facility into the maintained road system.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 13: A general vacation proceeding (consistent with State of California Streets and Highway Code) will require a public hearing when the vacation affects existing in place facilities or is a project caused by relocating right-of-way.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Policy 14: A summary vacation shall be consistent with State of California Streets and Highway Code. A summary vacation may be used when the right-of-way does not exist, is unused, or moved. A summary vacation may be used where right-of-way is impassable, unnecessary for present or prospective public use, or is excess or public service easement land.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Measure A: Kern County should require a research fee to determine if a complex vacation application is acceptable.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure B: In resolving a vacation request, the Board of Supervisors will follow the policies and laws applicable to such vacation request. Before taking final action, the Board of Supervisors may require the applicant to submit additional study(s). Staff shall oversee the applicant's information gathering process and suggest alternatives if necessary.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
Measure C: The Planning Department shall issue guidelines for applicants to use in the preparation of road vacation applications and attendant reports.	Consistent	See 2.3,6, <i>Vacation of Existing or Recorded Future Streets, Highways, or Public Easements</i> , Goal 2, above.
2.5.1 Trucks and Highways		
Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.		Traffic impacts are evaluated in Section 4.15, <i>Transportation</i> , of this EIR. Consistent with this policy, the project would comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards, which would ensure the provision of heavy truck transportation resulting from project implementation in the safest way feasible.
Goal 2: Reduce potential overweight trucks.		See 2.5.1, <i>Trucks and Highways</i> , Goal 1, above.
Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.		See 2.5.1, <i>Trucks and Highways</i> , Goal 1, above.
Policy 1: Caltrans should be made aware of the heavy truck activity on Kern County's roads.		As discussed in Section 4.15, <i>Transportation</i> , of this EIR, the project would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the project site. The need for and number of escorts, California Highway Patrol escorts, for oversized loads as well as the timing of transport, would be at the discretion of Caltrans and Kern County, and would be detailed in respective oversize load permits.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 2: Start a program that monitors truck traffic operations.		Consistent with this policy, as stated in Section 4.15, <i>Transportation</i> , of this EIR, with implementation of Mitigation Measure MM 4.15-1, a Construction Traffic Control Plan would be submitted to Kern County Public Works Department-Development Review and the California Department of Transportation offices for District 6, as appropriate, for approval.
Policy 3: Promote a monitoring program of truck lane pavement condition.		See 2.5.1, <i>Trucks and Highways</i> , Policy 2, above.
2.5.2 Airport Land Use Compatibility Plan (ALUCP)		
Goal 1: Plan for land uses that are compatible with public airport and military bases and mitigate encroachment issues.	Consistent	This section of the EIR discusses the land uses proposed by the project. The proposed project would not encroach onto any public airport or military base operations.
Policy 1: Review land use designations and zoning near public and private airports, Edwards Air Force Base and Naval Air Weapons (NAWS) China Lake for compatibility.		See 2.5.2, <i>Airport Land Use Compatibility Plan</i> , Measure A, of the Kern County General Plan, below.
Policy 2: To the extent legally allowable, prevent encroachment on public airport and military base operations from incompatible, unmitigated land uses.	Consistent	See 2.5.2, <i>Airport Land Use Compatibility Plan</i> , Goal 1, above.
Measure A: Review discretionary land use development applications within the airports influence area and the military base operating area as shown in the ALUCP for consistency.	Consistent	The project site is located within the Inyokern Airport ALUCP. Consistent with this policy, the project's development application would be reviewed by the appropriate agencies.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
2.5.4 Transportation of Hazardous Materials		
Goal 1: Reduce risk to public health from transportation of hazardous materials.	Consistent with implementation of Mitigation Measure MM 4.9-1	Section 4.9, <i>Hazards and Hazardous Materials</i> , of this EIR provides a discussion of Hazardous Materials Transportation and existing regulatory requirements of the California Vehicle Code that pertain to transport of hazardous materials and wastes. Consistent with this policy, the project would not pose a significant risk to public health from transportation of hazardous materials with implementation of Mitigation Measure MM 4.9-1, which requires the preparation of a Hazardous Materials Business Plan that would describe proper handling, storage, transport, and disposal techniques and methods to be used to avoid spills and minimize impacts in the event of a spill, would ensure that all handling, storage, and disposal of hazardous materials would be conducted in accordance with proven practices to minimize exposure to maintenance workers and/or the public.
Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.	Consistent with implementation of Mitigation Measure MM 4.9-1	See 2.5.4, <i>Transportation of Hazardous Materials</i> , Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN CHAPTER 3, NOISE ELEMENT		
3.3 Sensitive Noise Areas		
Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4	Noise impacts, sensitive receptors and County noise thresholds are evaluated in Section 4.13, <i>Noise</i> , of this EIR. As discussed in that section, the proposed project would cause significant impacts to the nearest sensitive receptors during construction; however, these noise impacts would be temporary and partially reduced by Mitigation Measures MM 4.13-1, MM 4.13-3, and MM 4.13-4, which would require distanced staging, muffles and baffles for construction equipment, a Noise Disturbance coordinator, noticing and scheduling, and temporary construction fences and noise blankets to be set up prior to the commencement of construction activities. The project's operational noise level would be similar to or less than the ambient noise levels measured at the offsite receptors. When averaged and weighted over a 24-hour period, the project's operational noise level would be lower than the County's 65 dBA Ldn exterior noise standard for residential uses. Additionally, implementation of Mitigation Measure MM 4.13-2 would require adequate noise shielding for the project's onsite transformers and inverters such that the existing ambient noise level at the nearest offsite residential structure would not be exceeded by more than 5 dBA, if needed. Thus, with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5, project would maintain consistency with this goal.
Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.	Consistent	This section of the EIR discusses the land uses proposed by the project. As discussed in this section, the proposed project would be consistent with existing land use designations of the project site.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4	The proposed project would be consistent with the project site's designated land use. See 3, <i>Noise Element</i> , Goal 1, above.
Policy 2: Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health.	Consistent with implementation of Mitigation Measure MM 4.13-5	Consist with this policy, the project would implement Mitigation Measure MM 4.13-5 which would require implementation of a hearing protection plan for onsite construction workers in accordance with applicable California Division of Occupational Safety and Health Administration (Cal/OSHA) worker hearing conservation requirements. The plan shall include provisions for protecting onsite construction workers from high noise levels, such as the use of ear plugs or other hearing protection devices, and safety procedures for communicating with other onsite construction workers who may be using hearing protection devices, such as hand gestures and other visual communication.
Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	See 3, <i>Noise Element</i> , Goal 1, above. Noise-sensitive land uses are evaluated in Section 4.13, <i>Noise</i> , of this EIR. This EIR serves to comply with this policy.
Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.	Consistent	See 3, <i>Noise Element</i> , Goal 1, above. Noise-sensitive land uses are evaluated in Section 4.13, <i>Noise</i> , of this EIR. This EIR serves to comply with this policy.
Policy 6: Ensure that new development in the vicinity of airports will be compatible with existing and projected airport noise levels as set forth in the ALUCP.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	Section 4.13, <i>Noise</i> , discusses potential noise impacts associated with the project's proximity to the Inyokern Airport. With implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5, impacts related to the exposure of residents or workers within the Kern County ALUCP to excessive noise levels would be consistent with this policy.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 7: Employ the best available methods of noise control.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	See 3, <i>Noise Element</i> , Goal 1, above.
Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.	Consistent	This section of the EIR discusses the land uses proposed by the project. As discussed in this section, the proposed project would be consistent with existing land use and zoning designations of the project site.
Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.	Consistent	Consistent with this measure, the proposed project will be reviewed for conformance with the policies outlined in this element.
Measure E: Review discretionary development plans to ensure compatibility with adopted Airport Land Use Compatibility Plans.	Consistent with implementation of Mitigation Measures MM 4.13-2, MM 4.13-4, and MM 4.13-5	See 2.5.2, <i>Airport Land Use Compatibility Plan</i> , Measure A, of the Kern County General Plan.
Measure F: Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn} .	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	See 3, <i>Noise Element</i> , Goal 1 and Measure A, of the Kern County General Plan.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
<p>Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:</p> <ul style="list-style-type: none"> a) Be the responsibility of the applicant. b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics. c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project 	Consistent	Consistent with this measure, the proposed project prepared acoustical analysis in accordance with the requirements of Chapter 3, <i>Noise Element</i> , Measure G, of the Kern County General Plan.
<p>Measure I: Noise analyses shall include recommended mitigation, if required, and shall:</p> <ul style="list-style-type: none"> a) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions. b) Include estimated noise levels, in terms of CNEL, for existing and projected future (10–20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element. c) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. d) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided. 	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	Consistent with this measure, a noise assessment was conducted for the proposed project and is referenced in Section 4.13, <i>Noise</i> , of this EIR. In accordance with this measure, the noise assessment includes representative noise measurements, recommended mitigation, estimated noise levels, in terms of CNEL, and estimates of noise exposure.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	Consistent with this measure, the recommendations and requirements imposed pursuant to the findings of the acoustical analysis would be included with project implementation, as evidenced by Mitigation Measures MM 4.13-1 through MM 4.13-5.
KERN COUNTY GENERAL PLAN CHAPTER 4, SAFETY ELEMENT		
4.1 Introduction		
Goal 1: Minimize injuries and loss of life and reduce property damage.	Consistent	Consistent with this goal, the project would be required to comply with adopted safety regulations, such as the Fire Code, and related policies in the General Plan.
4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint		
Measure F: The adopted multi-jurisdictional Kern County, California Multi-Hazard Mitigation Plan, as approved by the Federal Emergency Management Agency (FEMA), shall be used as a source document for preparation of environmental documents pursuant to the California Environmental Quality Act (CEQA), evaluation of project proposals, formulation of potential mitigation, and identification of specific actions that could, if implemented, mitigate impacts from future disasters and other threats to public safety.	Consistent	Consistent with this measure, Section 4.9, <i>Hazards and Hazardous Materials</i> , of this EIR, includes a discussion of the Kern County, Multi-Hazard Mitigation Plan, and utilizes the document as guidance for potential mitigation measures pursuant to CEQA.
4.3 Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure		
Policy 1: The County shall require development for human occupancy to be placed in a location away from an active earthquake fault in order to minimize safety concerns.	Consistent	Consistent with this policy, the proposed project would not include development for human occupancy, and would not be located near an active earthquake fault.
Measure B: Require geological and soils engineering investigations in identified significant geologic hazard areas in accordance with the Kern County Code of Building Regulations.	Consistent with implementation of Mitigation Measure MM 4.7-1	Consistent with this measure, Section 4.7, <i>Geology and Soils</i> , references the project-specific geotechnical engineering report prepared for the project and includes Mitigation Measure MM 4.7-1, which requires compliance with the recommendations of the geotechnical engineering report.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure C: The fault zones designated in the Kern County Seismic Hazard Atlas should be considered significant geologic hazard areas. Proper precautions should be instituted to reduce seismic hazard, whenever possible in accordance with State and County regulations.	Consistent with implementation of Mitigation Measure MM 4.7-1	See 4.3, <i>Seismically Induced Surface Rupture, Ground Shaking, and Ground Failure</i> , Measure B, of the Kern County General Plan.
4.5 Landslides, Subsidence, Seiche, and Liquefaction		
Policy 1: Determine the liquefaction potential at sites in areas of shallow groundwater (Map Code 2.3) prior to discretionary development and determine specific mitigation to be incorporated into the foundation design, as necessary, to prevent or reduce damage from liquefaction in an earthquake.	Consistent	Impacts related to liquefaction hazards are evaluated in Section 4.7, <i>Geology and Soils</i> , of this EIR. Consistent with this goal, implementation of Mitigation Measure MM 4.7-1 would require adherence to the recommendations from the Geotechnical Engineering Report and would ensure site stability, and site soil stability, to the maximum extent possible.
Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.	Consistent	See 4.5, <i>Landslides, Subsidence, Seiche, and Liquefaction</i> , Policy 1, of the Kern County General Plan.
4.6 Wildland and Urban Fire		
Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.	Consistent with implementation of Mitigation Measure MM 4.14-1	Consistent with this policy, impacts on emergency services and facilities are discussed and evaluated in Section 4.14, <i>Public Services</i> , of this EIR.
Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.	Consistent with implementation of Mitigation Measure MM 4.14-1	The project would not interfere or prohibit the County's ability to meet this policy. MM 4.14-1 requires the proponent to develop a fire safety plan for use during construction and operational activities. All onsite employees would be trained on fire safety and how to respond to onsite fires, should they occur. See Sections 4.9, <i>Hazards and Hazardous Materials</i> , and 4.14, <i>Public Services</i> , of this EIR.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.	Consistent	Section 4.15, <i>Traffic and Transportation</i> , of this EIR includes Mitigation Measure MM 4.15-1 would require the approval of a Construction Traffic Control Plan, encroachments and or other necessary permits by Caltrans and/or the Kern County Roads Dept. The project proponent would develop and implement a fire safety plan for use during construction and operation.
Policy 6: All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.	Consistent with implementation of Mitigation Measure MM 4.14-1	Consistent with this policy, the project would be required to comply with the adopted Fire Code and the requirements of the Kern County Fire Department.
Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.	Consistent with implementation of Mitigation Measure MM 4.14-1	Consistent with this measure, the proposed project would implement Mitigation Measure MM 4.14-1, which would require preparation and implementation of a fire safety plan to ensure the provision of appropriate access. Additionally, the project would implement Mitigation Measure MM 4.14-2, which would require the project to compensate the county for any deficiencies in service resulting from project construction and operation.
4.9 Hazardous Materials		
Measure A: Facilities used to manufacture, store, and use of hazardous materials shall comply with the Uniform Fire Code, with requirements for siting or design to prevent onsite hazards from affecting surrounding communities in the event of inundation.	Consistent with implementation of Mitigation Measure MM 4.14-1	See 4.6, <i>Wildland and Urban Fire</i> , Policy 6, of the Kern County General Plan.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN CHAPTER 5, ENERGY ELEMENT		
5.4.5 Solar Energy Development		
Goal 1: Encourage safe and orderly commercial solar development.	Consistent	Consistent with this goal, the proposed project would develop two solar PV facilities that would generate 32 MW of solar energy and offset an equivalent amount of fossil fuel-generated electrical power. The site is on undeveloped land, and is located at a distance from established communities. The location of the site would ensure a safe and orderly development of the solar facilities.
Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.	Consistent	Consistent with this policy, the proposed project would develop two solar PV facilities capable of generating 32 MW of solar energy and would offset an equivalent amount of fossil fuel-generated electrical power in the desert region of Kern County. Operation of the proposed project would improve air quality within the County and assist the County in meeting attainment goals. See Section 4.3, <i>Air Quality</i> , of this EIR.
Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.	Consistent	Consistent with this policy, the project proposes the development of two PV power generation facilities in the desert region of Kern County. Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project would not pose significant environmental or public health and safety hazards.
Policy 4: The County should encourage solar development in the desert and valley regions previously disturbed, and discourage development of energy projects in undisturbed land supporting State or federally protected plant and wildlife species.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-13	See 1.10.5, <i>Threatened and Endangered Species</i> , Policy 27, Policy 28, Policy 29, Policy 31, Policy 32, Measure Q, Measure R, and Measure S, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
5.4.7 Transmission Lines		
Goal: To encourage the safe and orderly development of transmission lines to access Kern County's electrical resources along routes, which minimize potential adverse environmental effects.	Consistent	Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, state and federal regulations, would ensure that the proposed project's transmission lines would not pose significant environmental or public health and safety hazards.
Policy 5: The County should discourage the siting of above-ground transmission lines in visually sensitive areas.	Consistent	See 5.4.7, <i>Transmission Lines</i> , Goal 1, above. Further, visual impacts are evaluated in Section 4.1, <i>Aesthetics</i> , of this EIR.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH INYOKERN SPECIFIC PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Chapter 1: Land Use, Open Space and Conservation Element		
1.1 Physical Constraints		
Goal 1: To promote a safe and healthful living environment, reduce the potential for property damage and injury and minimize economic and social diseconomies in general by requiring development standards which adequately mitigate the physical constraints of noise and flood hazard.	Consistent with implementation of Mitigation Measure MM 4.10-1 and Mitigation Measures MM 4.13-1 through MM 4.13-5	Impacts to Hydrology and Water Quality are evaluated in Section 4.10, <i>Hydrology and Water Quality</i> , of this EIR. Noise related impacts are evaluated in Section 4.13, <i>Noise</i> , of this EIR. Consistent with this goal, the proposed project would implement Mitigation Measures MM 4.10-1 and Mitigation Measures MM 4.13-1 through MM 4.13-5, which would further reduce noise-, and flood-related impacts.
Policy 1: Zoning and other land use controls will be used to regulate, and prohibit, if necessary, future development when physical hazards exist.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Goal 1, of the Kern County General Plan, above.
Policy 2: Development may occur on lands within flood hazard areas, other than establish designated floodways, if measures are incorporated to ensure that it will not be hazardous, increase flood depths or velocities, or cause water quality to deteriorate.	Consistent with implementation of Mitigation Measure MM 4.10-1	See 1.3, <i>Land Use, Open Space and Conservation Element</i> , Policies 1, 9, 10, and 11 and Measures F, H, J, and N, of the Kern County General Plan, above.
Policy 4: Kern County building, health, and fire codes and standards shall be strictly enforced to minimize the possibility of hazards relevant to certain physical constraints.	Consistent with implementation of Mitigation Measure MM 4.14-1	See 4.6, <i>Wildland and Urban Fire</i> , Policy 6, and Chapter 4, <i>Safety Element</i> , Goal 1, of the Kern County General Plan, above.
Measure 1: Site development shall be accomplished in compliance with the Kern County Flood Damage Prevention Ordinance. Development standards and prohibitions shall be the same as in that ordinance.	Consistent with implementation of Mitigation Measure MM 4.10-1	See 1.3, <i>Land Use, Open Space and Conservation Element</i> , Policies 1, 9, 10, and 11 and Measures F, H, J, and N, of the Kern County General Plan, above.
Measure 2: Permanent structures within the secondary floodplain areas shall comply with the Flood Damage Prevention Ordinance.	Consistent with implementation of Mitigation Measure MM 4.10-1	See 1.3, <i>Land Use, Open Space and Conservation Element</i> , Policies 1, 9, 10, and 11 and Measures F, H, J, and N, of the Kern County General Plan, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH INYOKERN SPECIFIC PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 4: All structural development must conform to the Uniform Building Code, as administered by Kern County, to provide an adequate level of protection from earthquake damage.	Consistent	Impacts related to seismic hazards are evaluated in Section 4.7, <i>Geology and Soils</i> , of this EIR. Consistent with this measure, the proposed project would be required to comply all applicable ordinances of the Kern County Building Code which includes the adopted 2016 California Building Code. Both the Kern County Building Code and the California Building Code comply with the International Building Code.
1.2 Public Facilities		
Goal 1: To provide adequate public services and facilities to meet current and projected community needs.	Consistent with implementation of Mitigation Measure MM 4.14-1	See 1.10.1, <i>Public Services and Facilities</i> , Policy 15, of the Kern County General Plan, above.
Policy 1: All new development shall be required to pay its proportional share of the costs of local infrastructure improvements, such as streets, sewers, water lines, and park development.	Consistent	See 1.4, <i>Public Services and Facilities</i> , Goal 1, of the Kern County General Plan, above. Impacts to public services are evaluated in Section 4.14, <i>Public Services</i> , of this EIR. This EIR serves to comply with this policy.
Policy 7: New development will be required to demonstrate the availability of adequate fire protection and suppression facilities	Consistent with implementation of Mitigation Measure MM 4.14-1	See 1.4, <i>Public Services and Facilities</i> , Policy 3, of the Kern County General Plan, above.
Measure 1: A fiscal impact analysis will be required as part of all amendments to this Specific Plan. This analysis shall include impacts on the existing levels of sheriff and fire departments, school district, roads, parks, and CSD services.	Consistent	The proposed project would require the approval of amendment to the Circulation Element of the Inyokern Specific Plan - Amendment 4, Map 47 to eliminate future road reservations along the midsection lines of Sections 19, 20, and 29. As described in Section 4.14, <i>Public Services</i> , of this EIR, impacts to public services would be less than significant. Therefore, a fiscal impact analysis required as a part of this measure would not be required.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH INYOKERN SPECIFIC PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 2: The County shall consult with the Sierra Sands Unified School District and the Inyokern CSD prior to the approval of any zone change, conditional use permit, final map subdivision, or parcel map.	Consistent	Consistent with this measure, although the project would not result in an adverse impact to schools according to the Initial Study/Notice of Preparation located in Appendix A of this EIR, it would not prevent County consultation with local school districts.
1.5 Industrial		
Goal 2: To balance industrial and residential use so that residences are not adversely affected.	Consistent	Consistent with this goal, the proposed project would develop solar facilities on land compatible with open space uses. Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, State, and federal regulations, would ensure that the proposed project would not adversely affect nearby residences. Therefore, the project would be consistent with this goal.
Map Code 7.2: Service Industrial. This designation is for commercial or industrial activities which involve outdoor storage or the use of heavy equipment. These industries can be visually obtrusive and are not generally suited for locations next to residential uses. Typical permitted land uses include auto and truck parking, welding, automobile body and painting shop, freighting or trucking yards, and lumber yard. Primary land use zones include M-2 (Medium Industrial) and M-1 (Light Industrial). All commercially zoned property is compatible with this category.	Consistent	The proposed project would develop a PV solar facility and associated infrastructure on land that is zoned M-2 (Medium Industrial) with an Inyokern Specific Plan Designation of 7.2/2.5 (Service Industrial/Flood Hazard), which is intended for industrial use.
Policy 2: Industrial development must demonstrate the ability to provide adequate water, sewer, and other public services.	Consistent	See 1.10.1, <i>Public Services and Facilities</i> , Policy 9 and Measure C, of the Kern County General Plan, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH INYOKERN SPECIFIC PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 5: Industrial development shall be encouraged on land south of the Inyokern Airport to minimize the potential noise and safety conflicts which may arise over Airport operation and expansion.	Consistent	The proposed project would develop a PV solar facility and associated infrastructure on land that is zoned M-2 (Medium Industrial) with an Inyokern Specific Plan Designation of 7.2/2.5 (Service Industrial/Flood Hazard), which is intended for industrial use.
Policy 6: Industrial development within floodplain areas shall conform to the requirements of the Kern County Flood Hazard Ordinances.	Consistent	See 1.3, <i>Physical and Environmental Constraints</i> , Policy 10, of the Kern County General Plan, above.
Policy 8: Protect from development those areas of potential archaeological significance.	Consistent with implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 and MM 4.5-7	See 1.10.3, <i>Archaeological, Paleontological, Cultural, and Historical Preservation</i> , Policy 25 and Measures K and L, of the Kern County General Plan, above.
Measure 2: The County shall require industrial developments and uses to meet the Special Development Standards set forth in the Kern County Zoning Ordinance.	Consistent	Consistent with this policy, the proposed project would comply with the requirements of the Kern County Zoning Ordinance.
Measure 4: All new industrial subdivisions and, where applicable, PD (Precise Development) plans shall include provisions for standard street access, alleys where necessary, and sewer and water connections to the Inyokern CSD.	Consistent	See 2.3.3, <i>Highways Plan</i> , Policy 1, of the Kern County General Plan, above, regarding street access. See 1.4, <i>Public Facilities and Services</i> , Goal 1, of the Kern County General Plan, above, regarding sewer and water connections. Impacts to public services are evaluated in Section 4.14, <i>Public Services</i> , of this EIR.
Measure 5: All new industrial use shall meet the requirements of the Kern County Fire Department for fire flows, hydrants, access, and sprinklers.	Consistent with implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2	See 1.4, <i>Public Facilities and Services</i> , Measure L, of the Kern County General Plan, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH INYOKERN SPECIFIC PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 6: Any discretionary industrial project that disturbs property not previously developed/disturbed or is not substantially surround by urban density developments, as determined by the Director of the Kern County Department of Planning and Development Services, shall require the submittal of a biological survey for plants and animals as part of the application/permit process; said survey shall be completed in accordance with the most current guidelines prepared by the U.S. Fish and Wildlife Service and/or the State Department of Fish and Game. Any submittal shall also include mitigation measures satisfactory to the requires of said agencies and the Kern County Department of Planning and Development Services.	Consistent	As discussed in Section 4.4, <i>Biological Resources</i> , of this EIR, biological surveys were conducted at the project site.
Measure 7: Any discretionary industrial project that substantially disturbs property not previously developed/disturbed or is not substantially surround by urban density developments, as determined by the Director of the Kern County Department of Planning and Development Services, shall require the submittal of an archaeological survey or a clearance as part of the application/permit process; said survey shall be completed in accordance with any guidelines supplied by the California Archaeological Inventory at California State University at Bakersfield. Any submittal shall also include mitigation measures satisfactory to the requirement of said inventory and the Kern County Department of Planning and Development Services.	Consistent	Cultural resource impacts are evaluated in Sections 4.5, <i>Cultural Resources</i> , and 4.7, <i>Geology and Soils</i> , of this EIR. Consistent with this measure, impacts to archaeological resources are evaluated in accordance with CEQA. This EIR serves to comply with this provision.
1.6 Resource		
Goal 1: To provide for development which does not impair the economic potential of the area, while not diminishing the other amenities which exist within the community.	Consistent	Consistent with this goal, the proposed project would be developed on land compatible with open space uses, and would not diminish the economic potential of the area. Final review of the proposed project by the Kern County Planning and Natural Resources Department, as well as adherence to all applicable local, State, and federal regulations, would ensure that the proposed project would not adversely affect nearby amenities. Therefore, the project would be consistent with this goal.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH INYOKERN SPECIFIC PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 2: The County will maintain and enhance air quality for the health and well-being of County residents by encouraging land uses which promote air quality and good visibility.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9	See 1.10.2, <i>Air Quality</i> , Policies 18, 20, 21, and 22, of the Kern County General Plan, above. Additionally, consistent with this policy, the proposed project would develop a clean energy source that would reduce fossil fuel emissions; thereby reducing adverse air quality impacts and urban development associated emissions.
Policy 4: Encourage effective management of the groundwater resource for the long-term economic benefit of the community by any or all of the following: (a) artificial groundwater replenishment; (b) conjunctive use of surface water supplies and the groundwater supplies; (c) development of alternative local and imported surface water supplies; and (d) requiring permits for well construction, modification, or abandonment.	Consistent with implementation of Mitigation Measure MM 4.10-2	See 1.10.6, <i>Surface Water and Groundwater</i> , Policy 39, above.
Policy 5: Encourage development of alternative energy sources by tailoring County zoning and subdivision ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.	Consistent	See 1.9, <i>Resources</i> , Policy 16, of the Kern County General Plan, above.
Measure 3: Areas with potential archaeological resources shall be evaluated prior to the approval of discretionary land development permits. Specific mitigation measures shall be incorporated into development proposals.	Consistent with implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 and MM 4.5-7	See 1.10.3, <i>Archaeological, Paleontological, Cultural, and Historical Preservation</i> , Policy 25 and Measures K and L, of the Kern County General Plan, above.
Chapter 2: Circulation Element		
Goal 1: To provide a simple network of local collector roads consistent with County circulation policy, and to amend the Circulation Element, where necessary, to eliminate unnecessary major and secondary highway alignments.	Consistent with implementation of Mitigation Measure MM 4.15-1	See 2.3.4, <i>Future Growth</i> , Policy 2, of the Kern County General Plan, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH INYOKERN SPECIFIC PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Goal 2: To promote smooth traffic flow and to avoid piecemeal road development.	Consistent with implementation of Mitigation Measure MM 4.15-1	See 2.3.4, <i>Future Growth</i> , Policy 2, of the Kern County General Plan, above.
Goal 3: To promote adequate road improvement standards for all new development.	Consistent	See 2.3.4, <i>Future Growth</i> , Policy 4, of the Kern County General Plan, above.
Policy 1: When development occurs, street rights-of-way shall be dedicated to the County in accordance with all applicable County ordinances.	Consistent	See 2.3.4, <i>Future Growth</i> , Policy 6, of the Kern County General Plan, above.
Policy 3: Where necessary, 60-foot industrial streets should be required to serve projected industrial uses.	Consistent	See 2.3.4, <i>Future Growth</i> , Policy 6, of the Kern County General Plan, above.
Policy 5: Development which incorporates adequate circulation systems shall be encouraged.	Consistent with implementation of Mitigation Measure MM 4.15-1	See 2.3.4, <i>Future Growth</i> , Policies 2 and 4, of the Kern County General Plan, above.
Measure 1: As a requirement for Precise Development Plans, Conditional Use Permits, land divisions, and site plan reviews, streets shall be improved in accordance with the Kern County Land Division Ordinance.	Consistent	See 2.3.4, <i>Future Growth</i> , Measure C, of the Kern County General Plan, above.
Measure 3: Roadways serving commercial and industrial developments shall be constructed to 60-foot street standards, as set forth in the Kern County Land Division Ordinance, excepting those areas fronting on a major highway alignment or secondary collector requiring a 90-foot or 100-foot right-of-way.	Consistent	See 2.3.3, <i>Highway Plan</i> , Measure A, of the Kern County General Plan, above.
Measure 4: Development roadways shall be in substantial conformity with the Circulation Plan contained in Figure 5 of this Plan text.	Consistent	See 2.3.4, <i>Future Growth</i> , Policy 6, of the Kern County General Plan, above.
Chapter 4: Noise Element		
Goal 1: To protect the health of Kern County residents.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1, of the Kern County General Plan, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH INYOKERN SPECIFIC PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Goal 2: To minimize disruption to human activities and conflicts resulting from excessive noise.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	See 3.3, <i>Sensitive Noise Areas</i> , Goal 1, of the Kern County General Plan, above.
Goal 3: To establish reasonable noise level standards, consistent with the Countywide Noise Element.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	See all goals, policies, and measures applicable to the proposed project under Chapter 3, <i>Noise Element</i> , of the Kern County General Plan, above.
Policy 1: Noise emissions from new development will be controlled.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	See all goals, policies, and measures applicable to the proposed project under Chapter 3, <i>Noise Element</i> , of the Kern County General Plan, above.
Policy 3: Noise attenuation measures will be required of new development within areas subject to excessive noise.	Consistent	The proposed project is not in an area currently subject to excessive noise. See all goals, policies, and measures applicable to the proposed project under Chapter 3, <i>Noise Element</i> , of the Kern County General Plan, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH INYOKERN SPECIFIC PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency																				
<p>Policy 4: Land uses will be categorized in the following manner and noise level standards adopted in accordance with the Kern County Noise Element:</p> <p>a. Insensitive Land Uses. The noise level does not affect the successful operation of the particular activity. A wide variety of uses can be included in this category, including public utilities, transportation systems, and other noise-related uses.</p> <p>b. Moderately Sensitive Land Uses. Some degree of noise control must be present if these activities are so successfully carried out. Included here are general business and recreational uses.</p> <p>c. Sensitive uses. Lack of noise control will result in many of the effects described earlier in the Element. This category primarily contains residential uses.</p> <p>d. Highly Sensitive Uses. A high degree of noise control is necessary for the successful operation of these activities. Examples include hospitals and churches.</p>	Consistent	Noise impacts are evaluated in Section 4.13, <i>Noise</i> , of this EIR. Consistent with this measure, noise sensitive land uses were categorized and evaluated using the noise level standards adopted by the Inyokern Specific Plan in accordance with the Kern County Noise Element.																				
<p>Policy 5: The policies of the Kern County Noise Element are hereby adopted by reference.</p>	Consistent	See 3, <i>Noise Element</i> , Policies 1, 2, 3, 4, 6, and 7 above. Consistent with this measure, noise impacts and sensitive receptors were evaluated in Section 4.13, <i>Noise</i> , in accordance with the Kern County Noise Element.																				
<p>Measure 1: The following standards are established as the maximum desired ambient noise levels.</p> <table><tr><th>Land Use Category</th><th>Day</th><th>Night</th><th>CNEL</th></tr><tr><td>Insensitive Uses</td><td>65</td><td>60</td><td>75</td></tr><tr><td>Moderately Sensitive Uses</td><td>60</td><td>55</td><td>70</td></tr><tr><td>Sensitive Uses</td><td>55</td><td>45</td><td>65</td></tr><tr><td>Highly Sensitive Uses</td><td>50</td><td>40</td><td>60</td></tr></table>	Land Use Category	Day	Night	CNEL	Insensitive Uses	65	60	75	Moderately Sensitive Uses	60	55	70	Sensitive Uses	55	45	65	Highly Sensitive Uses	50	40	60	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5	Noise impacts are evaluated in Section 4.13, <i>Noise</i> , of this EIR. Consistent with this measure, the proposed project would not exceed the maximum desired ambient noise levels, as identified in the Inyokern Specific Plan. Additionally, implementation of Mitigation Measures MM 4.13-1 through MM 4.13-5 would further reduce ambient noise levels.
Land Use Category	Day	Night	CNEL																			
Insensitive Uses	65	60	75																			
Moderately Sensitive Uses	60	55	70																			
Sensitive Uses	55	45	65																			
Highly Sensitive Uses	50	40	60																			

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH INYOKERN SPECIFIC PLAN POLICIES FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted in reference.	Consistent	See 3, <i>Noise Element</i> , Measures A, C, E, F, G, I, and J above. Consistent with this measure, noise impacts and sensitive receptors were evaluated in Section 4.13, <i>Noise</i> , in accordance with the Kern County Noise Element.
Chapter 5: Seismic Hazards and Safety Element		
Goal 1: To ensure the safety of the area residents from environmentally related hazards.	Consistent with implementation of Mitigation Measure MM 4.7-1	Impacts related to seismic hazards are evaluated in Section 4.7, <i>Geology and Soils</i> , of this EIR. Consistent with this goal, implementation of Mitigation Measure MM 4.7-1 would require adherence to the recommendations from the Geotechnical Engineering Report and would ensure site stability, and site seismic safety, to the maximum extent possible.
Policy 2: Development shall consider seismic hazards during new construction and include adequate safety measures.	Consistent with implementation of Mitigation Measure MM 4.7-1	See 5, <i>Seismic Hazards and Safety Element</i> , Goal 1, of the Inyokern Specific Plan, above.
Policy 3: Measures shall be taken to minimize the impacts of flood hazards to area residents.	Consistent with implementation of Mitigation Measure MM 4.10-1	See 1.3, <i>Land Use, Open Space and Conservation Element</i> , Policies 1, 9, 10, and 11 and Measures F, H, J, and N, of the Kern County General Plan, above.
Measure 1: All construction shall comply with the requirements of the Uniform Building Code (UBC) and the Uniform Fire Code (UFC) with regard to water supply, fire flow, and construction standards.	Consistent	See 4.6, <i>Wildland and Urban Fire</i> , Policy 6, of the Kern County General Plan as well as Section 1.1, <i>Physical Constraints</i> , Measure 4, of the Inyokern Specific Plan, above.
Measure 3: All construction shall comply with the standard of the UBC with regard to seismic hazard.	Consistent	See Section 1.1, <i>Physical Constraints</i> , Measure 4, of the Inyokern Specific Plan, above.

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4.12.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting for mineral resources. It also describes the impacts on mineral resources that would result from implementation of the project, and mitigation measures that would reduce these impacts, if applicable. Information used in the preparation of this section includes: the Phase I Environmental Site Assessments prepared for the project site (Terracon, 2015a; SEI, 2014) located in Appendix H of this EIR; California Department of Conservation California Geological Survey (CGS); and Kern County publications and maps as cited throughout this section.

4.12.2 Environmental Setting

Public policy is that the nonrenewable characteristic of mineral deposits necessitates the careful and efficient development of mineral resources in order to prevent the unnecessary waste of these deposits due to careless exploitation and uncontrolled urbanization. Management of these mineral resources will protect not only future development of mineral deposit areas but will also limit the exploitation of mineral deposits so that adverse impacts caused by mineral extraction will be reduced or eliminated. This section discusses the existing conditions related to mineral resources within the region and project area, including the project site.

Regional Setting

Mineral and petroleum resources are basic to Kern County's economy; Kern County produces more oil than any other county in the United States. Borax, cement and construction aggregates constitute major economic mineral resources. The State Geologist of the CGS classified 2,971 square miles of land in Kern County as Mineral Resource Zones (MRZs) of varying significance. The MRZ categories are defined as follows:

- **MRZ-1:** Areas where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2a:** Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves. Land included in MRZ-2a is of prime importance because it contains known economic mineral deposits.
- **MRZ-2b:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain inferred mineral resources as determined by their lateral extension from proven deposits or their similarity to proven deposits. Further exploration could result in upgrading areas classified MRZ-2b to MRZ-2a.
- **MRZ-3a:** Areas containing known mineral occurrences of undetermined economic significance. Further exploration could result in reclassification of all or part of these areas into the MRZ-2a or MRZ-2b categories.

- **MRZ-3b:** Areas containing inferred mineral occurrences of undetermined economic significance. Further exploration could result in the reclassification of all or part of these areas into the MRZ-2a or MRZ-2b categories.
- **MRZ-4:** Areas containing no known mineral occurrence.

Table 4.12-1, *Classified Mineral Resources within Kern County*, demonstrates the classified mineral resources within Kern County that are part of the MRZ-2 group and, therefore, have a demonstrated mineral significance (as opposed to the MRZ-3 group, which has an undetermined mineral significance).

TABLE 4.12-1: CLASSIFIED MINERAL RESOURCES WITHIN KERN COUNTY

Mineral Resource	MRZ Classification	Number of Areas	Total Acreage
Borates	MRZ-2a and 2b	2	2,564
Limestone	MRZ-2a	4	2,008
Limestone	MRZ-2b	2	157
Silica	MRZ-2a	1	119
Pozzolan (essential cement additive)	MRZ-2b	1	72
Gold	MRZ-2a	3	849
Gold	MRZ-2b	8	6,619
Dimension Stone	MRZ-2a	2	527

SOURCE: Koehler, 1999.

Petroleum Resources

As mentioned above, Kern County produces more oil than any other county in the United States. The valley floor area of Kern County and the surrounding lower elevations of the mountain ranges contain numerous deposits of oil and gas resources, a major economic resource for the County. The project is not located within a known oil production field, nor does the site have a known active or abandoned well (CalGEM, 2020a). No significant petroleum resources have been discovered to date in the western Mojave Desert.

Sand and Gravel

Construction aggregates are a major economic mineral resource for Kern County. Sand and gravel have been determined to be important resources for construction, development, and physical maintenance, from highways and bridges to swimming pools and playgrounds. The availability of sand and gravel affects construction costs, tax rates, and affordability of housing and commodities. The State of California has statutorily required the protection of sand and gravel operations. Because transportation costs are a significant portion of the cost of sand and gravel, the long-term availability of local sources of this resource is an important factor in maintaining the economic attractiveness of a community to residents, business, and industry. The major resources of sand and gravel in Kern County are in stream deposits along the eastern side of the San Joaquin Valley and in the Sierra Nevada foothills, approximately 160 miles northwest of the project site, and in alluvial fan deposits along the north flank of the San Emidio and Tehachapi Mountains at the southern end of the County, approximately 30 miles west of the project site (CGS, 1999). Most of the recent alluvium in the San Joaquin Valley floor is composed of sand used as a source of road base material.

Borax

Borax constitutes a major economic mineral resource for Kern County. Borax, a borate mineral (a compound that contains Boron and oxygen), was discovered and put into production in 1872 in Nevada and later, in 1881, in Death Valley. Ironically, for five years the route traveled by Pacific Coast Borax Company's famous twenty mule team trains would pass within 15 miles of a buried deposit that would produce in about six minutes the equivalent tonnage hauled by the mule team during each trip. The discovery of borates in southeastern Kern County in the Kramer District was accidental, when a water well penetrated lakebeds containing colemanite (calcium borate) in 1913. In 1927 underground mining of the minerals kernite and borax began and continued until 1957, when underground operations ceased and open-pit mining began, eventually becoming the largest open-pit mine in California. Annually over 1.8 million tons are removed from this mine, which supplies about 40 percent of the world's supply of borates. There are several other sources of borate minerals in the County (CGS, 1999).

Limestone

Carbonate rocks were initially quarried in 1888 as a source of lime. By 1909 the limestone resources were used for the manufacture of Portland cement during the construction of the first Los Angeles aqueduct. Limestone has been mined continuously since 1921, just northeast of Tehachapi. The Tehachapi Plant was joined by California Portland Cement Company's Mojave Plant in 1955 and National Cement Company's Lebec Plant in 1976, making Portland cement production second only to borates in terms of economic importance to the region. Cement production is a major economic resources in the County.

Dimension Stone

Dimension stone is natural rock materials quarried for the purpose of obtaining blocks or slabs that meet specification as to size (width, length, and thickness) and shape. Color grain texture and pattern, and surface finish, durability, strength, and polish ability are important selection criteria in determining dimension stone. Deposits of marble, sandstone, schist, and other rocks in Kern County have been sources of modest tonnages of building stone which have been utilized as dimension stone, field stone, rubble, and flagstone. Most of the dimension stone (marble and flagstone) was mined until 1904; field stone and flagstone have been mined mostly since about 1952 in the area around Randsburg (CGS, 1999).

Precious Minerals (Gold and Silver)

In terms of total dollar value and number of deposits, gold is the most important metallic mineral commodity that has been mined in Kern County. The earliest mining in Kern County was in 1851 at placer gold deposits in Greenhorn Gulch, which drains into the Kern River about midway between Democrat Springs and Miracle Hot Springs. The first lode mining was in 1852, and by 1865 gold was being mined in four districts around the Kern River. Gold was first prospected in eastern Kern in the 1860s, with the two largest mines being established in the 1890s. The Yellow Aster and Golden Queen mines located in eastern Kern have yielded almost half of the total gold output of the county. The principal sources of silver in Kern County have been deposits in eastern Kern County. Although gold is the chief mineral in value, silver is predominant by a 5:1 ratio and is an important by-product of the gold ore (CGS, 1999).

Local Setting

The project site is currently undeveloped and is located in the community of Inyokern (Terracon, 2015a; SEI, 2014). Neither the project site, or the area adjacent to the project site, is classified as a MRZ (Conservation Biology Institute, 2019). The community of Inyokern does not have any designated mineral resource areas. The closest potential mineral resource areas, as designated by the County as 8.4, Mineral and Petroleum (Minimum 5-Arce Parcel Size), are approximately 11 miles to the southeast of the project site (USGS, 2020). There are no known oil, gas, or geothermal wells on the project site (California Department of Conservation [DOC], 2017). Additionally, there are no active mines or petroleum extraction facilities within or adjacent to the project site (USGS, 2020). The nearest active mine is the Yellow Treasure Mine that mines gold and copper, located approximately 2.6 miles east of the project site. **Figure 4.12-1, *Mines within the Project Vicinity***, shows the mines within a 5-mile radius of the project area. **Table 4.12-2, *Mines within the Project Vicinity***, lists the mines within a 5-mile radius of the project area, their status, and the commodity being mined.

TABLE 4.12-2: MINES WITHIN THE PROJECT VICINITY

Mine Title	Status	Commodity	Distance from Project Site
Yellow Treasure Mine	Producer	Gold; copper	2.6 miles east
Bertrand Sand Pit	Past Producer	Sand and gravel; construction	3.4 miles southeast
Bowman Road Pit	Past Producer	Sand and gravel; construction	3.9 miles southeast
Caltrans #264	Unknown	Sand and gravel; construction	3.9 miles southeast
Tungsten Peak Mine	Past Producer	Tungsten	3.9 miles northwest
Caltrans #262	Unknown	Sand and gravel; construction	3.9 miles southeast
High Peak Mine	Past Producer	Tungsten	4.1 miles northwest
Wilkerson No. 1 Prospect	Prospect	Thorium	4.9 miles west
SOURCE: USGS, 2020.			



KERN COUNTY PLANNING AND NATURAL RESOURCES DEPARTMENT
RB INYOKERN SOLAR PROJECT

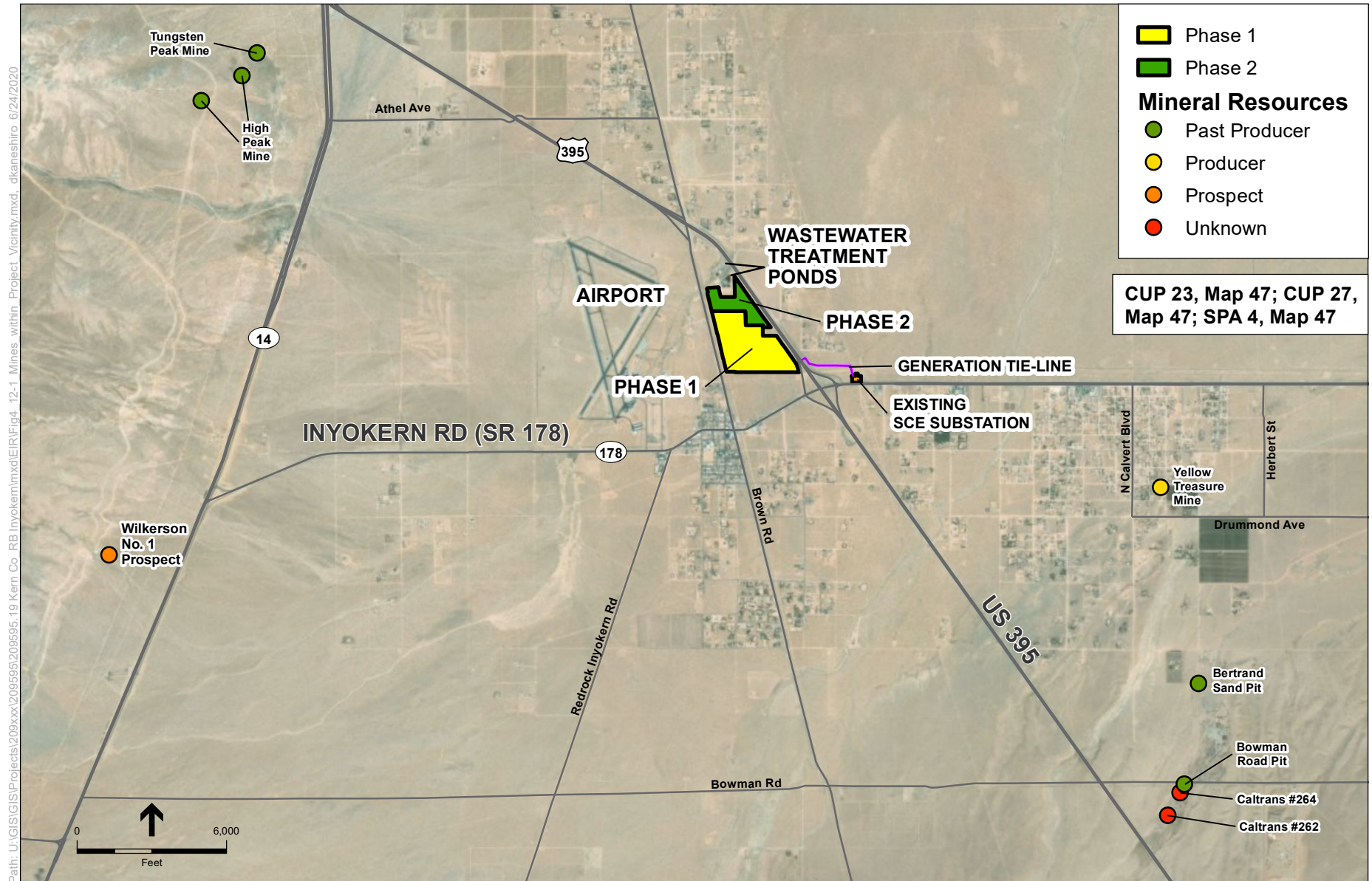


Figure 4.12-1: MINES WITHIN THE PROJECT VICINITY

4.12.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

Geologic Energy Management Division (CalGEM)

The California Department of Conservation's Geologic Energy Management Division (formerly Division of Oil, Gas, and Geothermal Resources [DOGGR]) is a State agency responsible for supervising the drilling, operation, maintenance, plugging, and abandonment of oil, gas, and geothermal wells. CalGEM's regulatory program promotes the wise development of oil, natural gas, and geothermal resources in California through sound engineering practices, prevention of pollution, and implementation of public safety programs. To implement this regulatory program, CalGEM requires avoidance of building over or near plugged or abandoned oil and gas wells, or requires the remediation of wells to current CalGEM standards (CalGEM, 2020b).

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code, Sections 2710–2796) regulates surface mining operation to assure that adverse environmental impacts are minimized, and that mined lands are reclaimed to a usable condition. SMARA requires the State Geologist to classify land into MRZs according to its known or inferred mineral potential. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision-makers and considered before land use decisions are made that could preclude mining.

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for mineral resources applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1: Land Use, Open Space and Conservation Element

1.9: Resource

Goals

- Goal 1: To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations that will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources or diminish the other amenities that exist in the County.
- Goal 2: To protect areas of important mineral, petroleum, and agricultural resource potential for future use.
- Goal 3: To ensure that the development of resource areas minimizes effects of neighboring resource lands.
- Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policy

- Policy 14: Emphasize conservation and development of identified mineral deposits.

Implementation Measure

- Measure H: Use the California Geological Survey's latest maps to locate mineral deposits until the regional and statewide importance mineral deposits map has been completed, as required by the Surface Mining and Reclamation Act.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. There are no specific mineral resources-related policies and measures contained in the Inyokern Specific plan that are applicable to the project. In Kern County, specific plans are used to implement goals, objectives, and policies of the General Plan in a more detailed and refined manner unique to a smaller area of the County. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

4.12.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to mineral resources have been evaluated using a variety of sources, including the Phase I Environmental Site Assessments prepared for the project site (Terracon, 2015a; SEI, 2014) located in Appendix H of this EIR, along with a review of information from the California Department of Conservation CGS, and Kern County publications and maps. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on mineral resources.

A project would have a significant adverse effect on mineral resources if it would:

- 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; or
- 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.

Project Impacts

Impact 4.12-1: The project would result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State.

The project site is not located on lands classified as MRZs by the CGS, nor is it zoned for or immediately adjacent to lands designated as Mineral and Petroleum areas by the Inyokern Specific Plan or the Kern County General Plan. The closest land designated as 8.4, Mineral and Petroleum, area in the Kern County General Plan or Inyokern Specific Plan is approximately 11 miles to the southeast of the project site. Additionally, no active mines or petroleum extraction facilities are located within project vicinity and the nearest active mine is approximately 2.6 miles east of the project site. Given these distances, the project would not interfere with nearby mineral extraction operations, and would not result in the loss of land designated for mineral resources. Furthermore, based on the absence of historical surface mining in the area, the potential for surface mining at the site is considered extremely low. Further, the proposed project supports the County General Plan's Resource Goal 6 to encourage alternative sources of energy, such as solar and wind energy, while protecting the environment. Therefore, the project would not result in the loss of availability of a known mineral resource and the potential impact to future mineral resources is less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.12-2: The project would 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.

The project site is not located on a locally important mineral resource recovery site delineated by the Kern County General Plan, Inyokern Specific Plan, or other land use plan. Therefore, the project would not result in the loss of a locally important mineral resource recovery site and there would be no impact.

Mitigation Measures

No mitigation would be required.

Level of Significance

There would be no impact.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, there are approximately six projects proposed within the Indian Wells Valley including some utility-scale solar production facilities as shown in Table 3-5, *Cumulative Projects List*. The geographic scope of impacts associated with mineral resources generally encompasses the project site and a 0.25-mile-radius area around the project site. This scope is appropriate because of the localized nature of mineral resource impacts. There are no cumulative projects located within 0.25 miles of the project site. Furthermore, there are no MRZs or lands designated as Mineral and Petroleum areas by the Kern County General Plan within a 0.25-mile-radius area around the project site. Therefore, the proposed project, in conjunction with other related projects, would not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site and would not contribute to any cumulative impacts to mineral resources.

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than significant.

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4.13.1 Introduction

This section of the EIR describes the affected noise environment and regulatory setting for the project and provides an analysis of potential impacts related to noise and ground-borne vibration from project implementation. Additionally, mitigation measures to reduce potential noise and vibration impacts are identified, where necessary. The information and analysis in this section is largely based on the *Revised Noise Memorandum for the RB Inyokern Solar Project by R&L Capital, Inc.* prepared for the project (QK, 2019), located in Appendix J of this EIR.

Noise Fundamentals

An understanding of the physical characteristics of sound is useful for evaluating environmental noise. The methods and metrics used to quantify noise exposure, human response, and relative judgment of loudness are also discussed, and noise levels of common noise environments are presented.

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and interferes with or disrupts normal activities. The effects of noise on people can be grouped into four general categories:

- Subjective effects (dissatisfaction, annoyance);
- Interference effects (communication and sleep interference, learning);
- Physiological effects (startle response); and
- Physical effects (hearing loss).

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. The subjective responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, its appropriateness to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity.

Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, and telephone conversations, and interference with sleep. Sleep interference effects can include both awakening from sleep and arousal to a lesser state of sleep.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and amplitude. Frequency describes the sound's pitch (tone) and is measured in cycles per second (Hertz [Hz]), while amplitude describes the sound's pressure (loudness). Because the range of sound pressures that occurs in the environment is extremely large, it is convenient to express these pressures on a logarithmic scale that compresses the wide range of pressures into a more useful range of numbers. The standard unit

of sound measurement is the decibel (dB). Hz is a measure of how many times each second the crest of a sound pressure wave passes a fixed point. For example, when a drummer beats a drum, the skin of the drum vibrates a given number of times per second. If the drum vibrates 100 times per second, it generates a sound pressure wave that is oscillating at 100 Hz, and this pressure oscillation is perceived by the ear/brain as a tonal pitch of 100 Hz. Sound frequencies between 20 and 20,000 Hz are within the range of sensitivity of the healthy human ear.

Sound levels are expressed by reference to a specified national/international standard. The sound pressure level is used to describe sound pressure (loudness) and is specified at a given distance or specific receptor location. In expressing sound pressure level on a logarithmic scale, sound pressure (dB) is referenced to a value of 20 micropascals (μPa). Sound pressure level depends not only on the power of the source but also on the distance from the source to the receiver and the acoustical characteristics of the sound propagation path (absorption, reflection, etc.).

Outdoor sound levels decrease logarithmically as the distance from the source increases. This decrease is due to wave divergence, atmospheric absorption, and ground attenuation. Sound radiating from a source in a homogeneous and undisturbed manner travels in spherical waves. As the sound waves travel away from the source, the sound energy is dispersed over a greater area, decreasing the sound pressure of the wave. Spherical spreading of the sound wave from a point source reduces the noise level at a rate of 6 dB per doubling of distance.

Atmospheric absorption also influences the sound levels received by an observer. The greater the distance traveled, the greater the influence of the atmosphere and the resultant fluctuations. Atmospheric absorption becomes important at distances greater than 1,000 feet. The degree of absorption varies depending on the frequency of the sound as well as the humidity and temperature of the air. For example, atmospheric absorption is lowest (i.e., sound carries farther) at high humidity and high temperatures, and lower frequencies are less readily absorbed (i.e., sound carries farther) than higher frequencies. Over long distances, lower frequencies become dominant as the higher frequencies are more rapidly attenuated. Turbulence, gradients of wind, and other atmospheric phenomena also play a significant role in determining the degree of attenuation. For example, certain conditions, such as temperature inversions, can channel or focus the sound waves, resulting in higher noise levels than would result from simple spherical spreading.

Sound from a tuning fork contains a single frequency (a pure tone), but most sounds in the environment do not consist of a single frequency. Instead, they are a broad band of many frequencies differing in sound level. Because of the broad range of audible frequencies, methods have been developed to quantify these values into a single number representative of human hearing. The most common method used to quantify environmental sounds consists of evaluating all frequencies of a sound according to a weighting system that is reflective of human hearing characteristics. Human hearing is less sensitive at low frequencies and extremely high frequencies than at the mid-range frequencies. This process is termed “A weighting,” and the resulting dB level is termed the “A-weighted” decibel (dBA).

Because A-weighting is designed to emulate the frequency response characteristics of the human ear and reflect the way people perceive sounds, it is widely used in local noise ordinances and State and federal guidelines, including those of the State of California and Kern County. Unless specifically noted, the use of A-weighting is always assumed with respect to environmental sound and community noise, even if the notation does not include the “A.”

In terms of human perception, a sound level of 0 dBA is the threshold of human hearing and is barely audible by a healthy ear under extremely quiet listening conditions. This threshold is the reference level

against which the amplitude of other sounds is compared. Normal speech has a sound level of 60 dBA. Sound levels above about 120 dBA begin to be felt inside the human ear as discomfort, progressing to pain at still higher levels. Humans are much better at discerning relative sound levels than absolute sound levels. The minimum change in the sound level of individual events that an average human ear can detect is about 1 to 3 dBA. A 3 to 5 dBA change is readily perceived. An increase (or decrease) in sound level of about 10 dBA is usually perceived by the average person as a doubling (or halving) of the sound's loudness.

Because of the logarithmic nature of the dB, sound levels cannot be added or subtracted directly. However, some simple rules are useful in dealing with sound levels. First, if a sound's acoustical energy is doubled, the sound level increases by 3 dBA, regardless of the initial sound level (e.g., 60 dBA + 60 dB = 63 dBA; 80 dBA + 80 dBA = 83 dBA). However, an increase of 10 dBA is required to double the perceived loudness of a sound, and a doubling or halving of the acoustical energy (a 3 dBA difference) is at the lower limit of readily perceived change.

Although dBA may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most ambient environmental noise includes a mixture of noise from nearby and distant sources that creates an ebb and flow of sound, including some identifiable sources plus a relatively steady background noise in which no particular source is identifiable. A single descriptor, termed the equivalent sound level (L_{eq}), is used to describe sound that is constant or changing in level. L_{eq} is the energy-mean dBA during a measured time interval. It is the "equivalent" sound level produced by a given constant source equal to the acoustic energy contained in the fluctuating sound level measured during the interval. In addition to the energy-average level, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the maximum instantaneous (L_{max}) and minimum instantaneous (L_{min}) noise level indicators that represent the root-mean-square maximum and minimum noise levels measured during the monitoring interval. The L_{min} value obtained for a particular monitoring location is often called the acoustic floor for that location.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{10} , L_{50} , and L_{90} may be used, which represent the noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of the measured time interval, respectively. Sound levels associated with L_{10} typically describe transient or short-term events, L_{50} represents the median sound level during the measurement interval, and L_{90} levels are typically used to describe background noise conditions.

The Day-Night Average Sound Level (L_{dn} or DNL) represents the average sound level for a 24-hour day and is calculated by adding a 10 dBA penalty to sound levels during the night period (10 p.m. to 7 a.m.). The L_{dn} is the descriptor of choice and used by nearly all federal, State, and local agencies throughout the United States to define acceptable land use compatibility with respect to noise. Within California, the Community Noise Equivalent Level (CNEL) is sometimes used. CNEL is very similar to L_{dn} , except that an additional 5 dBA penalty is applied to the evening hours (7 p.m. to 10 p.m.). Because of the time-of-day penalties associated with the L_{dn} and CNEL descriptors, the L_{dn} or CNEL dBA value for a continuously operating sound source during a 24-hour period will be numerically greater than the dBA value of the 24-hour L_{eq} . Thus, for a continuously operating noise source producing a constant noise level operating for periods of 24 hours or more, the L_{dn} will be 6 dBA higher than the 24-hour L_{eq} value. For convenience, a summary of common noise metrics is provided in **Table 4.13-1, Common Noise Metrics**. To provide a frame of reference, common sound levels are presented in **Figure 4.13-1, Effects of Noise on People**.

TABLE 4.13-1: COMMON NOISE METRICS

Unit of Measure		Description
dB	Decibel	Decibels, which are units for measuring the volume of sound, are measured on a logarithmic scale, representing points on a sharply rising curve. For example, 10 dB sounds are 10 times more intense than 1 dB sounds, and 20 dB sounds are 100 times more intense. A 10 dB increase in sound level is perceived by the human ear as a doubling of the loudness of the sound.
dBA	A-Weighted Decibel	A sound pressure level that has been weighted to quantitatively reduce the effect of high- and low-frequency noise. It was designed to approximate the response of the human ear to sound.
CNEL	Community Noise Equivalent Level	A metric representing the 24-hour average sound level that includes a 5 dBA penalty during relaxation hours (7 p.m. to 10 p.m.) and a 10 dBA penalty for sleeping hours (10 p.m. to 7 a.m.).
L _{dn}	Day-Night Average Noise	The 24-hour average sound level, expressed in a single dB rating, for the period from midnight to midnight obtained after the addition of a 10 dBA penalty to sound levels for the periods between 10 p.m. and 7 a.m.
L _{eq}	Equivalent Noise Level	The average acoustic energy content of noise for a stated period of time. The L _{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L _{eq} may also be referred to as the average sound level.
L _{max}	Maximum Noise Level	L _{max} represents the maximum instantaneous noise level experienced during a given period of time. It reflects peak operating conditions and addresses the annoying aspects of intermittent noise.
L _{min}	Minimum Noise Level	L _{min} represents the minimum instantaneous noise level experienced during a given period of time. It reflects baseline operating conditions and is commonly referenced as the noise floor.
L ₁ , L ₁₀ , L ₅₀ , L ₉₀	Percentile Noise Exceedance Levels	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period.



**KERN COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT
RB INYOKERN SOLAR PROJECT**

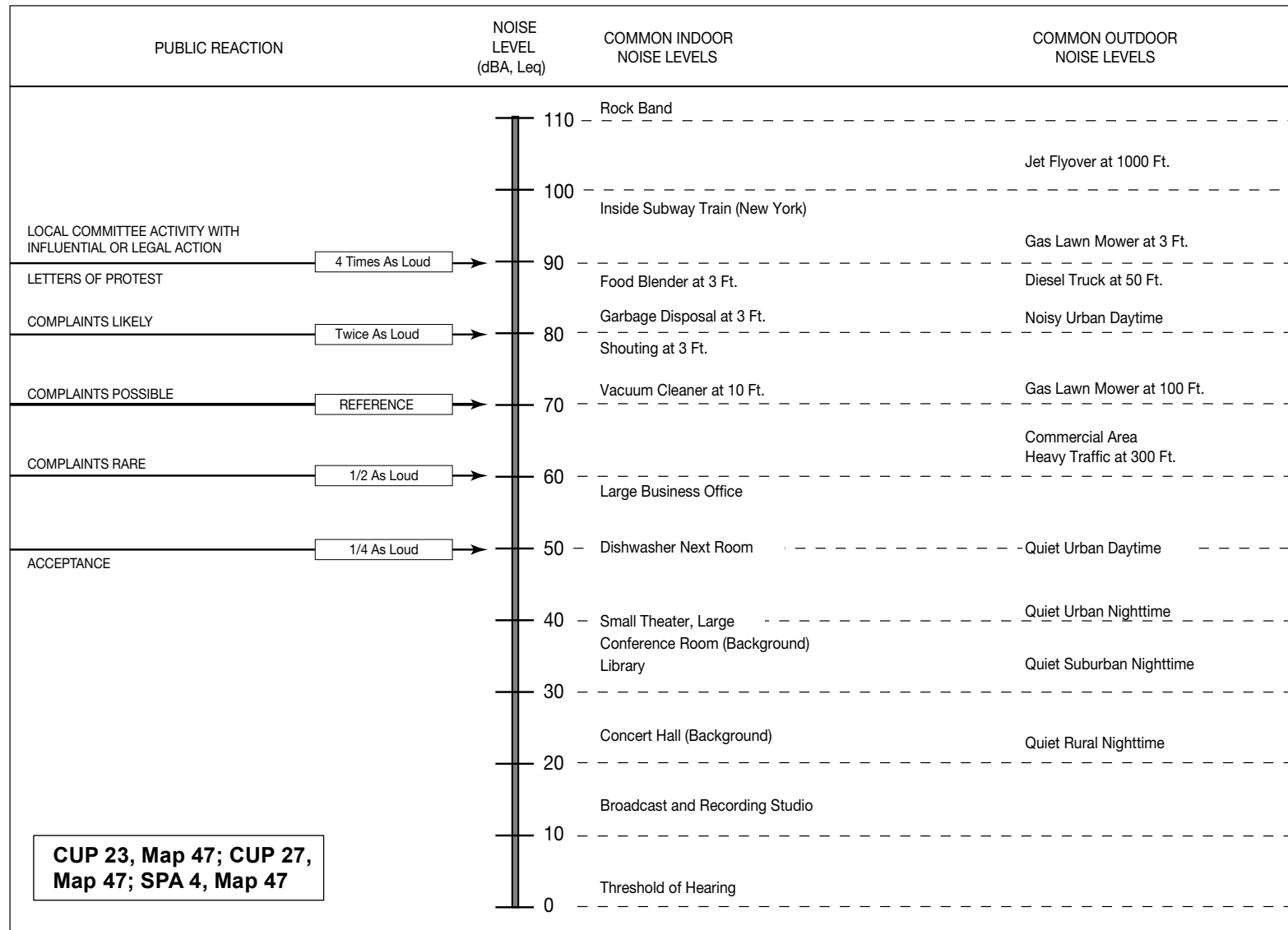


Figure 4.13-1: EFFECTS OF NOISE ON PEOPLE

Vibration Fundamentals

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment* (FTA, 2018), ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving, and operation of heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. Peak particle velocity is typically a factor of 1.7 to 6 times greater than RMS vibration velocity (FTA, 2018). The dB notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration sensitive equipment.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 inches per second (in/sec) PPV, while the standard for even the most sensitive and fragile structures is 0.12 in/sec PPV (FTA, 2018).

In residential areas, the background vibration velocity level is usually around 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity level threshold of perception for humans, which is approximately 65 VdB. A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for many people (FTA, 2018).

4.13.2 Environmental Setting

Project Location

The project is located in the eastern high desert region of Kern County, in the unincorporated community of Inyokern, in the northeastern portion of Kern County, approximately 9.4 miles south of Inyo County, and 9.3 miles west of San Bernardino County. The project is located approximately 5.5 miles west of the City of Ridgecrest, 3 miles east of the community of Indian Wells, and 8 miles west of Naval Air Weapons Station (NAWS) China Lake.

The project site is located on approximately 166.5 acres of generally undeveloped land. As previously shown on Figure 4.3-1, *Nearest Sensitive Receptors to Project Site*, in Section 4.3, *Air Quality*, include residential land uses located near the project site. The Inyokern Elementary School is located approximately 0.22 miles (1,161 feet) southwest of the project site. The closest hospital to the project site is the Ridgecrest Regional Hospital in the City of Ridgecrest, approximately 7 miles to the east. The nearest residential receptors are located approximately 500 feet southwest of the project site, along the west side of Brown Road, and east of the project site along the east side of across US 395 and Clodt Road with additional residential receptors are located to the south of the project site, north and south of Ward Avenue. The project would interconnect to an existing Southern California Edison (SCE) 33-kilovolt (kV) electrical distribution line adjacent to an existing SCE Inyokern Substation approximately 0.5 miles to the east. The distribution line is located within an existing transmission corridor directly adjacent to the project site.

The project site is relatively flat and has an elevation that ranges from approximately 2,300 to 2,400 feet (700 to 730 meters) above mean sea level (amsl). Existing development in the project vicinity includes a wastewater treatment plant, the Inyokern Airport, single-family residences, and undeveloped, open space. An expanded list of existing, approved, and pending projects in the vicinity of the project site is provided in Table 3-5, *Cumulative Projects List*, in Chapter 3, *Project Description*, in this EIR.

Existing Noise Environment

The existing noise environment of the project site is characteristic of its location and adjacent noise sources. The existing noise environment is influenced primarily by man-made noise sources including vehicle traffic on area roadways, occasional aircraft overflights, and human activity in the community, as well as, by natural noise sources such as wind and bird vocalizations.

The proposed project is bound by United States Highway 395 (US 395) to the east and Brown Road to the west. Phase 1 is located north of Inyokern Road (State Route 178 [SR-178]), between Brown Road and US 395. Phase 2 is directly north and adjacent to Phase 1. Phase 1 and Phase 2 would be directly accessed from Brown Road. Other major north-south roadways in the region are State Route 14 (SR-14), a four-lane highway located approximately 3.2 miles east of the project site. SR-178 and US 395 are four-lane, divided highways that are considered major east-west and north-south transportation routes.

The Inyokern Airport is located directly west of the project site. According to the Kern County Airport Land Use Compatibility Plan (ALUCP), the project site is located within Zones B1 and C of the Inyokern Airport influence area. Therefore, the noise sources of vehicle traffic on area roadways, occasional aircraft overflights, and human activity in the community would generate noise that would establish the ambient noise environment of the project site and surrounding areas.

Daytime ambient noise levels would be anticipated to be generally characteristic of rural areas similar to a recent noise study of a solar project in unincorporated Kern County in the region (RE Gaskell West Solar Project EIR), where measured ambient daytime noise levels ranged from approximately 33.6 dBA L_{eq} to 51.7 dBA L_{eq} with maximum noise levels ranging from approximately 61.2 dBA L_{max} to 75.5 dBA L_{max} . A noise study conducted for the Indian Wells Valley Water District (IWWVD) Water Supply Improvement Project recorded an ambient daytime noise level of approximately 34.7 dBA L_{eq} with a maximum noise level of approximately 48.3 dBA L_{max} , measured on July 28, 2011, at the northeast corner of N Victor Street and Las Flores Avenue, approximately 2 miles southeast of the project site (Wieland Acoustics, Inc., 2011). Noise levels at the project site would likely be greater, although generally within the range of noise levels mentioned for the RE Gaskell West Solar Project EIR, than the measurement taken for the IWWVD Water

Supply Improvement Project, given the project site is closer to (i.e., adjacent to the east of) the Inyokern Airport and, thus, more impacted by periodic aircraft noise.

Noise Sensitive Receptors

Land uses deemed sensitive by the State of California include schools, hospitals, rest homes, and long-term care and mental care facilities, which are considered to be more sensitive to ambient noise levels than others. Many jurisdictions also consider residential uses particularly noise-sensitive because families and individuals expect to use time in the home for rest and relaxation, and noise can interfere with those activities. Some jurisdictions may also identify other noise-sensitive uses such as churches, libraries, and parks. Furthermore, sensitive noise receptors may also include threatened or endangered biological species, although many jurisdictions have not adopted noise standards for wildlife areas. Land uses that are generally not considered to be noise sensitive receptors include office, commercial, and retail developments. Noise sensitive receptors in proximity to the project site include residences and a school (see Figure 4.3-1, *Nearest Sensitive Receptors to Project Site*).

4.13.3 Regulatory Setting

Federal

Noise Control Act of 1972

The Noise Control Act of 1972 (42 USC 4910) establishes a national policy to promote an environment for all Americans to be free from noise that jeopardizes their health and welfare. To accomplish this, the Act establishes a means for the coordination of federal research and activities in noise control, authorizes the establishment of federal noise emissions standards for products distributed in commerce, and provides information to the public with respect to the noise-emission and noise-reduction characteristics of such products.

U.S. Environmental Protection Agency (EPA), Environmental Noise Levels

The United States Environmental Protection Agency (USEPA) provided guidance on environmental noise levels in *Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety* (USEPA, 1974), commonly referenced as the “Levels Document,” that establishes an L_{dn} of 55 dBA as the requisite level, with an adequate margin of safety, for areas of outdoor uses, including residences and recreation areas. The Levels Document does not constitute EPA regulations or standards, but identifies safe levels of environmental noise exposure without consideration of technical or economic feasibility for achieving these levels or other potentially relevant considerations.

Federal Energy Regulatory Commission, Noise Guidelines

Federal Energy Regulatory Commission (FERC) *Noise Guidelines on Noise Emissions from Compressor Stations, Substations, and Transmission Lines* (18 CFR 157.206(d)5), require that the noise attributable to

any new compressor stations, compression added to an existing station, or any modification, upgrade, or update of an existing station must not exceed a L_{dn} of 55 dBA at any pre-existing noise-sensitive area (such as schools, hospitals, or residences). This policy was adopted based on the EPA-identified level of significance of 55 L_{dn} dBA.

Federal Highway Administration Noise Abatement Procedures (23 CFR Part 772)

The purpose of 23 CFR Part 772 is to provide procedures for noise studies and noise abatement measures to help protect the public health and welfare, supply noise abatement criteria, and establish requirements for information to be given to local officials for use in the planning and design of highways. It establishes five categories of noise sensitive receptors and prescribes the use of the hourly L_{eq} as the criterion metric for evaluating traffic noise impacts.

Department of Housing and Urban Development Environmental Standards

The Department of Housing and Urban Development (HUD) regulations (24 CFR Part 51) set forth the following exterior noise standards for new home construction assisted or supported by HUD:

- 65 L_{dn} or less – Acceptable;
- > 65 L_{dn} and < 75 L_{dn} – Normally unacceptable, appropriate sound attenuation measures must be provided; and
- > 75 L_{dn} – Unacceptable.

HUD's regulations do not contain standards for interior noise levels. Rather, a goal of 45 dBA is set forth, and attenuation requirements are geared to achieve that goal.

Occupational Safety and Health Administration Occupational Noise Exposure

Occupational Safety and Health Administration (OSHA), *Occupational Noise Exposure; Hearing Conservation Amendment* (Federal Register 48 [46], 9738–9785, 1983) stipulates that protection against the effects of noise exposure shall be provided for employees when sound levels exceed 90 dBA over an 8-hour exposure period. Protection shall consist of feasible administrative or engineering controls. If such controls fail to reduce sound levels to within acceptable levels, personal protective equipment shall be provided and used to reduce exposure of the employee. Additionally, a Hearing Conservation Program must be instituted by the employers whenever employee noise exposure equals or exceeds the action level of an 8-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.

State

The California Department of Health Services has studied the correlation of noise levels and their effects on various land uses and established guidelines for evaluating the compatibility of various land uses, for the noise elements of local general plans, as a function of community noise exposure. The guidelines are the basis for most noise element land use compatibility guidelines in California.

The State requires all municipalities to prepare and adopt a comprehensive long-range general plan. General plans must contain a noise element (California Government Code Section 65302(f) and Section 46050.1 of the Health Safety Code). The requirements for the noise element of the general plan include describing the noise environment quantitatively using a cumulative noise metric such as CNEL or DNL, establishing noise/land use compatibility criteria, and establishing programs for achieving and/or maintaining land use compatibility. Noise elements should address all major noise sources in the community, including mobile and stationary noise sources. In California, most cities and counties have also adopted noise ordinances which serve as enforcement mechanisms for controlling noise. The land use compatibility for community noise environment chart identifies the normally acceptable range for several different land uses, as shown in **Figure 4.13-2, Land Use Compatibility for Community Noise Environment**. Persons in low-density residential settings are most sensitive to noise intrusion, with noise levels of 60 dBA CNEL and below are considered “acceptable.” For land uses such as schools, libraries, churches, hospitals, and parks, acceptable noise levels go up to 70 dBA CNEL.

The California Environmental Quality Act (CEQA) *Guidelines* (PRC Section 21000 et seq.) requires the identification of “significant” environmental impacts and their feasible mitigation. Section XI of Appendix G to the *CEQA Guidelines* (CCR Title 14, Appendix G) lists some indicators of potentially significant impacts, which are included below under the heading “Thresholds of Significance.”

The State has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dBA CNEL or L_{dn} in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dBA CNEL or L_{dn} . Title 24 CCR standards are typically enforced by local jurisdictions through the building permit application process.

The State also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dBA at 15 meters. The State pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by State and local law enforcement officials.

Land Use Category	Community Noise Exposure – L _{dn} or CNEL (dBA)							
	50	55	60	65	70	75	80	
Residential – Low Density Single Family, Duplex, Mobile Home	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
Residential – Multi-Family	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
Transient Lodging – Motel/Hotel	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
Schools, Libraries, Churches, Hospitals, Nursing Homes	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
Auditorium, Concert Hall, Amphitheaters	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
Sports Arena, Outdoor Spectator Sports	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
Playgrounds, Neighborhood Parks	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
Golf Courses, Riding Stables, Water Recreation, Cemeteries	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
Office Buildings, Business, Commercial and Professional	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
Industrial, Manufacturing, Utilities, Agriculture	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	
	100%	100%	100%	100%	100%	100%	100%	

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 are 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 requirement must be made and needed noise insulation features included in the design.
Clearly Unacceptable	New construction or development generally should not be undertaken.

SOURCE: State of California, 2003.

FIGURE 4.13-2: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT

Local

Kern County General Plan

The Noise Element of the Kern County General Plan provides goals, policies, and implementation measures applicable to noise, which, as related to the project, are provided below. The major purpose of the County's Noise Element is to establish reasonable standards for maximum noise levels desired in Kern County, and to develop an implementation program which could effectively mitigate potential noise problems and not subject residential or other sensitive noise land uses to exterior noise levels in excess of 65 dBA L_{dn} , and interior noise levels in excess of 45 dBA L_{dn} .

In accordance with the Energy Element, Policy 10, of the General Plan, the County may also require the preparation of an acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses. Applicable goals, policies, and implementation measures from the County's General Plan that are relevant to the proposed project are summarized below.

Chapter 3: Noise Element

3.3: Sensitive Noise Areas

Goals

- Goal 1: Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.
- Goal 2: Protect the economic base of Kern County by preventing the encroachment of incompatible land uses near known noise producing roadways, industries, railroads, airports, oil and gas extraction, and other sources.

Policies

- Policy 1: Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.
- Policy 2: Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health.
- Policy 3: Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.
- Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.
- Policy 6: Ensure that new development in the vicinity of airports will be compatible with existing and projected airport noise levels as set forth in the ALUCP,
- Policy 7: Employ the best available methods of noise control.

Implementation Measures

- Measure A: Utilize zoning regulations to assist in achieving noise-compatible land use patterns.

- Measure C: Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.
- Measure E: Review discretionary development plans to ensure compatibility with adopted Airport Land Use Compatibility Plans.
- Measure F: Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn} .
- Measure G: At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:
- a) Be the responsibility of the applicant.
 - b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
 - c) Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.
- Measure I: Noise analyses shall include recommended mitigation, if required, and shall:
- a) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
 - b) Include estimated noise levels, in terms of CNEL, for existing and projected future (10 – 20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.
 - c) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
 - d) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.
- Measure J: Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.

Chapter 5: Energy Element

Policy

- Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in accordance with the Noise Element of the General Plan.

Kern County Code of Ordinances

The Kern County Code of Ordinances, Chapter 8.36 (Noise Control), includes acceptable hours of construction, and limitations on construction related noise impacts on adjacent sensitive receptors.

Section 8.36.020: Prohibited Sounds

It is unlawful for any person to do, or cause to be done, any of the following acts within the unincorporated areas of the county:

- H. To create noise from construction, between the hours of nine (9:00) p.m. and six (6:00) a.m. on weekdays and nine (9:00) p.m. and eight (8:00) a.m. on weekends, which is audible to a person with average hearing faculties or capacity at a distance of one hundred fifty (150) feet from the construction site, if the construction site is within one thousand (1,000) feet of an occupied residential dwelling except as provided below:
 - 1. The resource management director or a designated representative may for good cause exempt some construction work for a limited time.
 - 2. Emergency work is exempt from this section.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. The Noise Element of the Inyokern Specific Plan has the purpose of identifying sources of noise within the Plan area, quantifying noise impacts, and providing for means of attenuation. The goals, policies, and implementation measures in the Inyokern Specific Plan for noise applicable to the project are provided below. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

Noise Element

Goals

- Goal 1: To protect the health of Kern County residents.
- Goal 2: To minimize disruption to human activities and conflicts resulting from excessive noise.
- Goal 3: To establish reasonable noise level standards, consistent with the Countywide Noise Element.

Policies

- Policy 1: Noise emissions from new development will be controlled.
- Policy 3: Noise attenuation measures will be required of new development within areas subject to excessive noise.

Policy 4: Land uses will be categorized in the following manner, and the noise level standards adopted in accordance with the Kern County Noise Element:

- a. **Insensitive Land Uses.** The noise level does not affect the successful operation of the particular activity. A wide variety of uses can be included in this category, including public utilities, transportation systems, and other noise-related uses.
- b. **Moderately Sensitive Land Uses.** Some degree of noise control must be present if these activities are to be successfully carried out. Included here are general business and recreational uses.
- c. **Sensitive Uses.** Lack of noise control will result in many of the effects described earlier in this Element. This category primarily contains residential uses.
- d. **Highly Sensitive Uses.** A high degree of noise control is necessary for the successful operation of these activities. Examples include hospitals and churches.

Policy 5: The policies of the Kern County Noise Element are hereby adopted by reference.

Implementation Measures

Measure 1: The following standards are established as the maximum desired ambient noise levels:

Land Use Category	Day (dBA L₅₀)	Night (dBA L_{dn})	CNEL
Insensitive Uses	65	60	75
Moderately Sensitive Uses	60	55	70
Sensitive Uses	55	45	65
Highly Sensitive Uses	50	40	60

Measure 2: The implementation measures of the Kern County Noise Element are hereby adopted by reference.

Kern County Zoning Ordinance

Section 19.80.030.S(1) of the Kern County Zoning Ordinance restricts noise generated by commercial or industrial uses within 500 feet of a residential use or residential zone district. The commercial or industrial use shall not generate noise that exceeds an average 65 dB Ldn between the hours of 7 a.m. and 10 p.m. and shall not generate noise that exceeds 65 dB, or which would result in an increase of 5 dB or more from ambient sound levels, whichever is greater, between the hours of 10 p.m. and 7 a.m. Commercial or industrial facilities that are located in the M-3 zone district are exempt from these noise-generation restrictions.

Groundborne Vibration

There are currently no federal, State, or local regulatory standards for groundborne vibration. However, the California Department of Transportation (Caltrans) has developed vibration criteria based on potential structural damage risks and human annoyance (Caltrans, 2013). Caltrans' threshold criteria pertaining to building damage and human annoyance for continuous and transient events are summarized in

Table 4.13-2, *Vibration Criteria for Structural Damage*, and **Table 4.13-3, *Vibration Criteria for Human Annoyance***, respectively below.

TABLE 4.13-2: VIBRATION CRITERIA FOR STRUCTURAL DAMAGE

Structure and Condition	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
Newer residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTES:

Transient sources create a single isolated vibration event, such as blasting or ball drops. Traffic, train, and most construction vibrations are considered continuous.

in/sec ppv = inches per second peak particle velocity

SOURCE: Caltrans, 2013.

TABLE 4.13-3: VIBRATION CRITERIA FOR HUMAN ANNOYANCE

Human Response	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.1
Annoying to people in buildings	--	0.2
Severe	2.0	0.4

NOTES:

Transient sources create a single isolated vibration event, such as blasting or ball drops. Traffic, train, and most construction vibrations are considered continuous.

in/sec ppv = inches per second peak particle velocity

-- Not available.

SOURCE: Caltrans, 2013.

As indicated in Table 4.13-2, the vibration threshold at which there is a risk of structural damage from continuous or frequent vibration sources is 0.3 in/sec PPV for older residential structures and 0.5 in/sec PPV for newer residential structures. The threshold of 0.5 in/sec PPV also represents the structural damage threshold applied to older structures for transient vibration sources. With regard to human perception, as shown in Table 4.13-3, vibration levels would begin to become distinctly perceptible at levels of 0.04 in/sec

PPV for continuous or frequent vibration sources and 0.25 in/sec PPV for transient vibration sources. Continuous vibration levels are considered annoying for people in buildings at levels of 0.2 in/sec PPV.

4.13.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to noise have been evaluated using a variety of resources, including the Noise Memorandum prepared for the project (QK, 2017a) located in Appendix K of this EIR. These resources are described in more detail below. Using these resources and development standards, impacts were analyzed according to CEQA significance criteria described in the subsequent section.

Short-Term Construction Noise

Project construction activities generally include three main categories: (1) site preparation; (2) system installation; and (3) testing, commissioning, cleanup. Construction of the project is expected to occur over 7 to 10 months. Project construction noise would be generated primarily from (1) site preparation, construction, and installation and testing of the solar panels on the project site; and (2) vehicle traffic on access roads leading to the site from construction crew daily commutes and the transport of construction equipment and materials to the site.

Transport of construction equipment would result in a relatively high single-event noise level generated at the source (a passing dump truck at 50 feet would generate up to 84 dBA L_{max}); however, the effect on longer-term (hourly or daily) ambient noise levels would be minimal.

Project construction would occur in specific phases, each of which has its own mix of equipment types and number and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, also the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. **Table 4.13-4, Noise Levels (L_{max})**, lists typical construction equipment noise levels recommended for noise impact assessments, based on a reference distance of 50 feet from the equipment noise source.

The site preparation phase would include removal of vegetation and top soil, compactions of subgrade, and shaping of ditches and swales. This phase tends to generate the highest noise levels during construction as the heavy equipment needed for earthmoving generates the highest noise levels (other than impact equipment such as impact pile driving). This site preparation phase is expected to require a maximum daily use of dozers, water trucks, graders, flatbed trucks, skid steer, front-end loaders, roller-compactors, pickups, backhoe, foundation delivery truck, module delivery truck, tracker delivery truck, concrete truck, and gravel trucks. As shown in Table 4.13-4, the maximum noise levels for construction equipment used for construction of the project ranges from approximately 80 to 90 dBA L_{max} at 50 feet.

Trenching would be required for placement of underground electrical and communications lines and may include the use of trenchers, backhoes, excavators, haul vehicles, compaction equipment and water trucks. After preparation of the site, the pads for structures, equipment enclosures and equipment vaults would be prepared per geotechnical engineer recommendations.

TABLE 4.13-4: NOISE LEVELS (L_{MAX})

Type of Equipment	Impact Device? (Yes/No)	Acoustical Usage Factor	(dBA L_{max} at 50 feet)
Boom Truck ^a	No	50	85
Compactor (ground)	No	20	80
Concrete Mixer Truck	No	40	85
Concrete Pump Truck	No	20	82
Crane	No	16	85
Dozer	No	40	85
Drill Rig Truck	No	20	84
Excavator	No	40	85
Flatbed Truck	No	40	84
Forklift ^a	No	50	85
Grader	No	40	85
Grapple (on backhoe)	No	40	85
Loader/Backhoe	No	40	80
Mounted Impact Hammer (hoe ram)	Yes	20	90
Pneumatic Tools	No	50	85
Roller	No	20	85
Scraper	No	40	85
Trenching Machine ^a	No	50	85
Water Truck ^a	No	50	85

^a Used FHWA type “All Other Equipment > 5 HP.”

SOURCE: FHWA, 2006. *Highway Construction Noise Handbook*, August.

The PV system installation phase of project construction would include the installation of the mounting and support structures. The structure supporting the PV module arrays at the project site would consist of cylindrical steel pipes, which would be driven into the soil using pneumatic techniques, similar to a hydraulic impact hammer attachment on the boom of a rubber-tired backhoe excavator.

The final phase of construction includes installation of underground electrical cables collection system and construction of the inverters, potential battery storage facility, and unmanned Operations and Maintenance (O&M) buildings. If required, the onsite switchyard area would be excavated for the transformer equipment and control house foundation, and oil containment area.

Project construction would occur in accordance with all federal, State, and Kern County zoning codes and requirements. Site preparation would be consistent with Kern County’s best management practices (BMPs). Noise generating construction activities would be limited to the allowable Kern County construction hours noted above. Stationary equipment and machines with the potential to generate a substantial increase in noise or vibration levels would be located away from noise sensitive receptors to the extent feasible to minimize potential noise levels.

Construction Traffic Noise

Construction would also generate offsite noise from vehicle traffic. Noise from daily construction worker commute trips and truck trips would affect surrounding traffic noise levels along roadways used to access the project site. A doubling of a noise source (e.g., vehicle traffic) is required to result in a perceptible (3 dBA or greater) increase in the resulting traffic noise level. Offsite construction noise levels are assessed based on the potential to result in a perceptible change in traffic-related noise levels.

Decommissioning Noise

The project facility has an anticipated life of 35 years, after which the project proponent of the facility may choose to update the site technology and re-commission, or decommission and remove the systems and their components. If decommission occurs, activities associated with decommissioning would be similar or lower than the noise levels experienced under the worst case construction activities. Therefore, impacts from decommissioning are anticipated to be identical or less than those occurring during construction.

Operational Stationary-Source Noise

Operation of the project would generate noise levels generally from the onsite operation of the substation facility, battery energy storage system (BESS), block inverters, axis trackers, and periodic maintenance activities such as panel washing. Additionally, corona discharge noise emanating from the transmission lines would also be generated. The project would include ground-mounted PV system blocks. The design includes an optional axis tracker that would enable to panels to rotate to follow the sun's path. Noise levels from similar systems are documented to range up to approximately 48 dBA at 40 feet (or approximately 30 dBA at 320 feet). Operational noise sources would also include transformers and inverters. The project would use single step-up, three-phase, pad-mounted, ventilated transformers with noise levels ranging up to approximately 82 dBA L_{eq} as measured at approximately 3.3 feet (1 meter). Fan cooled inverters can produce noise levels of up approximately 79.4 dBA L_{eq} at approximately 3.3 feet (1 meter). As discussed in Chapter 3, *Project Description*, the project may also include a battery system for electrical storage. The proposed battery storage system would be operationally silent, and the flywheel system would generate noise. While the system to be used is unknown, if cooling fans are required by the battery system it is anticipated they would be equivalent to the noise produced by the inverters (approximately 79.4 dBA L_{eq} at approximately 3.3 feet), or other commercial heating, ventilation, and air conditioning (HVAC) units.

Electricity generated by the project would be delivered offsite via gen-tie lines. These lines have the potential to emit electrical discharge (or corona discharge) noise. The tie line would incorporate standard design practices and reduce corona discharge noise to well below 65 dBA at a distance of 10 feet.

Operational Traffic Noise

The project would not have any permanent staff during its operational period. The project site would be visited occasionally by maintenance staff on a monthly basis to wash the panels and conduct maintenance and repair. Maintenance vehicles are expected to visit the project site a maximum of 12 times per year for routine activities, with up to three trucks in use on any particular visit. The project's PV modules may be cleaned up to four times annually, requiring up to approximately 56 trips per quarter for water trucks, resulting in approximately 224 trips per year. Employee trips are estimated at approximately 5 per quarter or approximately 20 for the year. As these activities and maintenance and worker vehicle trips would be

periodic and are not expected to occur on a regular daily basis, the project would not generate a substantial amount of operational-related or traffic-related noise.

Construction Groundborne Vibration

Groundborne vibration is almost exclusively a concern for buildings and its inhabitants, and is rarely perceived as a problem outdoors, where the motion may be discernable, but without the effects associated with the shaking of a building there is less adverse reaction. Groundborne vibration during construction activity is temporary and would cease to occur after project construction is completed. **Table 4.13-5, *Vibration Source Amplitudes for Construction Equipment***, shows the vibrational levels for typical construction equipment at 25 feet.

TABLE 4.13-5: VIBRATION SOURCE AMPLITUDES FOR CONSTRUCTION EQUIPMENT

Equipment	Reference PPV/L _v at 25 feet	
	PPV (in/sec)	L _v (VdB) ^a
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer^b	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

^a RMS vibration velocity in decibels (VdB) re 1 μ in/sec.

^b Equipment shown in **bold** is expected to be used on the project site.

μ in/sec = micro-inches per second

FTA = Federal Transit Administration

in/sec = inches per second

L_v = velocity in decibels

PPV = peak particle velocity

RMS = root-mean-square

VdB = vibration velocity in decibels

SOURCE: FTA, 2018

Groundborne vibration may be induced by traffic and construction activities, such as earthmoving. The project would require the use of various equipment during construction that could generate vibration, such as graders, vibratory rollers, scrapers, tractors/loaders/backhoes, trenchers, and post drivers. The erection of the solar arrays would include support structures that may need to be driven into the soil using post drivers, which could cause localized vibrations. Of the various equipment that would be used at the project site, the vibratory roller would generate the highest vibration level, 0.210 in/sec PPV at 25 feet, as shown in Table 4.12-5, *Vibration Source Amplitudes for Construction Equipment*. Based on the vibration levels at a reference distance of 25 feet presented in Table 4.12-5 for the equipment that would be used for project construction, the resulting vibration levels at the closest vibration-sensitive receivers to the project site were then estimated based on the worst-case (closest) distance between each source and receiver using an

equation recommended in Caltrans' *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013) for estimating the change in vibration levels over distance.

Operational Vibration

Operation of the proposed project would involve periodic operational traffic, including O&M staff and regular maintenance truck (0.076 in/sec PPV at 25 feet), and panel washing activity (vibration not measurable). As these activities and maintenance and worker vehicle trips would be periodic and are not expected to occur on a regular daily basis, the project would not generate a substantial amount of operational-related or traffic-related vibration. As such, the project's operational vibration impacts are discussed qualitatively in this analysis.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant noise-related adverse effect.

A project could have a significant noise-related adverse effect if it would result in:

- a. Generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies;
- b. Generation of, excessive ground borne vibration or ground borne noise levels;
- c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- d. For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels.

Noise Levels in Excess of Standards

For onsite construction equipment, Chapter 8.36 of the County Municipal Code includes acceptable hours of construction and limitations on construction-related noise impacts on adjacent sensitive receptors. Noise producing construction activities are prohibited between the hours of 9 p.m. and 6 a.m. on weekdays and 9 p.m. and 8 a.m. on weekends, when they are audible to a person with average hearing ability at a distance of 150 feet from the construction site, or if the construction site is within 1,000 feet of an occupied residential dwelling. The County has not established any upper limit of noise levels for construction activity.

For operational noise, Kern County has an exterior noise standard for residential uses of 65 dBA L_{dn} . For traffic noise impacts, significance is determined as a perceptible increase (3 dBA) or more in ambient sound.

Substantial Increases in Ambient Noise Levels

For short-term construction activities, an increase in noise of 3 dBA or more is used as a significance threshold. For operational activities, the exterior noise standard for residential uses of 65 dBA L_{dn} is the standard of significance.

Exposure to Groundborne Vibration

Kern County does not have regulations that define acceptable levels of vibration. **Table 4.13-6**, *Construction Vibration Damage Criteria*, lists the FTA potential vibration building damage criteria associated with construction activities, as suggested in the *FTA Transit Noise and Vibration Impact Assessment* (FTA, 2006). **Table 4.13-7**, *Vibration Damage Potential Criteria*, includes Caltrans vibration building damage criteria (Caltrans, 2013).

TABLE 4.13-6: CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	PPV (in/sec)	Approximate L _v (VdB) ^a
Reinforced concrete, steel, or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Non-engineered timber and masonry	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

^a RMS vibration velocity in decibels (VdB) re 1 μ in/sec.

in/sec = inches per second; FTA = Federal Transit Administration; in/sec = inches per second; L_v = velocity in decibels; PPV = peak particle velocity; RMS = root-mean-square

SOURCE: Transit Noise and Vibration Impact Assessment (FTA, 2006).

TABLE 4.13-7: VIBRATION DAMAGE POTENTIAL CRITERIA

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources ^a	Continuous/Frequent Intermittent Sources ^b
Extremely fragile historic buildings, ruins, and ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

^a Transient sources create a single, isolated vibration event, such as blasting or drop balls.

^b Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Caltrans = California Department of Transportation; in/sec = inches per second; PPV = peak particle velocity

SOURCE: Caltrans, *Transportation and Construction Vibration Guidance Manual*, 2013.

Project Impacts

Impact 4.13-1: The project would result in generation of a substantial temporary or permanent increase in the ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.

Construction Activities

Construction Traffic

Vehicle traffic noise from daily construction worker commute trips would affect surrounding traffic noise levels along roadways used to access the project site. A doubling of a noise source (e.g., vehicle traffic) is required to result in a perceptible (3 dBA or greater) increase in the resulting traffic noise level. Based on the traffic analysis prepared for this project (see Section 4.15, *Transportation*), the overlapping construction phases would generate a maximum of 41 peak hour trips, which incorporates a high-end worker trip estimate and a passenger car equivalent (PCE) factor of 1.7 for trucks. The estimated maximum daily total is 109 trips inclusive of the PCE factor for trucks. Project traffic would access the site via project driveways located along Brown Road. About half of construction phase trips would be generated to the west of the project site and would use SR-178, while the other half would be generated to the south of the project site and would use US 395. SR-178 has existing ADT of approximately 2,460. As previously stated in Noise Fundamentals, if a sound's acoustical energy is doubled (such as doubling traffic volumes), the sound level increases by 3 dBA, which is at the lower limit of readily perceived change. Therefore, the increase of 109 daily project construction trips would not result in a perceptible increase in traffic noise levels along the access roads to the project site.

Along the project's perimeter road adjacent to offsite roads surrounding the project site the additional construction traffic of 109 ADT (41 peak hour trips) on would not contribute to any measurable increase in the overall traffic noise levels due to the small percentage of the construction traffic compared to the existing traffic volumes on these offsite roads (e.g., existing ADT of approximately 2,460 on SR-178). For perimeter roads not adjacent to any offsite roads, the minimal onsite construction traffic would not result in any significant traffic noise impacts to offsite sensitive receptors.

Therefore, overall short-term construction related impacts associated with worker commute and equipment transport to and around the project site would be less than significant.

Onsite Construction Activities

Multiple pieces of equipment would operate at substantial distances from one another as construction activities occur throughout the project site. As shown in Table 4.13-4, *Noise Levels (L_{max})*, maximum noise levels generated by onsite equipment that would be used for construction of the project ranges from approximately 80 to 90 dBA L_{max} at 50 feet. Assuming each piece of construction equipment operates at a minimum of 30 feet from each other, the worst-case combined noise level during this phase of construction would be approximately 9193 dBA L_{max} at a fixed point within 50 feet of multiple (up to 4) pieces of equipment operating simultaneously at full power.

The nearest residences are approximately 500 feet southwest of the project site along the west side of Brown Road, and east of the project site on the west side of United States Highway 395 (US 395) and Clodt Road. Additional residential receptors are located to the south of the project site north and south of Ward Avenue. The closest school to the project site is Inyokern Elementary School, located approximately 0.22 miles southwest of the project site in the community of Inyokern.

With multiple pieces of equipment (up to 4) operating simultaneously near the project borders, the combined noise level at the nearest residence, at approximately 500 feet, would be approximately 64.9 to 72.4 dBA L_{eq} , where ambient noise levels are estimated to range from approximately 34 to 52 dBA L_{eq} . Therefore, construction activity will potentially increase noise levels at the nearest residence by more the 5 dB.

This is a worst-case scenario as construction activities would be spread out throughout the site and, therefore, all pieces of construction equipment would not be used simultaneously at the exact closest point to the closest offsite sensitive receptors. In addition, multiple pieces of equipment would not operate for any extended length of time at the nearest points to offsite receptors. Construction noise would be intermittent and sporadic as construction occurs over the two sites.

Chapter 8.36 of the Kern County Municipal Code includes established hours of construction and limitations on construction related noise impacts on adjacent sensitive receptors. Noise producing construction activities are prohibited between the hours of 9 p.m. and 6 a.m. on weekdays and 9 p.m. and 8 a.m. on weekends, when they are audible to a person with average hearing ability at a distance of 150 feet from the construction site, or if the construction site is within 1,000 feet of an occupied residential dwelling. Given the fact that construction activities are anticipated to generate noise greater than the standard 65 dBA for the Kern County General Plan and 55 dBA for short periods of time, temporary construction impacts are considered significant. Implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4 below are designed to reduce impacts to the extent feasible during construction activities. Mitigation would reduce construction-related noise levels by requiring equipment to be located as far from the receptors as possible; ensure that noise is directed away from sensitive receptors; requires equipment to be fitted with approved mufflers and baffles; establishes a noise disturbance coordinator for the project site; ensures compliance with the County's noise ordinance and hours of operation; and provides written notice of construction to the public; which would further reduce construction noise impacts. However, even with implementation of feasible mitigation measures, temporary impacts from construction noise would remain significant and unavoidable.

Operational Noise

During operation, noise levels from similar ground-mounted PV systems are documented to range up to approximately 48 dBA L_{eq} at 40 feet (Satcon PowerGate Specifications, 2009), which would attenuate with distance at a rate of -6 dBA per doubling of distance to approximately 26.1 dBA L_{eq} at the closest offsite noise sensitive receptors located at approximately 500 feet, where ambient noise levels are estimated to range from approximately 34 to 52 dBA L_{eq} . Therefore, the project operational noise levels at the residences would be estimated to be less than ambient noise levels estimated at the offsite residences, and when combined, averaged (L_{eq}), and weighted over a 24-hour period (L_{dn}), would still be much lower than the County's 65 dBA L_{dn} exterior noise standard for residential uses. Therefore, impacts from the ground-mounted PV systems would be less than significant.

Other operational noise sources include the transformers and inverters, which would be located more than 500 feet from the nearest offsite sensitive receptors. Operational noise levels from inverters and transformers

of approximately 82 and 79 dBA L_{eq} at approximately 3.3 feet (1 meter), respectively, would attenuate with distance at a rate of -6 dBA per doubling of distance to approximately 38.4 and 35.4 dBA L_{eq} at 500 feet, respectively. Combined noise levels from simultaneous operation of the inverters and transformers would result in approximately 40.2 dBA L_{eq} at the nearest offsite sensitive receptor. This noise level estimate assumes a direct line-of-sight from the receptor to the operating equipment. These noise levels, averaged over a 24-hour period with weighting factor added to the nighttime hours, would be below the County's 65 dBA L_{dn} exterior noise standard for residential uses and, thus, noise impacts from the inverters and transformers would be less than significant.

The proposed gen-tie line would result in electrical discharge (corona discharge) noise below 65 dBA at 10 feet, which would attenuate to 59 dBA at 20 feet, 53 dBA at 40 feet, 47 dBA at 80 feet, etc. The nearest offsite sensitive receptor is located approximately 569 feet from the proposed gen-tie along the project's northern 12 MW and eastern 20 MW boundaries. Therefore, noise from corona discharge would not be perceptible above background noise levels at the nearest sensitive receptor and noise impacts from the gen-tie line would be less than significant.

The project would not have any permanent staff during its operational period. The occasional maintenance vehicle at the project site would not create a substantial increase of vehicular noise along access roads to the project site which currently have approximately 2,460 ADT. Even when conservatively assuming the worst-case maximum daily trips of 50 trips on a day with maintenance activity, as assumed in the traffic analysis prepared for the project, the project would not result in a doubling of the traffic volumes on roadways accessing the project site and the noise level increase would be substantially below the perceptible level of a 3 dBA increase. As such, operational traffic noise levels from operation of the project would be minimal and impacts would be less than significant.

Project Decommissioning

Activities associated with a potential decommissioning of the project would result in similar or lower noise levels than those that would be experienced under the loudest phases of construction. While temporary increases in ambient noise levels at nearby sensitive receptors would likely occur similar to the project's construction activities, all decommissioning activities would occur within the hourly limitations established in the County's noise-control ordinance. Therefore, decommissioning activity noise levels could result in disturbances of noise sensitive receptors in the project vicinity similar to those during the loudest construction phases, if activities are not restricted to daytime hours. Therefore, to reduce any potential noise impact to offsite sensitive receptors, Mitigation Measure MM 4.13-1 should be implemented.

Mitigation Measures

Implementation of the following mitigation measures would reduce short-term construction related noise impacts associated with implementation of the project to comply with the County's Municipal Code construction noise standards.

- MM 4.13-1:** The following measures are to be implemented to further reduce short-term noise levels associated with project construction and decommissioning:
- a. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from

sensitive receptors nearest the project site, where feasible. Equipment staging shall be located in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during construction to the extent practical. The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site, where feasible.

- b. Construction equipment shall be fitted with noise-reduction features such as mufflers and engine shrouds that are no less effective than those originally installed by the manufacturer.
- c. Construction and decommissioning activities at the project site shall comply with the hourly restrictions for noise-generating construction activities, as specified in the County's Code of Ordinances, Chapter 8.36. Accordingly, construction activities shall be prohibited between the hours of 9 p.m. and 6 a.m. on weekdays, and between 9 p.m. and 8 a.m. on weekends. These hourly limitations shall not apply to activities where hourly limitations would result in increased safety risk to workers or the public, such as commissioning and maintenance activities that must occur after dark to ensure photovoltaic arrays are not energized, unanticipated emergencies requiring immediate attention, or security patrols.
- d. Haul trucks shall not be allowed to idle for periods greater than five minutes, except as needed to perform a specified function (e.g., concrete mixing).
- e. Onsite vehicle speeds shall be limited to 15 miles per hour, or less (except in cases of emergency).
- f. Back-up beepers for all construction equipment and vehicles shall be broadband sound alarms or adjusted to the lowest noise levels possible, provided that the Occupational Safety and Health Administration and California Division of Occupational Safety and Health's safety requirements are not violated. On vehicles where back-up beepers are not available, alternative safety measures such as escorts and spotters shall be employed.

MM 4.13-2: The construction contractor shall establish a Noise Disturbance Coordinator for the project during construction. The Noise Disturbance Coordinator shall be responsible for responding to any complaints about construction noise. The Noise Disturbance Coordinator shall determine the cause of the complaint and shall be required to implement reasonable measures to resolve the complaint. Contact information for the Noise Disturbance Coordinator shall be submitted to the Kern County Planning and Natural Resources Department prior to commencement of any ground disturbing activities.

MM 4.13-3: Prior to commencement of any onsite construction activities (i.e., fence construction, mobilization of construction equipment, initial grading, etc.), including decommissioning, the project proponent/operator shall provide written notice to the public through mailing a notice, which shall include:

- a. The mailing notice shall be to all residences within 1,000 feet of the project site, 15 days or less prior to construction activities. The notices shall include the

construction schedule and a telephone number and email address where complaints and questions can be registered with the noise disturbance coordinator.

- b. A minimum of one sign, legible at a distance of 50 feet, shall be posted at the construction site, or adjacent to the nearest public access to the main construction entrance, throughout construction activities that shall provide the construction schedule (updated as needed) and a telephone number where noise complaints can be registered with the noise disturbance coordinator.
- c. Documentation that the public notice has been sent and the sign has been posted shall be provided to the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.13-1 and MM 4.13-3, temporary impacts associated with construction and decommissioning activities would be considered significant and unavoidable. Operational impacts would be less than significant.

Impact 4.13-2: The project would expose persons to or generation excessive ground borne vibration or ground borne noise levels.

In addition to noise, groundborne vibration and groundborne noise would be generated by Project construction activities. Vibrations from construction activities do not often reach the levels that can damage structures or affect activities that are not vibration-sensitive, although the vibrations may be felt by nearby persons in close proximity and result in annoyance (FTA, 2018). As shown in Figure 4.3-1, *Nearest Sensitive Receptors to Project Site*, residences are located in proximity to project construction activities, which would occur as close as approximately 500 feet from the property line.

The pile drivers that would be used in project construction would produce the greatest groundborne vibration levels, which often creates the greatest groundborne vibration levels, would use a relatively less impactful pneumatic boom attachment or drilling technique. Impact pile drivers produce groundborne vibration levels ranging up to approximately 0.644 in/sec PPV at 25 feet from the operating equipment. The closest offsite occupied residential structures would be located 500 feet or more from construction activities. At this distance, and assuming 1,212 ft-lb rated energy for the impact pile driver, vibration levels would be reduced to 0.007 in/sec PPV. This range of vibration levels at the nearest residences would not reach the vibration level threshold for older residential structures, which as described in Table 4.13-2 is 0.5 PPV for transient sources and 0.3 PPV for continuous/frequent intermittent sources. Buildings or structures at longer distance from the project site would experience much lower vibration level from project construction. Therefore, groundborne vibration impacts resulting from project construction would be less than significant.

Since operations of the project would involve mostly regular maintenance trucks accessing the project site (0.076 in/sec PPV) and panel washing activities (not measurable) at a sufficient distance from structures (i.e., over 100 feet away from structures), project-related vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent offsite sensitive receivers.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.13-3: The project would create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

As the proposed project would operate continuously, seven days per week, noise generated by project operations would be predominantly associated with the onsite operation of transformers, inverters, substations, and power conversion stations. Corona discharge may also be potentially detectable in the immediate vicinity of the proposed transmission lines, more often during high humidity conditions. Additional operational noise sources associated with the proposed project would include onsite vehicle operations and intermittent maintenance activities.

As discussed previously, ambient noise levels in the project area (in dBA L_{eq}/L_{50}) generally range from 34 to 52 dBA L_{eq} . Noise generated by onsite sources is not projected to result in an increase in daytime ambient noise levels that would exceed the County's noise standard of 55 dBA L_{50} at the nearest noise-sensitive receptors located 500 feet or more from the project site. Onsite maintenance activities, such as panel washing, would be transient, would not occur for an extended duration at any one location and, therefore, would not be projected to exceed the County's noise standards. In addition, the proposed project would not result in a substantial increase in traffic noise levels along area roadways. Implementation of the proposed project would result in a detectable but not substantial increases in ambient noise levels (i.e., 3 dBA, or greater) at some nearby residences, particularly during the daytime hours. The predicted noise levels generated by the project's onsite noise sources would not exceed the County's noise standards at the nearest noise-sensitive receptors. As a result, this impact would be considered less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.13-4: The project is located within the Kern County Airport Land Use Compatibility Plan and would expose people residing or working in the project area to excessive noise levels.

The project site is located within the Inyokern Airport sphere of influence as covered by the Kern County ALUCP. The Inyokern Airport is located approximately 0.67 miles west of the project site, across Brown Road. Therefore, the proposed project would expose construction workers to excessive noise levels. However, these excessive noise levels would be temporary in nature. Implementation of Mitigation Measure MM 4.13-5 would reduce this impact to less than significant. Therefore, impacts would be less than significant.

Mitigation Measures

MM 4.13-4: The project contractor(s) shall implement a hearing protection plan for onsite construction workers in accordance with applicable California Division of Occupational Safety and Health Administration worker hearing conservation requirements. The plan shall include provisions for protecting onsite construction workers from high noise levels, such as the use of ear plugs or other hearing protection devices, and safety procedures for communicating with other onsite construction workers who may be using hearing protection devices, such as hand gestures and other visual communication.

Level of Significance

With implementation of Mitigation Measure MM 4.13-4, impacts related to the exposure of residents or workers on a project within the Kern County ALUCP to excessive noise levels would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, multiple projects are proposed or operating throughout the Indian Wells Valley. As shown in Table 3-5, *Cumulative Projects List*, there are two other solar energy projects within the project vicinity: Pensco Trust Solar and East Kern Solar. Other projects in the vicinity include various smaller projects seeking conditional use permits, General Plan amendments, and/or rezoning. Cumulative projects are depicted in Figure 3-12 in Chapter 3, *Project Description*, of this EIR; Pensco Trust Solar is located within the 6-mile buffer of the project site, approximately 3 miles northeast of the project site. East Kern Solar is located outside of the 6-mile buffer of the project site, approximately 48 miles southeast of the project site, and, given this distance, would not have the potential to contribute to cumulative noise impacts. Due to the localized nature of construction and operational noise impacts (up to 1,000 feet and 1 mile, respectively), any potential cumulative noise impacts would be largely limited to areas within 1 mile of the project site.

Noise and vibration impacts are highly localized as indicated by predominately less-than-significant project-related noise and vibration impacts. There would be substantial temporary increases in ambient noise levels, due to both low existing ambient noise levels as well as the proximity of construction activity to residences. However, since the nearest proposed solar facility, Pensco Trust Solar, is located approximately 1,000 feet or more from the project site and would be too far away for any potential cumulative noise impacts to occur in conjunction with the proposed project. Therefore, the project would not have any measurable noise effect cumulatively with other solar development activity in Kern County. Overall, when considered with other past, present, and reasonably foreseeable future projects, the project would not result in a cumulatively considerable contribution to operational noise impacts.

Mitigation Measures

Implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4, cumulative impacts would be less than significant.

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4.14.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting pertaining to public services, which include fire and law enforcement protection. This section also addresses the potential impacts on public services that would result from implementation of the project and the mitigation measures to reduce these potential impacts. Information for this section was taken from numerous sources, including websites, and service agency plans.

4.14.2 Environmental Setting

Fire Protection

The Kern County Fire Department (KCFD) provides primary fire protection services, fire prevention, emergency medical, and rescue services to more than 800,000 people in unincorporated areas of Kern County and nine incorporated cities. KCFD operates 47 full-time fire stations within 7 battalions and is equipped with 55 fire engines, 4 ladder trucks, 41 patrol vehicles, 25 command vehicles, 21 reserve engines and patrols, 6 dozers, 2 helicopters, 2 hazardous material response teams, and other ancillary vehicles and equipment. KCFD is staffed with 625 permanent employees, which includes 546 uniformed firefighters (KCFD, 2019a). KCFD has experienced several budget and staffing cuts in recent years and was operating on a 7.5-million-dollar deficit going into the 2018–2019 fiscal year (Barnwell, 2018).

The project site is located within Battalion 7 of KCFD, which encompasses 253,776 acres of the northeastern portion of Kern County and includes nine fire stations. Areas within Battalion 7 have a history of large, damaging wildfires. Fire Station No. 73 is the closest KCFD station to the project site and would be the primary responder to a fire or emergency at the project site. In the event of a major fire or when short-staffed, other stations would be called on to respond as necessary. Information on three closest fire stations to the project site is included below in **Table 4.14-1, List of Nearby Fire Stations**. In remote County areas like the project site, the average response time is approximately 21 minutes (CPSM, 2017).

TABLE 4.14-1: LIST OF NEARBY FIRE STATIONS

Agency	Facility	Address	Approximate Distance from Project Site
KCFD	Station No. 73	6919 Monache Mountain Avenue Inyokern, CA 93527	0.6 miles to the west
KCFD	Station No. 77	815 West Dolphin Avenue Ridgecrest, CA 93555	7.2 miles to the southeast
KCFD	Station No. 74	139 East Los Flores Ridgecrest, CA 93555	7.4 miles to the southeast

As shown in Figure 4.18-1, *Fire Hazard Severity Zones for Local Responsibility Areas*, in Section 4.18, *Wildfire*, of this EIR, and according to the California Department of Forestry and Fire Protection (CAL FIRE), Kern County Fire Hazards Severity Zone Maps for the Local Responsible Areas, a majority of the project site is classified as Local Responsibility Area (LRA) and a small portion of the gen-tie line route is classified as Federal Responsibility Area (FRA) Moderate. The project site is outside of areas identified by CAL FIRE as having substantial or very high fire risk. As shown in Figure 4.18-2, *Fire Hazard Severity Zones for the State Responsibility Areas*, in Section 4.18, *Wildfire*, of this EIR, the project site is not within a State Responsibility Area (SRA).

Kern County has 14 mutual-aid agreements with neighboring fire suppression organizations to further strengthen the emergency services (KCFD, 2018b). The KCFD has a mutual aid agreement with the Los Angeles County Fire Department (LACFD) in the event that KCFD is unable to be the primary responder to an emergency. The LACFD has 174 fire stations throughout Los Angeles County. The LACFD is divided into 22 battalions with over 4,000 personnel (LACFD, 2017). The nearest LACFD fire stations to the project site are Station Nos. 33 and 117, located at 44947 Date Avenue and 44851 30th Street E., both in Lancaster, approximately 67 miles slightly southwest of the project site.

Kern County applies and utilizes the National Fire Code set forth by the National Fire Protection Association, the California Fire Code, the California Building Code, and the Kern County Ordinance Code to regulate fire safety.

The Kern County Emergency Medical Services Division (EMS) is the lead agency for the emergency medical services system in Kern County and is responsible for coordinating all system participants in the County, which include the public, fire departments, ambulance companies, other emergency service providers, hospitals, and Emergency Medical Technician (EMT) training programs throughout the County. The EMS includes a system of services organized to provide rapid response to serious medical emergencies, including immediate medical care and patient transport to a hospital setting. EMS covers day to day emergencies, disaster medical response planning and preparation, and preventative health care. The department also provides certification and re-certification for EMTs, paramedics, specialized nurses (MICN), and specialized dispatchers (EMD) (Kern County Public Health Services Department, 2018). The closest hospital to the project site is the Ridgecrest Regional Hospital in the City of Ridgecrest, approximately 7 miles to the east.

An inventory of fire facilities in the project area is provided below in Table 4.14-1, *List of Nearby Fire Stations*. The table identifies each type of facility, the name and address of the facility, and the approximate distance from the project site.

Law Enforcement Protection

Kern County Sheriff's Department

The Kern County Sheriff's Office (KCSO) provides basic law enforcement services in the unincorporated areas of the County, which includes the project area. The KCSO enforces local, State, and federal laws and is responsible for crime prevention, field patrol (ground and air), crime investigation, the apprehension of offenders, regulation of noncriminal activity, and related support services such as, patrolling off-highway vehicle recreation areas in the desert and mountainous areas of the County. Traffic and parking control

functions are also provided along with some investigation of property damage reports and traffic accidents. Complete investigations are conducted for injury, fatal, intoxication-related, and hit and run accidents.

The KCSO is currently staffed with 1,202 sworn and civilian employees, 567 deputy sheriffs, 338 detention deputy positions, and 297 professional support staff (KCSO, 2019a). The headquarters for the KCSO is located at 1350 Norris Road in the City of Bakersfield. The KCSO consists of 14 substations that provide patrol services (KCSO, 2019b). The project site would be served by the Ridgecrest Substation, located approximately 7.4 miles southeast of the project site at 128 East Coso Road in the City of Ridgecrest. This substation provides services to approximately 40,000 residents of Ridgecrest, China Lake Acres, Inyokern, Walkers Pass, Garlock, Randsburg, Johannesburg, and many isolated mining camps in Inyokern (KCSO, 2019c). Other KCSO substations in proximity to the project site include the Ridgecrest Substation, the Boron Substation, the Mojave Substation, and the Trona substation of the San Bernardino County Sheriff's Department. Information on three closest substations to the project site is included in **Table 4.14-2, List of Nearby Sheriff Substations**.

TABLE 4.14-2: LIST OF NEARBY SHERIFF SUBSTATIONS

Agency	Facility	Address	Approximate Distance from Project Site
KCSO	Ridgecrest Substation	128 East Coso Road Ridgecrest, CA 93555	7.4 miles southeast of the project site
San Bernardino County Sheriff	Trona Substation	13215 Market Street Trona, CA 93	18.7 miles northeast of the project site
KCSO	Boron Substation	26949 Cote Street Boron, CA 93516	43.3 miles south of the project site
KCSO	Mojave Substation	1771 Highway 58 Mojave, CA 93501	48.4 miles southwest of the project site

The KCSO strives to respond to calls as quickly as possible. Life-threatening calls that involve a danger to someone's personal safety are given first priority. Response time is defined as the time required to respond to a call for service, measured from the time a call is received until the time a patrol car arrives at the scene. Response times naturally vary depending on the severity of the call, available staff, and location of patrol car. Average response time for the KCSO is five minutes or less for an emergency or immediate-response incident (e.g., a crime that is in progress and/or a life-or-death situation) and 8 to 10 minutes for routine calls (e.g., a crime that has already occurred and/or an incident that is not life-threatening). In 2018, the KCSO reported that the County's fiscal emergencies have impacted and affected staffing and have created a number of shortages in the East Kern area, including Inyokern. This could mean potential delays in response times due to a limited budget, and consequently, less staff. (Barnwell, 2018).

Response time to an emergency at or near the project site would vary depending on the level of demand at the substation at the time of the call. If demand is high, the response time would be longer than the average times given above. The response time for a nonemergency call could be eight minutes or more, depending on staffing and the number of other calls for service.

Off-Highway Vehicle Enforcement Team

In 2000, the KCSO created the Off-Highway Vehicle (OHV) Enforcement Team that can be deployed to off road riding areas and adjacent communities in Kern County, as needed. The goal of the OHV Enforcement Team is to provide a safe and secure environment for the OHV community and nearby residents, and to help protect sensitive natural resources. Kern County attracts over 800,000 visitors a year to the local OHV riding areas and approximately 500,000 visitors in east Kern area. The OHV Enforcement Team patrols numerous off road riding areas in Kern County, including a popular riding area near a portion of the Pacific Crest Trail that runs through Rosamond, Mohave, and Tehachapi. The OHV Enforcement Team works closely with officers from the Bureau of Land Management (BLM), California State Parks, and other local law enforcement agencies (KCSO, 2019d).

California Highway Patrol

As a major statewide law enforcement agency, the California Highway Patrol (CHP) is responsible for managing and regulating traffic for the safe, lawful, and efficient use of California highways. The CHP patrols State highways and all County roadways, enforces traffic regulations, responds to traffic accidents, and provides service and assistance to disabled vehicles. The CHP has a mutual aid agreement with KCSO.

The CHP is divided into eight divisions that provide services in areas of California (CHP, 2019a). The project site is within the jurisdiction of the Inland Division, which includes the most intensely-congested roads in the nation at the intersections of Interstates 10, 15, 215, and Highways 60, 71, 91, and 210 (CHP, 2019b). The nearest Inland Division office to the project site is in the community of Mojave, approximately 45.5 miles southwest of the project site.

4.14.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Fire Code

The 2016 California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operation. Chapter 6 (Building Services and Systems) of the Code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Section 608 of the California Building Code includes requirements for battery energy storage systems greater than 20 kWh, which includes the proposed energy storage facilities. Section 608 includes requirements for vehicle impact protection, location, spacing between batteries, egress, security, and fire suppression systems.

Building services and systems are addressed include emergency and standby power systems, electrical equipment, wiring and hazards, and stationary storage battery systems. Chapter 33 (Fire Safety During Construction and Demolition) of the Code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. Features regulated include fire protection systems, fire fighter access to the site and building, means of egress, hazardous materials storage and use and temporary heating equipment and other ignition sources (CBSC, 2017).

California Department of Forestry and Fire Protection (CALFIRE)

Under Title 14 of the California Code of Regulations (CCR), CALFIRE has the primary responsibility for implementing wildfire planning and protection for SRAs. CALFIRE develops regulations and issues fire-safe clearances for land within a fire district of the SRA. More than 31 million acres of California's privately owned wildlands are under CALFIRE's jurisdiction.

CALFIRE adopted Fire Hazard Severity Zone maps for SRAs and LRAs in 2007. Fire Hazard is a way to measure the physical fire behavior so that people can predict the damage a fire is likely to cause. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning fire brands that the fire sends ahead of the flaming front. The project site is not located within a SRA but it is located in an area of moderate fire hazard and within an unincorporated LRA (CALFIRE, 2007a/2007b).

In addition to wildland fires, CALFIRE's planning efforts involve responding to other types of emergencies, including medical aids, hazardous material spills, swiftwater rescues, search and rescue missions, civil disturbances, train wrecks, floods, and earthquakes. Through contracts with local government, CALFIRE provides emergency services in 36 of California's 58 counties (CALFIRE, 2012).

Local

Kern County Fire Department Wildland Fire Management Plan

The KCFD Wildland Fire Management Plan adopted in 2009 assesses the wildland fire situation throughout the SRA within the County. The Plan includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan systematically assesses the existing levels of wildland protection services and identifies high-risk and high-value areas, which are potential locations for costly and damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes what can be done to reduce future costs and losses. The project site is located within a moderate fire hazard severity zone (KCFD, 2009).

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2016 California Fire Code and the 2015 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of

buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees therefore.

Kern County Fire Department Hazards Mitigation Plan

The purpose of the KCFD Hazards Mitigation Plan is to reduce or eliminate long-term risk to people and property from natural hazards and their effects in Kern County. The plan includes specific recommendations for actions that can mitigate future disaster losses, as well as a review of the County's current capabilities to reduce hazards impacts. This multi-jurisdictional plan includes Kern County, and the incorporated municipalities Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The plan also covers 53 special districts that include school, recreation and park, water, community service and other districts. The plan has been formally adopted by each participating entity and is required to be updated a minimum of every five years (KCFD, 2018a).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in Battalions 1, 5, and 7, and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD Battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas: Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 7 (Tehachapi) and is primarily within a LRA, with small portions of the gen-tie line route being within a FRA.

Fire Prevention Standard No. 503-507 Solar Panels

The KCFD Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 California Fire Code and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2019b).

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for public services applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Chapter 1: Land Use, Conservation and Open Space Element

1.4: Public Facilities and Services

Policies

- Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.
- Policy 6: The County will ensure adequate fire protection to all Kern County residents.
- Policy 7: The County will ensure adequate police protection to all Kern County residents.

Implementation Measures

- Measure B: Determine local costs of County facility and infrastructure improvements and expansion which are necessitated by new development of any type and prepare a schedule of charges to be levied on the developer at the site of approval of the Final Map. This implementation can be effectuated by the formation of a County work group.
- Measure L: Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in the County shall not be approved unless adequate fire protection facilities and resources can be provided.

1.10: General Provisions

Goal

- Goal 1: Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving viable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.

1.10.1: Public Services and Facilities

Policies

- Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure that it generates and upon which it is dependent.
- Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents,

staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

- Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to ensure the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Chapter 4: Safety Element

4.6: Wildland and Urban Fire

Policies

- Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.
- Policy 3: The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.
- Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.
- Policy 6: All discretionary projects shall comply with the adopted fire code and the requirements of the fire department.

Implementation Measure

- Measure A: Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. The Land Use, Open Space, and Conservation Element of the Inyokern Specific Plan has the purpose of identifying physical constraints, public facilities, various land use types, and resources within the Plan area. The goals, policies, and implementation measures in the Inyokern Specific Plan for public services applicable to the project are provided below. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

Land Use, Open Space, and Conservation Element

1.2: Public Facilities

Goal

Goal 1: To provide adequate public services and facilities to meet current and projected community needs.

Policies

Policy 1: All new development shall be required to pay its proportional share of the costs of local infrastructure improvements, such as streets, sewers, water lines, and park development.

Policy 7. New development will be required to demonstrate the availability of adequate fire protection and suppression facilities.

Implementation Measures

Measure 1: A fiscal impact analysis will be required as part of all amendments to this Specific Plan. This analysis shall include impacts on the existing levels of sheriff and fire departments, school district, roads, parks, and CSD services.

Measure 2: The County shall consult with the Sierra Sands Unified School District and the Inyokern CSD prior to the approval of any zone change, conditional use permit, final map subdivision, or parcel map.

4.14.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to public services includes the following: (1) evaluation of existing fire and law enforcement services and personnel for the fire and law enforcement stations serving the project site; (2) determination of whether the existing fire and sheriff services and personnel are capable of servicing the proposed project, in addition to the existing population and building stock; and (3) determining whether the proposed project's contribution to the future service population would cause fire or sheriff station(s) to operate beyond service capacity. The determination of the significance of the proposed project on fire protection and emergency medical and law enforcement protection services considers the level of services required by the proposed project and the ability of KCFD and KCSO to provide this level of service and maintain the regular level of service provided throughout the county, which in turn could require the construction of new or expansion of existing facilities. The methodology for this analysis included a review of published information pertaining to KCFD and KCSO. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could have a significant adverse effect on public services:

A project would have a significant impact on public services if it would:

- a. Result in substantial adverse physical impacts associated with the provision of new or physically altered government 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:
 - i. Fire protection;
 - ii. Police protection;
 - iii. Schools;
 - iv. Parks; or
 - v. Other public facilities;

As lead agency, Kern County determined in the IS/NOP, located in Appendix A of this EIR, that the proposed project would not result in significant impacts to the following environmental issue areas and, thus, these issue areas are scoped out of the EIR:

- a. Result in substantial adverse physical impacts associated with the need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
 - iii. Schools;
 - iv. Parks; or
 - v. Other public facilities

As detailed in the IS/NOP, the proposed project would require an average of 25 daily workers and a peak workforce of 50 workers during the 10-month construction period; most of these workers are anticipated to live in the region and commute to the project site. Therefore, it is not expected that a substantial temporary increases in population would occur that would adversely affect local school populations, park facilities, or local public facilities, such as post office, courthouse, and library services. Operation of the project would not require any permanent employees to operate the two operations and maintenance (O&M) buildings. As a result, no significant impacts to schools, parks, or other public services are anticipated to occur. No further analysis for these issues areas is warranted in the EIR.

Project Impacts

Impact 4.14-1: The project would result in substantial adverse physical impacts associated with the provision of new or physically altered government 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 fire protection services or police protection and law enforcement services.

Fire Protection

Construction

The proposed project's construction workforce is estimated to peak at 50 employees and average about 25 employees. The presence of construction workers at the project site would be temporary, lasting a maximum of 10 months. As stated above, the project site is located outside of areas identified by CAL FIRE as having substantial or very high fire risk. Construction activities could introduce fire risks such as sparks and fuel to the site; construction would also generate truck and employee traffic along haul routes and at the project site, which could temporarily increase the accident potential in these areas requiring fire protection response. Service demands per temporary employee are less than service demands per resident; nevertheless, the addition of construction personnel to the area would result in an increased demand for fire protection services. As required by Mitigation Measure MM 4.14-1, the project proponent would prepare and implement a fire safety plan that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code. Following mitigation, impacts to fire protection services would be less than significant during project construction.

Operation

Once constructed, the proposed project would not require any permanent employees; O&M buildings would be unmanned and employees would only be present onsite for short periods of time to conduct periodic maintenance and panel washing. Project facilities would have been designed in accordance with the 2016 California Fire Code and Kern County Fire Code such that fire hazards are reduced and/ avoided. Although unlikely, maintenance activities could introduce fire risks to the project site from maintenance vehicles. However, all maintenance activities would be required to comply with the fire safety plan implemented per Mitigation Measure MM 4.14-1 that would help reduce fire risks onsite.

The proposed project would also be required to implement Mitigation Measure MM 4.14-2, which would require the project operator to pay Kern County mitigation fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of the proposed project. Given the lack of permanent personnel onsite, reduced potential for fire to occur during project operation from the fire safety plan, and the required monetary compensation for any increased demand on fire protection services from the proposed project's operation would reduce impacts on fire protection services. Therefore, new or physically altered KCFD facilities would not be required to accommodate increased demand associated with the proposed project. Impacts would be less than significant.

Law Enforcement Protection

Construction

As described above in Section 4.14.2, *Environmental Setting*, the KCSO provides primary law enforcement protection services for the project site and surrounding areas. The Ridgecrest Substation, located approximately 7.4 miles southeast of the project site and would provide primary law enforcement services to the project site. Similar to fire protection services, the proposed project could increase service needs from KCSO.

During construction, the proposed project may attract vandals or present other security risks. Commutes of construction workers could potentially increase traffic, and could thus adversely affect KCSO response times and/or the CHP's ability to patrol the highways. However, the project site is currently undeveloped and located in a relatively remote location in a rural community, and is thus unlikely to attract attention that would make project facilities susceptible to crime. Chain-link security fencing would be installed around the site perimeter and other areas requiring controlled access to restrict public access during construction. The additional volume of vehicles associated with workers commuting to the project site during construction would be temporary and is not expected to adversely affect traffic (see Section 4.15, *Traffic and Transportation*, for more details). Therefore, new or physically altered KCSO facilities would not be required to accommodate the proposed project and impacts to the CHP patrol are not anticipated. Impacts would be less than significant.

Operation

Project operation could attract vandals or present other security risks. Commutes of periodic maintenance workers could potentially increase traffic, and could thus adversely affect KCSO response times and/or the CHP's ability to patrol the highways. As described above, the project site is located in a relatively remote location in a rural community, and is thus unlikely to attract attention that would make project facilities susceptible to crime. The chain-link security fencing around the site perimeter and other areas requiring controlled access to restrict public access would minimize the need for sheriff surveillance and response during project operation. Therefore, new or physically altered KCSO facilities would not be required to accommodate the proposed project. The additional volume of vehicles associated with workers commuting to the project site during routine maintenance would be minor and is not expected to adversely affect traffic (see Section 4.15, *Traffic and Transportation*, for more details). Therefore, impacts to the CHP patrol are not anticipated. Further, as part of Mitigation Measure MM 4.14-2, the proposed project would be required to pay development impact fees to offset potential impacts on law enforcement protection services. Impacts would be less than significant.

Mitigation Measures

MM 4.14-1: Prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Fire Safety Plan for use during construction, operation, and decommissioning.

The project proponent/operator shall submit the plan, along with maps of the project site and access roads, to the Kern County Fire Department for review and approval. A copy of the approved fire safety plan shall be submitted to the Kern County Planning and Natural

Resources Department. The fire safety plan shall contain notification procedures and emergency fire precautions including, but not limited to the following:

- a. All internal combustion engines, both stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.
- b. Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. These vehicle types will maintain their factory-installed (type) muffler in good condition.
- c. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.
- d. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.
- e. Personnel shall be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires to prevent them from growing into more serious threats.
- f. The project proponent/operator shall make an effort to restrict the use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to periods outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall be easily accessible to personnel.

MM 4.14-2: The project proponent/operator shall implement the following mitigation steps at the project site:

- a. For facility operation, the project proponent/operator shall pay for impacts on countywide public protection, sheriff's patrol and investigative services, and fire services at a rate of \$29.59 per 1,000 square feet of panel-covered ground for the facility operation and related onsite structures for the entire covered area of the project. The total amount shall be divided by 20 and paid on a yearly basis. Any operation that continues past 20 years shall pay the same yearly fee. If completed in phases, the annual amount shall be based on the square footage of ground covered by April 30 of each year of operation. Alternatively, the project proponent/operator may choose to pay the total amount, based on 20 years of operations, as a one-time lump sum rather than ongoing annual payments. The amount shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year for each and every year of operation. Copies of payments made shall be submitted to the Kern County Planning and Natural Resources Department.
- b. Written verification of ownership of the project shall be submitted to the Kern County Planning and Natural Resources Department by April 15 of each calendar year. If the project is sold to a city, county, or utility company with assessed taxes that total less than \$1,000 per megawatt per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of \$1,000 per megawatt. The amount shall be paid for all years of operation. The fee shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year.
- c. The project proponent/operator shall work with the County to determine how the use of sales and use taxes from construction of the project can be maximized. This process

shall include, but is not necessarily limited to, the project proponent/operator obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, and registering this address with the State Board of Equalization. As an alternative to the aforementioned process, the project proponent/operator may make arrangements with Kern County for a guaranteed single payment that is equivalent to the amount of sales and use taxes that would have otherwise been received (less any sales and use taxes actually paid); with the amount of the single payment to be determined via a formula approved by Kern County. The project proponent/operator shall allow the County to use this sales tax information publicly for reporting purposes.

Level of Significance after Mitigation

With implementation of the Mitigation Measures MM 4.14-1 and MM 4.14-2, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or substantially increase other environmental impacts. Cumulative impacts for a project are considered significant if the incremental effects of the individual projects are considerable when viewed in connection with the effects of past projects, and the effects of other projects located in the vicinity of the project site. The cumulative impact analysis area includes the service areas for each of the fire and law enforcement entities serving the project site. For both the KCSO and the KCFD, service areas include unincorporated areas of Kern County. As discussed above, law enforcement and fire service impacts related to the proposed project would be less than significant. Mitigation Measure MM 4.14-1 requires implementation of a fire safety plan during project construction and operation that would include notification procedures and emergency fire precautions to help reduce fire risks and the consequential need for fire protection services onsite. Mitigation Measure MM 4.14-2 requires the project proponent to pay applicable fees and taxes to reduce significant impacts to fire or law enforcement protection services resulting from the project. With payment of the required mitigation fee as assessed by the Kern County Planning and Natural Resources Department, any slight contribution the project would have on the need for additional fire or law enforcement protection services, facilities or personnel required would be appropriately funded. Similar to the proposed project, all other past, present, and reasonably foreseeable future projects located within these fire and sheriff service areas were or would be required to pay this mitigation fee, if deemed appropriate by the Kern County Planning and Natural Resources Department.

Similar to the proposed project, all other past, present, and reasonably foreseeable future projects located within these KCSO and KCSO service areas would be required to undergo environmental review, in compliance with the requirements of CEQA, and would be required to comply with the 2016 California Fire Code and Kern County Fire Code, as well as pay pertinent taxes and fees. Should potential impacts to public services be identified, appropriate mitigation would be prescribed that would reduce impacts to less-than-significant levels.

Therefore, the project would not create a significant impact on public services, and the other related projects would also be expected to avoid or mitigate impacts on public services, this project would comply with the goals, policies, and implementation measures of both the Kern County General Plan and the Inyokern

Specific Plan; thus, cumulatively significant impacts are anticipated to be less than significant. In addition, as discussed above, given that the proposed project would not increase demand for local schools, parks, or public facilities, there would be no impact. Thus the project would not cumulatively combine with related projects to have an impact on these facilities. Therefore, the project would not create a cumulatively considerable impact related to public services and would have a less than significant cumulative impact.

Mitigation Measures

Implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.14-1 and MM 4.14-2, cumulative impacts would be less than significant.

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4.15.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment, regulatory setting, and project impacts for traffic and transportation. It also describes mitigation measures that would reduce these impacts, where applicable. A traffic impact study for the project was prepared (Ruettgers & Schuler, 2017) and is included in Appendix K of this EIR.

4.15.2 Environmental Setting

The project is located in the eastern high desert region of Kern County, in the unincorporated community of Inyokern, approximately 9.4 miles south of Inyo County and 9.3 miles west of San Bernardino County. The project is located approximately 5.5 miles west of the City of Ridgecrest, 3 miles east of the community of Indian Wells, and 8 miles west of the main entrance to the China Lake Naval Air Weapons Station on East Inyokern Road (State Route 178 [SR-178]). The circulation system in the vicinity of the project site is made up of a combination of State and County-jurisdiction facilities. Major components of the system are discussed below and shown in Figure 3-1, *Site Vicinity*, of Chapter 3, *Project Description*, of this EIR.

Regional Setting

Major Highways

The project site is located near three major highways that would provide access to the general vicinity of the project during the construction and operation phases. State Route 14 (SR-14) and United States Route 395 (US 395) are key north–south corridors for the project area. In addition to providing north and south access, these roadways provide through traffic connections to the City of Ridgecrest, the communities of Inyokern and China Lake Acres, and the China Lake Naval Air Weapons Station. Recreational travelers from southern California to the mountain recreation areas use both routes heavily. In addition, SR-178 provides east–west service through the area and provides access from the City of Bakersfield to the City of Ridgecrest.

The following provides a brief description of the major highways:

- **SR-14.** SR-14 is a north–south route that originates at Interstate 5 near Santa Clarita, California and travels through the eastern portion of Kern County, providing regional access to the project site. SR-14 is a four-lane divided freeway located approximately 4 miles west of the project, with a connection to US 395 in the northern portion of the project site.
- **SR-178.** An east–west thoroughfare, SR-178 originates at State Route 99 (SR99) and enters the project area just west of SR-14. After its junction with SR-14 it continues eastward along Inyokern Road, south on China Lake Boulevard, and continues east along Ridgecrest Boulevard.
- **US 395.** US 395 is a north–south route that begins in San Bernardino County at the junction with Interstate 15 and continues north to the Canadian border, traveling through Bishop, Reno, Nevada,

Oregon, and eastern Washington. The two- to four-lane highway is located immediately north and east of the project site and would provide primary access to the project site.

According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, there are no Designated State Scenic Highways within Kern County (see Section 4.15.3, *Regulatory Setting*, below for more information on the State Scenic Highway Mapping System. The closest Eligible Scenic Highways are SR-14 (portion north of Business East Route 58) located approximately 3.7 miles to the west of the project site and Business East Route 58 (portion east of SR-14) located 43.2 miles south of the project site (Caltrans, 2017). Prominent views along SR-14 and Business East Route 58 adding to the scenic elements in the landscape for motorists include panoramic views of the open Mojave Desert landscapes and surrounding mountains. According to the Kern County General Plan Circulation Element, a scenic route is any freeway, highway, road, or other public right-of-way, which traverses an area of exceptional scenic quality. The Circulation Element contains goals and policies that discuss designating SR-14 as a scenic highway to protect adjacent viewsheds.

Non-Motorized Transportation

Bicycling is considered an effective alternative mode of transportation that can help to improve air quality, reduce the number of vehicles traveling along existing roads and highways, and reduce energy consumption. There are 67 miles of existing bicycle facilities in the unincorporated portions of Kern County. Caltrans has identified three classifications of bicycle facilities, Class I, Class II and Class III that the County has incorporated into the Kern County General Plan Circulation Element. Class I bikeways are “bike paths” separated completely from the roadway and designated for the exclusive use of bicyclists and pedestrians. Class II bikeways are “bike lanes” within the roadway designated for the use of bicyclists. Class III bikeways are “bike routes,” which provide signs and a travel lane shared by pedestrians and vehicles. The bicycle facilities in unincorporated Kern County consist of over 25 miles of Class II Bike Lanes, over 38 miles of Class III Bike Routes, and the aforementioned 3 miles of Class I Bike Path along the Kern River.

There are two Class III bicycle facilities in the immediate vicinity of the project site, which are located on SR-178 between SR-14 and Brown Road and on Brown Road between US 395 and South China Lake Boulevard.

Other Transportation Facilities

Public Transportation

Public transportation in Kern County is provided by Kern Regional Transit, which offers 17 fixed routes throughout the County and a dial-a-ride general public transportation service for residents in most communities. Route 227 provides fixed-route scheduled bus service on Mondays, Wednesdays, and Fridays between Ridgecrest and Lake Isabella on SR-178, with stops in the communities of Kernville, Onyx, and Inyokern. The nearest bus stop providing access to Route 227 is located adjacent to the project site on SR-178 between Reeves Avenue and West Graaf Avenue. Route 230 provides fixed-route scheduled bus service on Mondays, Wednesdays, and Fridays between Mojave and Ridgecrest on SR-14 and SR-178, with stops in the communities of Lancaster, California City, and Inyokern. The nearest bus stop providing access to Route 230 is located approximately 350 feet west of the project site on SR-178 at Broadway.

Railways

The closest railways are located approximately 15 miles northeast of the project site in the unincorporated community of Searles. In Searles, the Trona Railway, a short-line railway owned by Searles Valley Minerals, and the Lone Pine Branch of the Union Pacific Railroad interchange.

Airports

The Inyokern Airport, a public-use airport, is located approximately 0.67 miles west of the project site, across Brown Road. It is owned and operated by the Indian Wells Valley Airport District, and serves the northeastern communities of Kern County, California. The airport covers 1,640 acres at an elevation of 2,457 feet, with three asphalt paved runways that can accommodate almost any class of civilian, commercial, or military aircraft. In operation since 1935, the airport serves an average of 78 flight operations per day.

The China Lake Naval Air Weapons Station is located approximately 8 miles from the project site and is managed by the United States Navy. All aircraft operations at NAWS China Lake are conducted at Armitage Field, a military airfield, which has three runways with more than 26,000 feet (7,900 meters) of taxiway. This airport has been in operation since 1952.

Ridgecrest Community Hospital Heliport, a privately-owned and operated medical heliport, is located approximately 8 miles east of the project site in Ridgecrest, California. This heliport has been in operation since 1973.

Local Setting

Site Access

Phase 1 and Phase 2 of the project would be directly accessed from Brown Road. The project site is generally bound by US 395 to the east, Brown Road to the right, Ward Avenue to the south. The project area is primarily accessible by existing major north–south roadway US 395, located adjacent to the project site on the northeast. Other major north–south roadways in the region are SR-14, a four-lane highway located approximately 3.2 miles east of the project. US 395 runs adjacent to the east border of the Phase 1 site, and Inyokern Road (SR-178) bisects the Phase 2 site.

Traffic Analysis

Considering the access routes described above, this traffic impact analysis evaluates the following three unsignalized intersections in the vicinity of the project site, where project traffic would contribute turning vehicles:

1. Brown Road and Inyokern Road (SR-178)
2. US 395 Southbound On/Off Ramps & Inyokern Road (SR-178)
3. US 395 Northbound On/Off Ramps & Inyokern Road (SR-178)

The intersections were selected based on their proximity to the project, and because they are located along routes that provide access to the project.

The gen-tie and Southern California Edison (SCE) infrastructure are proposed within or proximate to existing transmission infrastructure and solar facilities. The environmental setting characteristics relating to traffic and transportation for the construction, operation, and decommissioning of the gen-tie and SCE infrastructure are substantially similar to the project site.

Existing AM and PM peak hour turning movement volumes were field measured at the study intersections in January 2017. As shown in **Table 4.15-1, Existing Conditions AM and PM Peak Hour Level of Service (LOS)**, two out of the three study area intersections currently operate at a LOS A or B during both peak traffic hours and the southbound travel direction at the intersection of Brown Road and Inyokern Road (SR-178) currently operates at LOS C during PM peak hour.

TABLE 4.15-1: EXISTING CONDITIONS AM AND PM PEAK HOUR LEVEL OF SERVICE (LOS)

Study Intersection	Movement	AM Peak Hour	PM Peak Hour
		LOS	LOS
Brown Rd and Inyokern Rd (SR-178)	NB	A	B
	SB	B	C
US 395 On/Off Ramps & Inyokern Rd (SR-178)	SB	B	B
US 395 On/Off Ramps & Inyokern Rd (SR-178)	NB	B	B

SB = southbound; NB = northbound.
SOURCE: Ruettgers & Schuler, 2017.

Based on 2015 traffic volume data obtained from Caltrans (Caltrans, 2016), the average daily traffic (ADT) volume on SR-178 between Brown Road and US 395 is approximately 2,460 vehicles, which equates to a v/c ratio of 0.16 (LOS A) based on the capacity of two-lane road. 2015 traffic volume was adjusted to reflect 2017 conditions by applying a 1.25 percent annual growth rate.

4.15.3 Regulatory Setting

Federal

Federal Aviation Administration (FAA)

The FAA regulates aviation at regional, public, and private airports. The FAA regulates objects affecting navigable airspace. According to 49 Code of Federal Regulations Part 77.9, any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA of:

- Any construction or alteration exceeding 200 feet above ground level;

- Any construction or alteration:
 - Within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway where the longest airport runway exceeds 3,200 feet in actual length;
 - Within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway where the longest airport runway is less than 3,200 feet in actual length; and
 - Within 5,000 feet of a public use heliport which exceeds a 25:1 surface;
- Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the above standards;
- When requested by the FAA; and
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

Failure to comply with the provisions of Federal Aviation Regulation Part 77 is subject to civil penalty under Section 902 of the Federal Aviation Act of 1958, as amended, and pursuant to 49 United States Code Section 46301(a).

State

California Department of Transportation

The California Department of Transportation (Caltrans) has jurisdiction over State highways and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on highways. Eastern Kern County (i.e., including the project site and surrounding area) has been under the jurisdiction of Caltrans District 9 as of November 2015; prior to that time, all of Kern County was under the jurisdiction of Caltrans District 6. The following Caltrans regulations apply to potential transportation and traffic impacts of the project:

- **California Vehicle Code, Division 15, Chapters 1 through 5 (Size, Weight, and Load).** Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.
- **California Street and Highway Code, Sections 660-711, 670-695.** Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery, includes regulations for the care and protection of State and county highways and provisions for the issuance of written permits, and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.
- **Project Development Procedures Manual, Chapter 27: Access Control Modification.** Requires Caltrans approval of proposed connections to a public road through submittal of a proposal to Caltrans (Caltrans, 2016).

Local

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan Circulation Element for traffic and transportation that are applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference. The design level-of-service (LOS) for Kern County is LOS C. The minimum LOS for conformance with the Kern County General Plan is LOS D.

Circulation Element

2.1: Introduction

Goals

- Goal 4: Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.
- Goal 5: Maintain a minimum [level of service] LOS D for all roads throughout the County.

2.3.3: Highway Plan

Goal

- Goal 5: Maintain a minimum LOS D.

Policies

- Policy 1: Development of roads within the County shall be in accordance with the Circulation Diagram Map. The charted roads are usually on section and midsection lines. This is because the road centerline can be determined by an existing survey.
- Policy 2: This plan requires, as a minimum, construction of local road widths in areas where the traffic model estimates little growth through and beyond 2010. Where the Kern County Planning and Natural Resources Department's growth estimates indicate more than a local road is required, expanded facilities shall be provided. The timing and scope of required facilities should be set up and implemented through the Kern County Land Division Ordinance. However, the County shall routinely protect all surveyed section lines in the Valley and Desert regions for arterial right-of-way. The County shall routinely protect all midsection lines for collector highways in the same regions. The only possible exceptions shall be where the County adopts special studies and where Map Code 4.1 (Accepted County Plan) areas occur. In the Mountain Region where terrain does not allow construction on surveyed section and midsection lines, right-of-way width shall be the size shown on the diagram map. No surveyed section and midsection "grid" will comprehensively apply to the Mountain Region.

Policy 3: This plan's road-width standards are listed below. These standards do not include state highway widths that would require additional right-of-way for rail transit, bike lanes, and other modes of transportation. Kern County shall consider these modifications on a case-by-case basis.

- Expressway [Four Travel Lanes] Minimum 110-foot right-of-way;
- Arterial [Major Highway] Minimum 110-foot right-of-way;
- Collector [Secondary Highway] Minimum 90-foot right-of-way;
- Commercial-Industrial Street Minimum 60-foot right-of-way; and
- Local Street [Select Local Road] Minimum 60-foot right-of-way.

Implementation Measure

Measure A: The Planning Department shall carry out the road network policies by using the Kern County Land Division Ordinance and Zoning Ordinance, which implements the Kern County Development Standards that includes road standards related to urban and rural planning requirements. These ordinances also regulate access points. Planning Department can help developers and property owners in identifying where planned circulation is to occur.

2.3.4: Future Growth

Goal

Goal 1: To provide ample flexibility in this plan to allow for growth beyond the 20-year planning horizon.

Policies

Policy 2: The County should monitor development applications as they relate to traffic estimates developed for this plan. Mitigation is required if development causes affected roadways to fall below LOS D. Utilization of the California Environmental Quality Act (CEQA) process would help identify alternatives to or mitigation for such developments. Mitigation could involve amending the Land Use, Open Space, and Conservation Element to establish jobs/housing balance if projected trips in any traffic zone exceed trips identified for this Circulation Element. Mitigation could involve exactions to build offsite transportation facilities. These enhancements would reduce traffic congestion to an acceptable level.

Policy 4: As a condition of private development approval, developers shall build roads needed to access the existing road network. Developers shall build these roads to County standards unless improvements along State routes are necessary then roads shall be built to California Department of Transportation (Caltrans) standards. Developers shall locate these roads (width to be determined by the Circulation Plan) along centerlines shown on the circulation diagram map unless otherwise authorized by an approved Specific Plan Line. Developers may build local roads along lines other than those on the circulation diagram map. Developers would negotiate necessary easements to allow this.

- Policy 5: When there is a legal lot of record, improvement of access to County, city or State roads will require funding by sources other than the County. Funding could be by starting a local benefit assessment district or, depending on the size of a project, direct development impact fees.
- Policy 6: The County may accept a developer's road into the County's maintained road system. This is at Kern County's discretion. Acceptance would occur after the developer follows the above requirements. Roads are included in the County road maintenance system through approval by the Board of Supervisors.

Implementation Measures

- Measure A: The County should relate traffic level to road capacity and development levels. To accomplish this, the Kern County Roads Department and the Kern County Planning and Natural Resources department should set up a monitoring program. This monitoring program would identify traffic volume to capacity ratios and resulting level of service. The geographic base of the program would be traffic zones set up by Kern Council of Governments.
- Measure C: Project development shall comply with the requirements of the Kern County Zoning Ordinance, Land Division Ordinance, and Development Standards.

2.3.10: Congestion Management Programs

State law requires that urbanized counties prepare an annual congestion management program (CMP). City and county eligibility for new gas tax subventions is contingent upon their participation in the congestion management program. To qualify for funding provided through the State Transportation Improvement Program (STIP) or the Federal Transportation Improvement Program (FTIP), the regional transportation agency must keep current a Regional Transportation Program (RTP) that contains the CMP. Also, the CMP offers local jurisdictions the opportunity to find cooperative solutions to the multi-jurisdictional problems of air pollution and traffic congestion.

The CMP has links with air quality requirements. The California Clean Air Act requires that cities and counties implement transportation control measures (TCMs) to attain, and maintain, the State air quality standard.

Goals

- Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern Council of Government's Congestion Management Program.
- Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.

Policies

- Policy 1: Pursuant to California Government Code 65089(a), Kern County has designated Kern Council of Governments as the County's Congestion Management Agency (CMA).
- Policy 2: The Congestion Management Agency is responsible for developing, adopting, and annually updating a Congestion Management Plan. The Plan is to be developed in

consultation with, and with the cooperation of, the regional transportation agency (also Kern Council of Governments), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Mitigation/Implementation Measures

- Measure A: Kern County Council of Governments should request the proper consultation from County of Kern to develop and update the proper congestion management program.
- Measure B: The elements within the Kern Congestion Management Program are to be implemented by each incorporated city and the County of Kern. Specifically, the land use analysis program, including the preparation and adoption of deficiency plans is required. Additionally, the adoption of trip reduction and travel demand strategies are required in the Congestion Management Program.

2.5.1: Trucks and Highways

The Kern County road network handles a high ratio of heavy truck traffic. State highways carry most of this traffic. Most of the trucks are interstate carriers. As such, interstate trucking is not under the direct control of County officials. In as much as this traffic affects County residents and taxpayers, they need actions to guarantee State highways in Kern County receive a fair share of California's transportation investment.

Goals

- Goal 1: Provide for Kern County's heavy truck transportation in the safest way possible.
- Goal 2: Reduce potential overweight trucks.
- Goal 3: Use State Highway System improvements to prevent truck traffic in neighborhoods.

Policies

- Policy 1: California Department of Transportation (Caltrans) should be made aware of the heavy truck activity on Kern County's roads.
- Policy 2: Start a program that monitors truck traffic operations.
- Policy 3: Promote a monitoring program of truck lane pavement condition.

Inyokern Specific Plan

The entire project site is subject to the provisions of the Inyokern Specific Plan, which contains goals, policies, and standards that are compatible with those of the Kern County General Plan, but are unique to the specific needs of the of the Inyokern Area. The Circulation Element of the Inyokern Specific Plan has the purpose of identifying roadway networks, providing guidance to promote smooth traffic flow, and promoting adequate road improvements. The goals, policies, and implementation measures in the Inyokern Specific Plan related to transportation and traffic as applicable to the project are provided below. The Inyokern Specific Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Inyokern Specific Plan are incorporated by reference.

The project proposes to amend the Inyokern Specific Plan Circulation Element to remove a portion of the designated, but not constructed, future secondary collector from Brown Road to the southern boundary of the project site. Figure 3-5 in Chapter 3, *Project Description*, depicts the proposed amendment to the Inyokern Specific Plan Circulation Element.

The following standards apply to the project area:

Land Use, Open Space, and Conservation Element

1.5: Industrial

Implementation Measure

Measure 4: All new industrial subdivisions and, where applicable, PD (Precise Development) plans shall include provisions for standard street access, alleys where necessary, and sewer and water connections to the Inyokern CSD.

Chapter 2: Circulation Element

Goals

- Goal 1: To provide a simple network of local collector roads consistent with County circulation policy, and to amend the Circulation Element, where necessary, to eliminate unnecessary major and secondary highway alignments.
- Goal 2: To promote smooth traffic flow and to avoid piecemeal road development.
- Goal 3: To promote adequate road improvement standards for all new development.

Policies

- Policy 1: When development occurs, street rights-of-way shall be dedicated to the County in accordance with all applicable County ordinances.
- Policy 3: Where necessary, 60-foot industrial streets should be required to serve projected industrial uses.
- Policy 5: Development which incorporates adequate circulation systems shall be encouraged.

Implementation Measures

- Measure 1: As a requirement for Precise Development Plans, Conditional Use Permits, land divisions, and site plan reviews, streets shall be improved in accordance with the Kern County Land Division Ordinance.
- Measure 2: The developer shall be responsible for the construction of street improvements in accordance with the Kern County Subdivision Ordinance.
- Measure 3: Roadways serving commercial and industrial developments shall be constructed to 60-foot street standards, as set forth in the Kern County Land Division Ordinance, excepting those areas fronting on a major highway alignment or secondary collector requiring a 90-foot or 100-foot right-of-way.

Measure 4: Development roadways shall be in substantial conformity with the Circulation Plan contained in Figure 5 of this Plan text.

Kern Council of Governments Congestion Management Program

All urbanized areas with a population larger than 200,000 residents are required to have a Congestion Management System, program, or process. The Kern Council of Governments (Kern COG) refers to its congestion management activities as the Congestion Management Program (CMP). Kern COG was designated as the Congestion Management Agency.

The CMP provides a systematic process for managing congestion and information regarding (1) transportation system performance and (2) alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet State and local needs. The purpose of the CMP is to ensure that a balanced transportation system is developed that relates population growth, traffic growth and land use decisions to transportation system level of service (LOS) performance standards and air quality improvement. The program attempts link land use, air quality, transportation, advanced transportation technologies as integral and complementary parts of this region's plans and programs.

The purpose of defining the CMP network is to establish a system of roadways that will be monitored in relation to established LOS standards. At a minimum, all State highways and principal arterials must be designated as part of the Congestion Management System of Highways and Roadways. Kern County has 18 designated state highways.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern COG, and was adopted on August 16, 2018. The 2018 RTP is a 24-year blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Kern County. It was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, State, and federal agencies. Included in the 2018 RTP is the Sustainable Communities Strategy (SCS), which is required by California's Sustainable Communities and Climate Protection Act, of Senate Bill (SB) 375. The California Air Resources Board (CARB) set Kern greenhouse gas (GHG) emissions reductions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 as compared to 2005. In addition, SB 375 provides for closer integration of the RTP/SCS with the Regional Housing Needs Allocation (RHNA) ensuring consistency between low income housing need and transportation planning. Kern COG engaged in the RHNA process concurrently with the development of the 2014 RTP. This process required Kern COG to work with its member agencies to identify areas within the region that can provide sufficient housing for all economic segments of the population and ensure that the state's housing goals are met.

The intent of the SCS is to achieve the State's emissions reduction targets for automobiles and light trucks. The SCS will also provide opportunities for a stronger economy, healthier environment, and safer quality of life for community members in Kern County. The RTP/SCS seeks to: improve economic vitality; improve air quality; improve the health of communities; improve transportation and public safety; promote the conservation of natural resources and undeveloped land; increase access to community services; increase regional and local energy independence; and increase opportunities to help shape our community's future.

The 2018 RTP/SCS financial plan identifies how much money is available to support the region's transportation investments. The plan includes a core revenue forecast of existing local, State, and federal sources along with funding sources that are considered to be reasonably available over the time horizon of the RTP/SCS. These new sources include adjustments to State and federal gas tax rates based on historical trends and recommendations from two national commissions (National Surface Transportation Policy and Revenue Study Commission and National Surface Transportation Infrastructure Financing Commission), leveraging of local sales tax measures, local transportation impact fees, potential national freight program/freight fees, future State bonding programs, and mileage based user fees (Kern COG, 2018).

Kern County Airport Land Use Compatibility Plan

The Kern County Airport Land Use Compatibility Plan (ALUCP) establishes procedures and criteria to assist Kern County and affected incorporated cities in addressing compatibility issues for the proposed project regarding airports and the land uses around them. The Inyokern Airport is located approximately 0.67 miles west of the project site. The China Lake Naval Air Weapons Station is located approximately 8 miles from the project site. The nearest private airstrip is Ridgecrest Community Hospital Heliport located approximately 8 miles east of the project site. Due to the project's distance from the nearest airport, the project site is located within the boundaries of the Inyokern Airport Influence Area as identified in the Kern County ALUCP.

4.15.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to traffic and transportation have been evaluated using a variety of resources, including the traffic impact study (Ruetters & Schuler, 2017) located in Appendix K of this EIR. Current levels of service for area roadways were evaluated based on Kern County roadway segment capacities and LOS thresholds.

In order to examine existing roadway conditions related to congestion and delay, traffic counts conducted by Caltrans in 2015 for the segment of SR-178 adjacent to the project site were reviewed. In addition, intersection turning movement counts were conducted in January 2017 for the three study area intersections. LOS grades for these study facilities were calculated in order to describe the degree of congestion delay at the intersections. For example, according to the *Highway Capacity Manual*, LOS A occurs at an unsignalized intersection when the average stopped delay is no more than 10.0 seconds per vehicle stopped on the side street at that intersection (Transportation Research Board, 2000). Kern County General Plan Circulation Element LOS standards require that Kern County intersections operate at LOS D or better, and Caltrans' target for peak-hour intersection operations is LOS C or better. Because all three study intersections are within Caltrans jurisdiction, the analysis was conducted using the guidelines in the Caltrans publication "Guide for the Preparation of Traffic Impact Studies," dated December 2002, which states that a facility is required to be analyzed when a project will generate more than 50 peak hour trips at a facility operating at LOS C or above. **Table 4.15-2, Level of Service Descriptions for Intersections**, below presents the Transportation Research Board's description of LOS A through F.

TABLE 4.15-2: LEVEL OF SERVICE DESCRIPTIONS FOR INTERSECTIONS

LOS	Description
A	No delay for stop-controlled approaches.
B	Operations with minor delay for stop-controlled approaches.
C	Operations with moderate delays for stop-controlled approaches.
D	Operations with increasingly unacceptable delays for stop-controlled approaches.
E	Operations with high delays, and long queues for stop-controlled approaches.
F	Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers on stop-controlled approaches.

SOURCE: Transportation Research Board, 2000.

A roadway segment analysis was also conducted for Inyokern Road (SR-178) between Brown Road and US 395 was conducted according to the *Highway Capacity Manual*. The LOS for roadway segments are assigned based on the volume-to-capacity (v/c) ratio. For example, a v/c ratio of greater 0.80 corresponds to LOS D or E.

Traffic impacts from implementation of the project were evaluated for the site by establishing trip generation rates for both the construction and operational phases of the project. Trip generation is based primarily on the number of workers and the types of equipment that would be used. Trip generation forecasts were developed for scenarios occurring under both peak project construction and project operation. Given the substantially higher level of trip generation for construction, the peak construction trip generation scenario is considered the worst-case condition for the lifecycle of the project and, thus, would provide the most conservative estimate.

Construction

The majority of construction vehicle trips would be associated with construction employees traveling to and from the project site during peak weekday hours. Project construction is expected to rely mostly on Kern County's skilled labor pool; therefore, the project's construction-related traffic is anticipated to be local in nature. It is assumed that construction staff not drawn from the local labor pool would stay in the local hotels in Inyokern, Ridgecrest, or other local communities, so the workers would not have to travel far or add traffic to roads outside of the vicinity of the project site.

System and materials delivery trips are anticipated to travel to and from the site during both peak and non-peak periods. Heavy equipment used at the site would not be hauled to and from the site daily, but would be brought in at the beginning of construction and taken out upon completion of construction. Methodology and assumptions for the traffic assessment included the following:

The construction workforce is expected to peak at 50 workers onsite daily but would typically consist of approximately 25 workers on average. To provide a conservative analysis, assumes that 75 workers would be onsite daily and that an average of two workers per vehicle would commute to and from the site for the duration of construction, which would last a maximum of 7 to 10 months. This assumption results in 75 daily personnel vehicle trips (combined inbound and outbound).

Following Highway Capacity Manual guidelines, heavy truck volumes were converted to passenger-car equivalent volumes using a factor of 1.7 trips per day to account for the effective reduction in free-flow speed (mean traffic speed under low-flow conditions) caused by the presence of heavy vehicles in the traffic flow. Trips were estimated based on assumptions regarding daily deliveries of materials and equipment anticipated for construction. It was assumed that the trucks would enter the facility through the day, and therefore only a portion of the trucks are shown in the peak AM and PM hours.

Operation and Maintenance

Upon completion of the construction and testing phases, the proposed project would be operated remotely with no full-time staff onsite. The O&M building would be unmanned and monitored remotely 24 hours per day, seven days a week. Maintenance personnel are expected to visit the project site several times per year for routine maintenance. PV panel washing may occur up to 4 times per year and is expected to take 10 days to complete per washing activity. Additional staff of two to five people would be required during panel washing. Ongoing maintenance and periodic repair are anticipated to produce negligible results in terms of traffic impacts.

Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on traffic and transportation.

A project would have a significant adverse effect on transportation if it would:

- a. Conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, as follows:
 - i. Metropolitan Bakersfield General Plan LOS C; and
 - ii. Kern County General Plan LOS D;
- b. Conflict or be inconsistent with *CEQA Guidelines* Section 15064.3, subdivision (b);
- c. Substantially increases hazards due to a geometric design feature (such as sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- d. Result in inadequate emergency access.

As lead agency, Kern County determined in the Initial Study/Notice of Preparation (IS/NOP), located in Appendix A of this EIR, that the proposed project would not result in significant impacts to some of these environmental issue areas; these issue areas are thus scoped out of this EIR. Please note that the environmental issue areas discussed in the IS/NOP are different from those noted above, as Appendix G of the *CEQA Guidelines* were revised in January 2019, which was after the IS/NOP was published. It was determined that the project would not:

- a. Conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows:
 - i. Metropolitan Bakersfield General Plan LOS C;

- b. Substantially increases geometric hazards due to a design feature (such as sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- c. Result in inadequate emergency access.

As detailed in the IS/NOP, the proposed project is not located in or near the metropolitan Bakersfield area. Further, the proposed project would not include the development of sharp curves, dangerous intersections, or other hazardous design features. Therefore, the project would not substantially increase hazards due to a design feature or incompatible uses. Additionally, the project would not physically impede the existing emergency response plans, emergency vehicle access, or personnel access to the site since the project site and vicinity are accessible via a number of existing roads, with several alternative access roads allowing easy access in the event of an emergency. Therefore, no adverse impacts related to impairment of the implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan is anticipated. Due to the rural nature of the project area, bicycle traffic is limited and few bus stops exist on the roadways likely to be used during construction and operation. The project would not house residents or employees and therefore would not have characteristics that could influence alternative means of transportation. The proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation. No further analysis for these issues areas is warranted in the EIR.

Project Impacts

Impact 4.15-1: The project would conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, as follows: Kern County General Plan LOS "D."

Construction

To determine construction-related forecast trip generation for the project, the project description and construction staging operations were reviewed to identify construction worker-related trips and system/materials delivery-related trips. Project construction is not anticipated to require the closure of any public access roads. The majority of construction vehicle trips to and from the project site would be associated with construction workers and trucks making water deliveries. Heavy equipment used at the project site would not be hauled to and from the site daily, but would be hauled in at the beginning of construction and hauled out upon completion of construction. Construction trips would occur throughout the day. The majority of the trips would be associated with construction workers traveling to and from the site during the peak hours. The average daily workforce is expected to be 75 construction, supervisory, support, and construction management personnel onsite during construction over the course of the nine-month total construction duration.

According to Kern County Ordinance Section 8.36.020, all construction shall be limited to the hours of 6 a.m. to 9 p.m. Therefore, construction may occur during AM peak (7 to 9 a.m.) or PM peak (4 to 6 p.m.) commute periods. This analysis conservatively assumes the following:

- All construction related employees arrive onsite during the AM peak hour and depart the site during the PM peak hour;
- No shuttle or carpooling activity to and from the project site by onsite construction employees; and
- All system delivery and construction equipment deliveries occur via truck/motor vehicle with no transport via railroad.

As shown in **Table 4.15-3, Construction-Related Peak Trip Generation**, construction-related activity associated with the project is forecast to generate up to approximately 109 daily vehicle trips (75 worker trips and 34 truck trips). Based on the *Highway Capacity Manual* (TRB, 2000) guidance, heavy truck volumes were adjusted by a passenger-car equivalent (PCE) factor of 1.7, which accounts for differences between trucks and passenger vehicles (i.e., trucks utilize more roadway capacity than passenger vehicles due to their larger size, slower start-up times, and reduced maneuverability). There would be up to an estimated 41 vehicle trips generated by construction activities during the AM and PM peak hours. Heavy trucks would enter and exit the facility throughout the work day; therefore, only a portion of the trucks are expected to enter or exit the project site during one of the peak hours.

TABLE 4.15-3: CONSTRUCTION-RELATED PEAK TRIP GENERATION

Traffic Type	Variable (per day)	AM Peak Hour Trips			PM Peak Hour Trips			Daily Vehicle Trips
		In	Out	Total	In	Out	Total	
Personnel	75 ^a	38	0	38	0	38	38	75
Heavy Trucks	10 ^b	3 ^c	0	3	0	3	3	34
Total		41	0	41	0	41	41	109

^a Using two persons per vehicle.

^b Represents passenger-car equivalent for heavy truck traffic using a factor of 1.7.

^c Represents trips arriving during Peak Hour only.

SOURCE: Ruettggers & Schuler, 2017.

Project Trip Distribution and Assignment

At this time, detailed access and circulation plans have not been prepared for the project. It is anticipated that project traffic would access the site via new project driveways located along Brown Road. As stated above, the traffic analysis of potential traffic impacts associated with the project evaluated conditions at the intersections of SR-178 at Brown Road and the northbound and southbound US 395 ramps.

Opening Year (2019) With Project Construction Conditions Level of Service

As stated in Chapter 3, *Project Description*, the entire construction process is estimated to take up to 7 to 10 months. Site grading and earthwork is anticipated to begin during the third quarter of 2020, with operations beginning in the first quarter of 2021. Although the construction dates have changed since the completion of the traffic impact study (found in Appendix K), the potential impacts identified within the traffic impact study would remain the same. The construction dates outlined in this analysis reflect those found in Appendix K. The existing traffic volumes used to evaluate existing conditions (see above) were projected out from 2017 to 2019 using a 1.25 percent annual growth rate. This allowed for an evaluation of a baseline scenario to reflect the effect of project-generated construction trips on traffic conditions at the time the project would be constructed. This scenario is called Opening Year (2019). As shown in **Table 4.15-4, Opening Year (2019) with Project Conditions LOS Conditions**, with the addition of project construction-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS according to Caltrans performance criteria. Although the project would result in the addition of peak-hour construction vehicles to the three study intersections, the LOS would remain unchanged.

TABLE 4.15-4: OPENING YEAR (2019) WITH PROJECT INTERSECTION LOS CONDITIONS

Study Intersection	Movement	2019		2019 with Project Construction		Significant Impact?
		AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS	
Brown Rd & Inyokern Rd (SR-178)	NB	B	B	B	B	No
	SB	B	C	B	C	No
US 395 On/Off Ramps & Inyokern Rd (SR-178)	SB	B	B	B	B	No
US 395 On/Off Ramps & Inyokern Rd (SR-178)	NB	B	B	B	B	No

SB = southbound; NB = northbound.

SOURCE: Ruetters & Schuler, 2017.

As stated previously, the existing ADT on Inyokern Road (SR-178) between Brown Road and US 395 is approximately 2,460 vehicles, which equates to a v/c ratio of 0.16 (LOS A) based on the capacity of a two-lane road. The addition of an estimated 56 project-generated construction vehicle trips on this segment of Inyokern Road (SR-178) would represent approximately 2 percent of the total ADT, taking into account background traffic growth between 2017 and 2019. This small increase in ADT on Inyokern Road (SR-178) caused by construction of the project would cause the v/c ratio to increase by 0.01, and the LOS would remain unchanged. Additional detail on the roadway segment analysis is provided in Appendix K. Therefore, construction impacts would be less than significant.

Construction of the portion of the gen-tie line for which the project proponent is responsible would generate very few peak hour trips. This number of trips would not cause construction-related delays or impact existing traffic operations. Accordingly, construction of this portion of the gen-tie would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of circulation system.

Traffic Control Planning

Because traffic volumes on many of the roadways are minimal, utilization of traffic control signs acceptable to Caltrans and Kern County are recommended to identify locations where construction workers or construction-related trucks would turn onto and off local roadways to access the project site.

Operation and Maintenance

Upon completion of project construction (including portions of the gen-tie line), the project would operate unstaffed and be monitored remotely. Project operation is not anticipated to require the closure of any public access roads. Periodically, personnel would visit the site for inspection, security, maintenance, and system monitoring purposes. Assuming that washing and scheduled maintenance operations happen at the same time, it is anticipated that up to 50 personnel may travel to the site in a peak day; therefore, the project would generate minimal operational traffic. When feasible, required planned maintenance would be scheduled to avoid peak load periods, and maintenance and security personnel would travel to the site during off-peak times. Unplanned maintenance would typically be responded to as needed depending on

the event. Because these activities would not generate trips on a regular basis, the estimated trips would be substantially lower than the trips generated by project construction, and as stated above, the project impact during construction would be less than significant. As such, project operation would have a less-than-significant impact on area roadways and intersections.

Decommissioning

Decommissioning impacts would be relatively similar to those identified for construction of the project and would be short-term and temporary. Thus, decommissioning of the project would result in a less-than-significant impact with respect to LOS for roadways.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.15-2: The project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards developed by the county congestion management agency for designated roads or highways.

The new *CEQA Guidelines* Section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the *CEQA Guidelines* criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas, and shifts the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. Vehicle miles traveled, or VMT, is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

The newly adopted guidance provides that a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide. Kern County is currently engaged in this process and have not yet formally adopted its updated transportation significance thresholds or its updated transportation impact analysis procedures. Since the regulations of SB 743 have not been finalized or adopted by the County, guidance from the State of California Office of Planning and Research's (OPR) December 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Guidelines), was relied upon in this Draft EIR to determine the significance of transportation impacts (OPR, 2018).

As defined in *CEQA Guidelines* Section 15064.3(a), VMT refers to the amount and distance of automobile travel attributable to a project. The Technical Guidelines further explain that the automobile in Section 15064.3 "refers to on-road passenger vehicles, specifically cars and light trucks." For this reason, the focus of this VMT analysis is on passenger vehicle (i.e., cars and light trucks) trips generated by the project. However, this Draft EIR also includes an analysis of GHG emissions associated with heavy truck traffic generated by the project (as well as other traffic), and addresses potential significant transportation impacts of all project vehicles, including heavy trucks, related to air quality, noise, and safety.

The Technical Guidelines provide a screening criterion that could be used to determine if VMT analysis is warranted for small projects, which are defined as projects that would generate fewer than 110 trips per day and may generally be assumed to cause a less-than-significant transportation impacts. As indicated above in the discussion of Impact 4.15-1, construction of the proposed project would generate a maximum of 75 worker trips per day; worker trips generated during project operation and maintenance would be substantially lower than the trips generated by project construction. Therefore, daily passenger vehicle trips generated by the project would be well below OPR's recommended small-project screening criterion threshold of 110 trips per day, and the project's impact to VMT would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The potential for cumulative transportation impacts exists where there are multiple projects proposed in an area that have overlapping construction schedule and/or project operations that could affect similar resources. Projects with overlapping construction schedules and/or operations could result in a substantial contribution to increased traffic levels throughout the surrounding roadway network. As previously discussed, with the addition of project construction- and operational-generated trips, area intersections on Brown Road and Inyokern Road (SR-178) and the US 395 On/Off Ramps & Inyokern Rd (SR-178) near the project would continue to operate at an acceptable LOS according to Caltrans performance criteria. As such, the project would not result in any individual transportation impacts during construction or operation of the PV solar facilities. However, cumulative impacts could result if the project's incremental effect were combined with impacts of other past, present, and reasonably foreseeable future projects.

Cumulative impacts from the project, when considered with nearby, reasonably foreseeable planned projects, would occur only during project construction because project operation traffic would be very minimal. As stated above in the evaluation of operational impacts, there would be minimal trip generation once construction activities have concluded. Therefore, operation of the project would result in less-than-significant cumulative impacts.

As described in Chapter 3, *Project Description*, six projects are proposed within the project vicinity. In addition, future residential development nearby would also increase the overall number of vehicle trips within the County.

For purposes of the analysis, the geographic scope for cumulative impacts to transportation and traffic is focused on projects within 6 miles of the project that are currently under construction, planned, or approved, and in particular, projects that would generate cumulative impacts in the area surrounding the project by the year 2019. Related projects within 6 miles of the project are the only ones likely to contribute traffic to the relevant intersections, if constructed concurrently. By assuming simultaneous construction, this analysis accounts for the worst-case scenario. The three projects analyzed in the cumulative traffic analysis (as mentioned in Table 3-5, *Cumulative Projects List*, in Chapter 3, *Project Description*) include Pensco Trust Company (a single axis solar tracker electricity generation facility), Mary Cromwell (a storage and office),

and Donald Ward (a light trucking, storage, landscape rock for xeriscape and salt bagging). As described above, increased traffic associated with personnel and delivery of equipment and materials during project construction (up to 41 peak-hour trips) would not significantly affect traffic volumes or LOS at the intersections or on the roadways surrounding the project site. Throughout peak construction periods for the proposed project, the roadways and intersections that provide primary access to the project site would maintain LOS C or better conditions. Additionally, construction of the portion of the gen-tie line for which the project proponent is responsible would generate very few peak hour trips during project construction. Therefore, the proposed project would not cause construction-related delays or impact existing traffic operations.

Trip generation estimates for the cumulative projects were developed based on information provided by the County and associated traffic impact studies, as available. To assess cumulative traffic conditions at the three study intersections and the one study roadway segment, trips generated by the four cumulative projects were added to the Opening Year (2019) with Project Construction volumes. As shown in **Table 4.15-5, Cumulative (2019) LOS Conditions**, with the addition of project construction-generated trips, the study intersections are forecast to continue to operate at an acceptable cumulative LOS according to Caltrans performance criteria. Although the project would result in the addition of peak-hour construction vehicles to the three study intersections, the cumulative LOS would remain unchanged.

TABLE 4.15-5: CUMULATIVE (2019) LOS CONDITIONS

Study Intersection	Movement	Cumulative		Cumulative with Project Construction		Significant Impact?
		AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS	
Brown Rd & Inyokern Rd (SR-178)	NB	B	B	B	B	No
	SB	B	C	B	C	No
US 395 On/Off Ramps & Inyokern Rd (SR-178)	SB	B	B	B	B	No
US 395 On/Off Ramps & Inyokern Rd (SR-178)	NB	B	B	B	B	No

SB = southbound; NB = northbound.

SOURCE: Ruettgers & Schuler, 2017.

The estimated Opening Year (2019) ADT on Inyokern Road (SR-178) between Brown Road and US 395 is approximately 2,693 vehicles, which equates to a v/c ratio of 0.18 (LOS A) based on the capacity of a two-lane road. The addition of an estimated 56 project-generated construction vehicle trips on this segment of Inyokern Road (SR-178) would represent approximately 2 percent of the total ADT, taking into account vehicle trips generated by cumulative projects. This small increase in ADT on Inyokern Road (SR-178) caused by construction of the project would not affect the v/c ratio, and the LOS would remain unchanged. Additional detail on the roadway segment analysis is provided in Appendix K. Therefore, construction impacts would be less than significant.

Area roadways and intersections currently operate at LOS C or better, and the above-described projects' construction schedules are likely to overlap to some degree, and could potentially generate a significant cumulative increase on those roads. Cumulative impacts would be greatest if the peak construction period of all of these projects overlapped. Although this worst-case scenario is unlikely, even if it were to occur,

it is unlikely that the LOS of the affected road segments would degrade to unacceptable service levels of LOS D or worse, which is the allowable limit in the Kern County General Plan. In addition, implementation of Mitigation Measure MM 4.15-1, which requires preparation of a Construction Traffic Control Plan and includes measures such as designated haul routes for oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, and distributing construction traffic flow across alternative routes to access the project site, would minimize potential impacts. Therefore, with the implementation of Mitigation Measure MM 4.15-1, construction of the project, combined with related projects, would not result in a cumulative impact related to traffic.

The remaining cumulative projects listed in Chapter 3, *Project Description*, are located a greater distance away from the project area. While the construction schedules for those projects may overlap with that of the project, they are several miles away, and their construction vehicles are not likely to travel extensively on the road segments that are in the vicinity of the project site because much of the traffic created by the cumulative projects is likely to disperse in different directions, using various highways and roadways. Additionally, the peak construction traffic created by the cumulative projects would be temporary, and their onsite operations staff would be minimal and not create considerable permanent increases to nearby traffic volumes.

The above discussion describes a highly-conservative scenario, in which there would be a reasonably-foreseeable overlap of construction peak periods for projects proposed in the project area. Based on these findings and the substantial increase in traffic associated with the project and other planned projects, the LOS of area roadways could be temporarily degraded, but likely would not be degraded to worse than the acceptable LOS D. Because traffic increases associated with construction activity end when construction is completed, and operation and maintenance of the project and other planned projects would generate substantially less traffic than construction activities, these projects would not result in any permanent degradation to worse than the acceptable LOS D.

Therefore, with implementation of Mitigation Measure MM 4.15-1, impacts of the project, combined with the related projects, would result in less-than-significant cumulative impacts related to traffic.

Mitigation Measure

MM 4.15-1: Prior to the issuance of construction or building permits, the project proponent/operator shall:

- a. Prepare and submit a Construction Traffic Control Plan to Kern County Public Works Department – Development Review and the California Department of Transportation offices for District 9, as appropriate, for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following issues:
 - i. Timing of deliveries of heavy equipment and building materials;
 - ii. Directing construction traffic with a flag person;
 - iii. 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;

- iv. Ensuring access for emergency vehicles to the project sites;
- v. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
- vi. Maintaining access to adjacent property; and
- vii. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the project sites, and avoiding residential neighborhoods to the maximum extent feasible.

Monitoring shall be conducted on a weekly basis by the project proponent/operator and any deficiencies shall be corrected immediately. Proof of compliance shall be available and furnished at the request of the Kern County Public Works Department-Development Review and the California Department of Transportation at any time during construction of gen-tie facilities.

- b. Obtain all necessary encroachment permits for the work within the road right-of-way or use of oversized/overweight vehicles that will utilize county maintained roads, which may require California Highway Patrol or a pilot car escort. Copies of the approved traffic plan and issued permits shall be submitted to the Kern County Planning and Natural Resources Department, the Kern County Public Works Department-Development Review, and the California Department of Transportation.
- c. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the State and/or Kern County.
- d. Submit documentation that identifies the roads to be used during construction. The project proponent/operator shall be responsible for repairing any damage to non-county maintained roads that may result from construction activities. The project proponent/operator shall submit a preconstruction video log and inspection report regarding roadway conditions for roads used during construction to the Kern County Public Work Department-Development Review and the Kern County Planning and Natural Resources Department.
- e. Within 30 days of completion of construction, the project proponent/operator shall submit a post-construction video log and inspection report to the County. This information shall be submitted in digital video disc format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.15-1, cumulative impacts would be less than significant.

4.16.1 Introduction

This section provides an assessment of potential impacts related to tribal cultural resources that could result from implementation of the proposed project. The analysis in this section is based on the results of the Native American consultation conducted by the County for purposes of compliance with CEQA requirements prompted by Assembly Bill 52 (AB 52), as well as Senate Bill 18 (SB 18) located in Appendix L of this EIR.

4.16.2 Environmental Setting

Refer to Section 4.5, *Cultural Resources*, of this EIR for a greater discussion of the tribal cultural resources environmental setting.

Existing Tribal Cultural Resources

Native American Correspondence and SB 18 and AB 52 Consultation

As part of the County's government-to-government responsibilities pursuant to AB 52 and SB 18, the County requested a Sacred Lands File (SLF) search from the California Native American Heritage Commission (NAHC) for the proposed project in January 2016. The NAHC responded via a letter dated January 11, 2016, stating that no Native American cultural resources are known to exist within the project site or the immediate vicinity. The NAHC also provided a list of Native American groups affiliated with the project site to be contacted for additional information regarding Native American cultural resources. On February 3, 2017, SB 18 notification letters were sent via certified mail to the Native American groups indicated by the NAHC. The letters included a description of the proposed project, the project location, and a notification of the type of consultation that the County was initiating. Also on February 3, 2017, the County sent consultation notification letters via certified mail to Native American groups on the County's Master List pursuant to the requirements of AB 52 pertaining to government-to-government consultation. **Table 4.16-1, *Summary of SB 18 and AB 52 Consultation Efforts***, summarizes the County's consultation efforts to date.

To date, the County has received two responses. In response to the County's SB 18 and AB 52 notification, Diane Versaggi, acting on behalf of Lee Clauss, Cultural Resources Management Director for San Manuel Band of Mission Indians, stated in an email dated February 7, 2017, that the project is not located within San Manuel's ancestral territory, and that the tribe will not be requesting consulting party status under SB 18 or AB 52. Similarly, in response to the County's SB 18 and AB 52 notification, Anthony Madrigal Jr., Tribal Historic Preservation Officer (THPO) for Twenty-Nine Palms Band of Mission Indians, stated in an email dated February 6, 2017, that the THPO is not aware of any archaeological/cultural sites or properties in the project area that pertain to the tribe, and that the tribe currently has no interest in the project and defers to the comments of other affiliated tribes. However, the email did state that if there are inadvertent discoveries of archaeological remains or resources, construction should stop immediately and

the appropriate agency and tribe(s) should be notified. As a result of the County's outreach to appropriate Native American tribes, no tribal cultural resources were identified within the project area.

TABLE 4.16-1: SUMMARY OF SB 18 AND AB 52 CONSULTATION EFFORTS

Tribe/Organization	Consultation Type	Date Letter Mailed	Response Received
San Manuel Band of Mission Indians	SB 18 and AB 52	2/3/2017	San Manuel Band of Missions Indians indicated that the project occurs outside the tribe's ancestral territory and that the tribe does not request consultation under SB 18 or AB 52.
Torres Martinez Desert Cahuilla Indians	SB 18 and AB 52	2/3/2017	No response
Twenty-Nine Palms Band of Mission Indians	SB 18 and AB 52	2/3/2017	Twenty-Nine Palms Band of Mission Indians indicated that they are not aware of any resources in the project area of interest to the tribe and that the tribe has no interest in the project, but that if archaeological resources are inadvertently discovered during construction, construction should stop and the appropriate agency and tribe(s) should be notified.
Kern Valley Indian Council	SB 18	2/3/2017	No response
Tubatulabals of Kern County	SB 18	2/3/2017	No response
Tejon Indian Tribe (Kitanekum)	SB 18	2/3/2017	No response

4.16.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

Native American Heritage Commission

Public Resources Code (PRC) Section 5097.91 established the NAHC, the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

Assembly Bill 52 and Related Public Resources Code Sections

AB 52 was approved by California State Governor Edmund Gerry “Jerry” Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR) or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the *CEQA Guidelines*, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency’s formal notification and the lead agency must begin consultation within 30 days of receiving the tribe’s request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project’s impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published

in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Senate Bill 18

SB 18 (Statutes of 2004, Chapter 905), which went into effect January 1, 2005, requires local governments (city and county) to consult with Native American tribes before making certain planning decisions and to provide notice to tribes at certain key points in the planning process. The intent is to “provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places” (Governor’s Office of Planning and Research, 2005).

The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level, land use designations are made by a local government. The consultation requirements of SB 18 apply to general plan or specific plan processes proposed on or after March 1, 2005.

According to the *Tribal Consultation Guidelines: Supplement to General Plan Guidelines* (Governor’s Office of Planning and Research, 2005), the following are the contact and notification responsibilities of local governments:

- Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government’s jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code Section 65352.3).
- Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the city or county’s jurisdiction. The referral must allow a 45-day comment period (Government Code Section 65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.
- Local government must send a notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code Section 65092).

Local

There are no applicable local regulations for this issue area.

4.16.4 Impacts and Mitigation Measures

Methodology

The proposed project’s potential impacts to tribal cultural resources have been evaluated using a variety of resources, including an SLF search conducted by the NAHC. SB 18 and AB 52 notification letters were

sent to Native American groups and individuals indicated by the NAHC to solicit information regarding the presence of tribal cultural resources. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant adverse effect on tribal cultural resources.

A project would have a significant impact on tribal cultural resources if it would:

- 1) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - a) 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
 - b) 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

Impact 4.16-1a: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe 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).

The SLF search conducted by the NAHC did not indicate the presence of tribal cultural resources within or immediately adjacent to the project site. Furthermore, the County's government-to-government notification and consultation efforts with interested Native American groups conducted pursuant to SB 18 and AB 52 did not result in the identification of tribal cultural resources within the project site. Given that no tribal cultural resources have been identified within or immediately adjacent to the project site, the project would not cause a substantial adverse change in the significance of a tribal cultural resource and no mitigation would be required.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

There would be no impact.

Impact 4.16-1b: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is 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.

As noted above, no tribal cultural resources were identified through the SLF search conducted by the NAHC, nor as part of the County's government-to-government notification and consultation efforts with interested Native American groups conducted pursuant to SB 18 and AB 52. Given that no tribal cultural resources have been identified within or immediately adjacent to the project site, the project would not cause a substantial adverse change in the significance of a tribal cultural resource and no mitigation would be required.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

There would be no impact.

Cumulative Setting, Impacts, and Mitigation Measures

An analysis of cumulative impacts takes into consideration the entirety of impacts that the project, zone changes, and general plan amendments discussed in Chapter 3, *Project Description*, of this EIR, would have on tribal cultural resources. The geographic area of analysis for tribal cultural resources includes the Indian Wells Valley. This geographic scope of analysis is appropriate because the resources within this area are expected to be similar to those that occur on the project area because of their proximity, their similarities in environments and landforms, and their location within the same Native American tribal territories. This is a large enough area to encompass any effects of the project on tribal cultural resources that may combine with similar effects caused by other projects, and provides a reasonable context wherein cumulative actions could affect tribal cultural resources.

Multiple projects, including solar energy production facilities, are proposed throughout the Indian Wells Valley. Cumulative impacts to tribal cultural resources in the Indians Wells Valley could occur if other related projects, in conjunction with the proposed project, had or would have impacts on cultural resources that, when considered together, would be significant.

Potential impacts of the project to tribal cultural resources, in combination with other projects in the area, could contribute to a cumulatively significant impact due to the overall loss of resources unique to the region. However, as discussed above, no tribal cultural resources have been identified in the project area and the project will not have an impact on tribal cultural resources. Therefore, the project would not have a cumulatively considerable contribution to impacts to tribal cultural resources.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

There would be no impact.

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4.17.1 Introduction

This section of the Environmental Impact Report (EIR) describes the affected environment and regulatory setting of the project pertaining to demand for operational utilities (water supply, wastewater, stormwater, solid waste disposal, electricity, and natural gas). This section describes existing infrastructure and levels of service and evaluates whether any improvements are necessary to accommodate the project. The information in this section is based on multiple online sources and published documents, as well as the project-specific Water Demand Memo (QK, 2017b) located in Appendix L of this EIR. The project-specific Water Supply Assessment subsequent update (QK, 2019c) and the Will-Serve Letter (Inyokern CSD, 2020) were also referenced and are both located in Appendix M of this EIR.

4.17.2 Environmental Setting

Water Supply

There are typically three sources of supply water for development: (1) natural sources; (2) manmade sources; and (3) reclamation. Natural sources include rivers, lakes, streams, and groundwater stored in aquifers. Manmade sources include runoff water that is treated and stored in reservoirs and other catchment structures. Reclaimed water is wastewater that has been conveyed to a treatment plant and then treated to a sufficient degree that it may again be used for certain uses, such as irrigation. However, reclaimed water is not potable (drinkable) and must be conveyed in a separate system in order to ensure that there is no possibility of direct human consumption.

Indian Wells Valley

The project site is located within the Indian Wells Valley. The sole source of water supply for potable use within the Indian Wells Valley is groundwater from the Indian Wells Valley Groundwater Basin. The Basin encompasses a surface area of 382,000 acres within portions of Kern, Inyo, and San Bernardino Counties. The Basin receives the majority of its recharge from Sierra Nevada surface drainage. Other recharge sources include surface drainage from the Coso Range, Argus Range, and the El Paso Mountains; inflow from Rose Valley; leakage from the Indian Wells Valley Water Distribution System; and irrigation from deep percolation from agriculture and municipal uses. Annual recharge to the basin ranges has been estimated at 7,650 acre-feet per year (AFY) and the average annual production (outflows) of the basin during 2011–2015 was 32,640 AFY (IWVGA, 2020). The sustainable yield of the basin is considered equal to the natural recharge average of 7,650 AFY.

Water Demand

Indian Wells Valley

On January 16, 2020, the Indian Wells Groundwater Authority (IWGWA) released the Groundwater Sustainability Plan for the Indian Wells Valley Groundwater Basin. This report describes groundwater conditions in the Indian Wells Valley, including groundwater levels and quality. This report documents water use for historical, current and potential future conditions. One of the major findings of this report was that the Indian Wells groundwater basin has been in overdraft since the 1960s (IWVGA, 2020). The basin is also one of 21 groundwater basins identified by the State as in a critical condition of overdraft (DWR, 2016a).

Prior to the Sustainable Groundwater Management Act (SGMA), the primary method for solving groundwater disputes and protecting groundwater basins was litigation. When over-pumping led to a crisis like seawater intrusion or chronic overdraft, people had little choice but to file a lawsuit—called an adjudication—in which all rights to water in a basin could be defined by a court. SGMA now ensures that basins can be managed sustainably through local management plans. In October 2015, Governor Brown signed legislation that provides a comprehensive adjudication process for all groundwater basins that are regulated under the SGMA (DWR, 2016b). Groundwater basins that have been adjudicated by court decision are subject to management by a court-approved Watermaster.

The magnitude of the Basin's overdraft indicates that recovery cannot be achieved with conservation or water recycling alone without jeopardizing beneficial uses; importation of supplemental water is needed. The Basin is not adjudicated (Krieger and Stewart, 2016), meaning groundwater rights have not been defined for the parties withdrawing water from the Basin (WEF, 2017). Adjudication of the Basin would be costly, and since the Indian Wells Valley does not presently have access to imported water, adjudication would result in severe reductions in pumping by all users. However, the IWVGA has drafted a Groundwater Sustainability Plan (GSP) for the basin in accordance with SGMA. The GSP discusses Basin management strategies that will culminate in the absence of undesirable and unsustainable Groundwater conditions in the IWVGB. The GSP recommends management actions and projects and provides measurable sustainability objectives and milestones that are intended to achieve Basin sustainability while considering the unique geologic and hydrogeologic conditions of the IWVGB. The recommendations in the GSP are designed to provide for long-term sustainable groundwater management in the IWVGB within 20 years of GSP implementation. The GSP was adopted via Resolution 01-20 by the IWWVGA Board on January 16, 2020; however, the GSP has not been approved or adopted by DWR.

Wastewater

The Inyokern CSD provides wastewater treatment to approximately 300 connections within the Indian Wells Valley. Wastewater is conveyed to the Inyokern CSD wastewater treatment plant located approximately 1 mile north of the community of Inyokern. The treatment plant has an estimated maximum treatment capacity of 150,000 gallons per day, and currently receives about 45,000 gallons per day on average (Bebee, 2015).

The unincorporated parts of the Indian Wells Valley area that do not have a sewer line connection utilize septic systems to treat household, commercial, and industrial wastewater. Septic system treatment first separates sludge from wastewater effluent in the septic tank, then allows liquid effluent to percolate in

spreading grounds to be filtered by the soil. Septic tanks are emptied regularly by private County certified waste haulers. Runoff from agricultural operations is allowed to infiltrate as agricultural return flows into the ground and does not require treatment.

As the project site is currently undeveloped, there are no septic systems or infrastructure within the project site. Any wastewater generation occurring within the project site would be collected within individual septic systems that would have to be emptied as part of regular ongoing project-related maintenance.

Stormwater Drainage

The majority of the Indian Wells Valley is undeveloped; therefore, stormwater runoff typically runs as sheet flow or in ephemeral drainages, eventually infiltrating into soil. The project site is relatively flat, with an elevation of approximately 2,420 feet above mean sea level (amsl). The land is currently undeveloped and contains minimal vegetation (Terracon, 2015a). A small gully is the only drainage feature that passes through Phase 1 after intersecting its west boundary. The gully is fed by stormwater runoff from two distinct watersheds identified as the Northern and Southern Watersheds. The Northern Watershed and Southern Watershed cover approximately 19,420 acres and 4,620 acres, respectively (SEI, 2015). Soil and drainage characteristics are further described in Sections 4.7, *Geology and Soils*, and 4.10, *Hydrology and Water Quality*, of this EIR.

Solid Waste

Solid waste generally refers to garbage, refuse, sludge, and other discarded solid materials that come from residential, industrial, and commercial activities. Construction, demolition, and inert wastes are also classified as solid waste. Such wastes include nonhazardous building materials such as asphalt, concrete, brick, drywall, fencing, metal, packing materials, pallets, pipe, and wood. The general waste classifications used for California waste management units, facilities, and disposal sites are outlined below. Nonhazardous solid waste consists of organic and nonorganic solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes, and other discarded waste, provided that such wastes do not contain hazardous materials or soluble pollutants in concentrations that would exceed applicable water quality objectives or cause a degradation of waters of the State.

California State law regulates the types of waste that can be disposed of at the different classes of landfills. Class I landfills may accept hazardous and nonhazardous wastes. Class II landfills may accept designated and nonhazardous wastes, and Class III landfills may accept nonhazardous wastes.

Kern County is responsible for meeting the California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939). AB 939 required cities and counties to reduce the amount of solid waste being sent to landfills by 50 percent by January 1, 2000. It also required cities and counties to prepare solid waste planning documents. These documents include the Source Reduction and Recycling Element (SRRE), the Household Hazardous Waste Element (HHWE), and the Nondisposal Facility Element (NDFE). All three of these documents, as well as the Integrated Waste Management Plan, approved February 1998 by the California Integrated Waste Management Board, have been approved for Kern County. The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities.

Construction and demolition (C&D) waste is heavy, inert material. This material creates significant problems when disposed of in landfills. Because C&D waste is heavier than paper and plastic, it is more difficult for counties and cities to reduce the tonnage of disposed waste. For this reason, C&D waste has been specifically targeted by the State of California for diversion from the waste stream. Projects that generate C&D waste should emphasize deconstruction and diversion planning rather than demolition. Deconstruction is the planned, organized dismantling of a prior construction project, which allows maximum use of the deconstructed materials for recycling in other construction projects and sends a minimum amount of the deconstruction material to landfills.

Approved on October 6, 2011, AB 341 intended to promote recycling and diversion of solid waste from landfills by requiring businesses to accomplish recycling activities and/or participate in recycling programs. The Waste Operations Division of the Kern County Public Works Department administers or sponsors the following recycling programs, which contribute toward meeting State-mandated solid waste diversion goals:

- Recycling programs at landfills to recycle or divert a wide variety of products, such as wood waste, cathode ray tubes, tires, inert materials, appliances, etc.;
- Drop-off recycling centers for household recyclables. The County- and the City-operated drop-off recycling centers, which are located in the unincorporated metropolitan area and the city, may be used by both County and city residents;
- Financial assistance for operation of the City of Bakersfield Green Waste Facility;
- The Kern County Special Waste Facility for the disposal of household and small business hazardous waste. Services are provided to all Kern County residents and small businesses;
- Semi-annual “bulky waste” collection events, which are held in the Bakersfield area and available to both County and city residents (co-sponsor);
- Christmas tree recycling campaign (participates jointly with the City of Bakersfield);
- Telephone book recycling program (co-sponsors with Community Clean Sweep);
- Community Clean Sweep summer workshops called “Trash to Treasure,” which educate children about recycling and other Kern County Waste Management Department programs (sponsor);
- An innovative elementary school program called the “Clean Kids Hit the Road Puppet Show” (operates in collaboration with Community Clean Sweep); and
- Recycling trailers for churches, schools, and nonprofit organizations.

Landfills

The Kern County Public Works Department operates seven recycling and sanitary landfills throughout the County. Landfills are located in Bakersfield, Boron, Mojave-Rosamond, Ridgecrest, Shafter-Wasco, Taft, and Tehachapi. The project would likely be served primarily by the Ridgecrest Recycling and Sanitary Landfill (RSLF) located at 3301 Bowman Road in the City of Ridgecrest, approximately 5 miles southeast of the project site. This Class III landfill accepts clean inerts (e.g., source separated asphalt, brick and concrete; C&D waste, including asphalt, brick, concrete, dirt, and metal); dead animals; electronic waste for recycling; greenwaste; ordinary household trash; tires; and treated wood waste (e.g., grape stakes, utility poles; foundation lumber); and used motor oil. The landfill does not accept hazardous waste, hot ashes, and liquids of any kind. As of 2015, approximately 4,283,343 cubic yards (40.8 percent of the total 10,500,000

cubic yard capacity) remained. The permitted maximum daily disposal is 701 tons per day and the average daily disposal is 149 tons per day (CIWMB, 2015).

Other nearby landfills in the project vicinity are the Boron Sanitary Landfill, a Class III landfill which is approximately 47 miles south of the project site at 11400 Boron Avenue in Boron, and the Mojave-Rosamond Recycling and Sanitary Landfill, which is located at 400 Silver Queen Road in Mojave, approximately 48 miles southwest of the project site. Landfill locations, capacity, and anticipated closure dates are presented in **Table 4.17-1, Summary of Kern County Public Works Landfills**.

TABLE 4.17-1: SUMMARY OF KERN COUNTY PUBLIC WORKS LANDFILLS

Landfill	Distance from Project Site	Permit Capacity	Remaining Capacity (cubic yards)	Maximum Permitted Throughput (tons/day)	Ceased Operation Date
Ridgecrest Recycling and Sanitary Landfill 3301 Bowman Road Ridgecrest	5 miles (southeast)	10,500,000 (cubic yards)	4,283,343	701	2050
Boron Landfill 11400 Boron Ave Boron	47 miles (south)	1,057,000 (cubic yards)	94,851	200	2048
Mojave-Rosamond Recycling and Sanitary Landfill 400 Silver Queen Rd. Mojave	48 miles (southwest)	78,000,000 (cubic yards)	76,310,297	3,000	2123
SOURCE: CIWMB 2015; CalRecycle 2017a; CalRecycle 2017b.					

Electricity and Natural Gas

No electricity, natural gas, or telecommunication facilities are currently located at the project site. The project would include construction of 150 feet of 33 kV gen-tie line that would connect to an existing Southern California Edison (SCE) 33 kV electrical distribution line, which then connects to an existing Inyokern Substation. Electricity used during construction will be provided by SCE and a hookup will be installed on the site. Pacific Gas and Electric is the natural gas provider in this area of Kern County.

4.17.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Energy Commission

The California Energy Commission (CEC) is the state's primary energy policy and planning agency. Created in 1974, the CEC has five major responsibilities: forecasting future energy needs and keeping historical energy data, licensing thermal power plants 50 megawatts (MW) or larger, promoting energy efficiency through appliance and building standards, developing energy technologies and supporting renewable energy, and planning for and directing the state response to energy emergencies.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. In 1911, the CPUC was established by Constitutional Amendment as the Railroad Commission. In 1912, the Legislature passed the Public Utilities Act, expanding the Commission's regulatory authority to include natural gas, electric, telephone, and water companies as well as railroads and marine transportation companies. In 1946, the Commission was renamed the California Public Utilities Commission. It is tasked with ensuring safe, reliable utility service is available to consumers, setting retail energy rates, and protecting against fraud.

California Department of Resources Recycling and Recovery

California Department of Resources Recycling and Recovery (CalRecycle) is the state agency designated to oversee, manage, and track California's 76 million tons of waste generated each year. It is one of the six agencies under the umbrella of the California Environmental Protection Agency. CalRecycle administers and provides oversight for all of California's State-managed non-hazardous waste handling and recycling program. CalRecycle provides training and ongoing support for local enforcement agencies that regulate and inspect California's active and closed solid waste landfills.

California Integrated Solid Waste Management Act of 1989 (Public Resources Code 40050, et seq.) or Assembly Bill 939

Pursuant to the California Integrated Solid Waste Management Act of 1989, all cities in California are required to reduce the amount of solid waste disposed in landfills. AB 939 required a reduction of 25 percent by 1995 and 50 percent by 2000. Contracts that include work that will generate solid waste, including C&D debris, have been targeted for participation in source-reduction, reuse, and recycling programs. The contractor is urged to manage solid waste generated by the work to divert waste from disposal in landfills (particularly Class III landfills) and maximize source reduction, reuse, and recycling of C&D debris.

California Solid Waste Reuse and Recycling Access Act of 1991 (California Public Resources Code Chapter 18)

The California Solid Waste Reuse and Recycling Access Act identified a lack of adequate areas for collecting and loading recyclable materials, resulting in a significant impediment to diverting solid waste. This act requires State and local agencies to address access to solid waste for source reduction, recycling, and composting activities. Each local agency must adopt an ordinance related to adequate areas for collecting and loading recyclable materials for development projects.

Assembly Bill 341

Since the passage of AB 939, diversion rates in California have been reduced to approximately 65 percent, the statewide recycling rate is approximately 50 percent, and the beverage container recycling rate is approximately 80 percent. In 2011, the State passed AB 341, which established a policy goal that a minimum of 75 percent of solid waste must be reduced, recycled, or composted by the year 2020. The State provided the following strategies to achieve that 75 percent goal:

1. Moving organics out of the landfill;
2. Expanding the recycling/manufacturing infrastructure;
3. Exploring new approaches for state and local funding of sustainable waste management programs;
4. Promoting state procurement of post-consumer recycled content products; and
5. Promoting extended producer responsibility.

To achieve these strategies, the State recommended legislative and regulatory changes including mandatory organics recycling, solid waste facility inspections, and revising packaging. With regard to construction and demolition, the State recommended an expansion of California Green Building Code standards that incentivize green building practices and increase diversion of recoverable construction and demolition materials. Current standards require 50 percent waste diversion on construction and some renovation projects, although this may be raised to 65 percent for nonresidential construction in upcoming changes to the standards. The State also recommends promotion of the recovery of construction and demolition materials suitable for reuse, compost or anaerobic digestion before residual wastes are considered for energy recovery (CalRecycle, 2020).

California Green Building Code

As part of compliance with the State of California Green Building Code Requirements (known as CALGreen) that took effect beginning January 2011, Kern County implemented the following construction waste diversion requirements:

- Submittal of a Construction Waste Management Plan prior to project construction for approval by the Kern County Building Department;
- Recycling and/or reuse of a minimum 50 percent of construction & demolition waste; and
- Recycling or reuse of 100 percent of tree stumps, rocks and associated vegetation and soils resulting from land clearing.

State Water Resources Control Board and Regional Water Quality Control Board

The primary responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs). The SWRCB sets statewide policy for the implementation of state and federal laws and regulations. The RWQCBs adopt and implement Water Quality Control Plans (Basin Plans), which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities. The project site is within the jurisdiction of the Lahontan RWQCB.

California Water Code Section 13260

California Water Code Section 13260 requires any person who discharges waste, other than into a community sewer system, or proposes to discharge waste that could affect the quality of waters of the State to submit a report of waste discharge to the applicable RWQCB. Any actions of the projects that would be applicable under California Water Code Section 13260 would be reported to the Lahontan Region RWQCB.

California Department of Water Resources

The Department of Water Resources (DWR) is a department within the California Resources Agency, and is responsible for the State of California's management and regulation of water usage. These duties include: preventing and responding to floods, droughts, and catastrophic events; informing and educating the public on water issues; developing scientific solutions; restoring habitats; planning for future water needs, climate change impacts, and flood protection; constructing and maintaining facilities; generating power; ensuring public safety; and providing recreational opportunities.

Senate Bills 610 (Chapter 643, Statutes of 2001) and 221 (Chapter 642, Statutes of 2001)

Senate Bill (SB) 610 and SB 221 are companion measures that seek to promote more collaborative planning among local water suppliers and cities and counties. They require that water supply assessment occur early in the land use planning process for all large-scale development projects. If groundwater is the proposed supply source, the required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. They also require an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries. In addition, the supply and demand analysis must address water supplies during single and multiple dry years presented in five-year increments for a 20-year projection. In accordance with these measures, a WSA is required for a proposed industrial, manufacturing, or processing plant that would house more than 1,000 persons; occupy more than 40 acres of land; or have more than 650,000 square feet of floor area (Californian Water Code Section 10912).

Local

Inyo-Mono Integrated Regional Water Management Plan

An integrated regional water management plan was prepared for the Inyo-Mono Regional Water Management Group (RWMG) which represent watersheds in the eastern Sierra region of California. The plan lists the current water-related project needs of the region and provides a vision for water planning. Watersheds included in the RWMG planning area include, but are not limited to, the Panamint Valley and Indian Wells Valley (Alpert et al., 2014).

Indian Wells Valley Water District Urban Water Management Plan

The Indian Wells Valley Water District (IWWVD) prepared its latest Urban Water Management Plan (UWMP) in 2015 pursuant to California Water Code requirements to address the water needs of the area. The UWMP incorporates water system demands, water supplies, and water quality information. The IWWVD coordinates with the City of Ridgecrest, Eastern Kern County Resource Conservation District, Inyokern CSD, Kern Council of Governments, Kern County Planning and Natural Resources Department, Kern County Water Agency, Naval Air Weapons Station (NAWS) China Lake, San Bernardino County Planning, Searles Valley Minerals, United States Bureau of Land Management, Indian Wells Valley Cooperative Groundwater Management Group (IWVCGMG), and the general public to fulfill the mission, vision, and recommendations of this plan.

Located in Appendix L to the UWMP, the IWWVD also developed a Water Supply Enhancement General Plan, which more specifically addresses the supply needs of the region with the goal of optimizing the use of the existing water supply and evaluating the feasibility of obtaining future supplemental water supplies.

Indian Wells Valley Cooperative Groundwater Management Plan

The Indian Wells Valley Cooperative Groundwater Management Plan (Plan) has been adopted by the IWVCGMG. This Plan, created in 1995 and updated in 2006, was developed as a way for the primary water producers and consumers in the area to jointly manage and evaluate the area's groundwater resources. The Plan includes various provisions to address water management; water conservation; and increasing the life of the aquifer through blending, water importation, and treatment.

Indian Wells Valley Water District Groundwater Sustainability Plan

The Indian Wells Valley is 100 percent dependent on groundwater and has been designated by the California State Department of Water Resources (DWR) as being in a condition of overdraft and of medium priority for groundwater management based on the criteria established by the passage of the Sustainable Groundwater Management Act of 2014 (SGMA). Being in a condition of overdraft was a term developed by DWR to identify basins where "continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts." Overdraft has serious long-term consequences and as such, in compliance with the SGMA, the associated groundwater sustainability agency (GSA) is required to submit a Groundwater Sustainability Plan (GSP) by January 31, 2020, to achieve local sustainable management of groundwater resources. The Indian Wells Valley Groundwater Authority (IWVGA) Board of Directors adopted Resolution No. 02-16, Joint Exercise of

Powers Agreement creating the Indian Wells Valley Groundwater Authority, on December 8, 2016, to establish the IWVGA as the exclusive GSA for the entirety of the IWVGB and undertake the management of groundwater resources pursuant to SGMA. The IWVGA Board established an eleven-person, voting-member Policy Advisory Committee (PAC) to advise the Board on all policy-related matters of the Board and to develop non-binding proposals on policy matters pertaining to the GSP. In addition, the IWVGA Board also established a Technical Advisory Committee (TAC) for the express purpose of giving interested parties a reasonable opportunity to review and conduct a thorough valuation of each technical element of the GSP prior to its finalization by the Water Resources Manager.

In compliance with SGMA, as set forth in California Water Code Section 10720.1, a GSP was developed that discusses Basin management strategies that will culminate in the absence of undesirable and unsustainable Groundwater conditions in the IWVGB. The GSP recommends management actions and projects and provides measurable sustainability objectives and milestones that are intended to achieve Basin sustainability while considering the unique geologic and hydrogeologic conditions of the IWVGB. The recommendations in the GSP are designed to provide for long-term sustainable groundwater management in the IWVGB within 20 years of GSP implementation. The GSP was adopted via Resolution 01-20 by the IWVGA Board on January 16, 2020; however, the GSP has not been approved or adopted by DWR.

Kern County Integrated Waste Management Plan

The Kern County Public Works Department is required by the State to plan and implement waste management activities and programs in the County unincorporated area to assure compliance with AB 939 and subsequent State mandates. The Kern County Integrated Waste Management Plan (IWMP) includes a Reduction and Recycling Element, Household Hazardous Waste Element, and Nondisposal Facility Element. The Plan was approved February 1998 by the California Integrated Waste Management Board (now California Department of Resources Recycling and Recovery or CalRecycle). The Kern County IWMP is the long-range planning document for landfill facilities.

Kern County Construction Waste Diversion Requirements per the California Green Building Code

As part of compliance with the State of California Green Building Code Requirements (known as CALGreen) that took effect beginning January 2011, Kern County implemented the following construction waste diversion requirements:

- Submittal of a Construction Waste Management Plan prior to project construction for approval by the Kern County Building Department;
- Recycling and/or reuse of a minimum 65 percent of construction & demolition waste; and
- Recycling or reuse of 100 percent of tree stumps, rocks and associated vegetation and soils resulting from land clearing (Kern County, 2018).

Kern County General Plan

The policies, goals, and implementation measures in the Kern County General Plan for utilities and service systems applicable to the project are provided below. The Kern County General Plan contains additional policies, goals, and implementation measures that are more general in nature and are not specific to

development such as the project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

1.4 Public Facilities and Services

Goals

- Goal 1: Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the proposed project.
- Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.

Policies

- Policy 1: New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.
- Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.
- Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the CEQA documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.
- Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to ensure the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measures

- Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.
- Measure D: Involve utility providers in the land use and zoning review process.

1.9 Resources

Goals

- Goal 4: Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.
- Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.

Policies

Policy 1: Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.

1.10 General Provisions; 1.10.1 Public Services and Facilities***Policies***

Policy 9: New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.

Policy 15: Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.

Policy 16: The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to serve the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.

Implementation Measures

Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.

Measure D: Involve utility providers in the land use and zoning review process.

Measure E: All new discretionary development projects shall be subject to the Standards for Sewage, Water Supply and Preservation of Environmental Health Rules and Regulations administered by the County's Public Health Services Department. Those projects having percolation rates of less than five minutes per inch shall provide a preliminary soils study and site specific documentation that characterize the quality of upper groundwater in the alternative septic systems would adversely impact groundwater quality. If the evaluation indicated that the uppermost groundwater at the proposed site already exceeds groundwater quality objectives of the Regional Water Quality Control Board or would if the alternative septic system is installed, the applicant would be required to supply sewage collection, treatment, and disposal facilities.

Chapter 5. Energy Element**5.4.5 Solar Energy Development*****Goal***

Goal 1: Encourage safe and orderly commercial solar development.

Policies

- Policy 1: The County shall encourage domestic and commercial solar energy uses to conserve fossil fuels and improve air quality.
- Policy 3: The County should permit solar energy development in the desert and valley planning regions that does not pose significant environmental or public health and safety hazards.
- Policy 4: The County shall encourage solar development in the desert and valley regions previously disturbed, and discourage the development of energy projects on undisturbed land supporting state or federally protected plant and wildlife species.

Inyokern Specific Plan

The Land Use, Open Space, and Conservation Element of the Inyokern Specific Plan has the purpose of identifying physical constraints, public, residential, commercial, and industrial facilities as well as cultural and biological resources within the Plan area. The Land Use, Open Space, and Conservation Element has been adopted as part of the Kern County General Plan. This element of the Inyokern Specific Plan is to supplement the Countywide document.

Land Use, Open Space, and Conservation Element**1.2 Public Facilities*****Goal***

- Goal 1: To provide adequate public services and facilities to meet projected community needs.

Policies

- Policy 1: All new development shall be required to pay its proportional share of the costs of local infrastructure improvements, such as streets, sewers, water lines, and park development.
- Policy 4: New industrial and commercial development shall be required to connect to the Inyokern Community Services District service systems, or shall provide sewage disposal in accordance with requirements of the California Regional Water Quality Control Board, Lahontan District, and the Kern County Environmental Health Services Department. Should new development occur outside the community services district boundaries, but inside the Specific Plan boundaries, annexation to the community services district shall be required unless the development otherwise meets the requirements of the Lahontan District and the Kern County Environmental Health Services Department.

Implementation Measure

- Measure 4: Plans for adequate water and sewer systems for development projects shall be completed and approved in coordination with the Inyokern CSD, the Kern County Environmental Health Services Department and Kern County Fire Department prior to occupancy.

1.5 Industrial

Policy

Policy 2: Industrial development must demonstrate the ability to provide adequate water, sewer and other public services.

Implementation Measures

Measure 3: Utility service to all new development shall be located underground.

Measure 4: All new industrial subdivisions and, where applicable, PD (Precise Development) plans shall include provisions for standard street access, alleys where necessary, and sewer and water connections to the Inyokern CSD.

4.17.4 Impacts and Mitigation Measures

Methodology

Potential impacts to utilities and service systems have been evaluated using a variety of resources, including multiple online sources and published documents, as well as the project-specific Water Demand Memo (QK, 2017b) located in Appendix L of this EIR. The project-specific Water Supply Assessment update (QK, 2019c) and the Will-Serve Letter (Inyokern CSD, 2020) were also referenced, located in Appendix M of this EIR. In addition, current data obtained from the County and State of California about the capacity of landfills was used to identify potential impacts. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria established in *CEQA Guidelines* Appendix G, described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in *CEQA Guidelines* Appendix G, to determine if a project could potentially have a significant adverse effect on utilities and service systems.

A project could have a significant adverse effect on utilities and service systems if it would:

- a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or

- e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

As lead agency, Kern County determined in the Notice of Preparation/Initial Study (NOP/IS) (located in Appendix A of this EIR) that the proposed project would not result in significant impacts to some of these environmental issue areas; these issue areas are thus scoped out of this EIR. Please note that the environmental issue areas discussed in the IS/NOP are different from those noted above, as Appendix G of the *CEQA Guidelines* were revised in January 2019, which was after the IS/NOP was published. It was determined that the project would not:

It was determined that the project would not:

- a. Result in a determination by the wastewater treatment provider that serves or may serve the proposed project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As detailed in the IS/NOP, the project would generate a minimal volume of wastewater. Wastewater produced during construction would be collected in portable toilet facilities and disposed of at an approved facility. During operation, no permanent onsite staff would be required and the project would not require water or wastewater disposal systems. Therefore, minimal wastewater would be generated and the project would not exceed wastewater treatment requirements of the Lahontan RWQCB. No further analysis for this issue area is warranted in the EIR.

Project Impacts

Impact 4.17-1: The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects.

Construction

Water

During construction, bottled potable water would be brought to the project site for drinking needs for construction workers. The overall construction water usage for dust control and site preparation is anticipated to be approximately 73.6 acre-feet (AF) (approximately 24 million gallons) during the 7- to 10-month construction period. Water needed for construction is expected to be provided from a new onsite water well, trucked onto the site from the Inyokern Community Service District, or provided by an offsite water purveyor. The Inyokern Community Services District has provided multiple will-serve letters indicating their ability to provide sufficient water during the construction of the project. However, as discussed in Section 4.10, *Hydrology and Water Quality*, the Indian Wells Valley Groundwater Basin, within which the Inyokern Community Service District is located, is in a critical condition of overdraft. Even with the implementation of Mitigation Measure MM 4.10-2 requiring the project proponent to verify the water source for operation and construction prior to the issuance of building and/or grading permits and Mitigation Measure MM 4.10-3 requiring the project proponent to comply with any restrictions that result from the final Groundwater Sustainability Plan, significant impacts from constructing a new onsite water supply well would remain significant and unavoidable.

Wastewater Treatment Facilities

During construction activities, wastewater would be contained within portable toilet facilities and would be trucked offsite and disposed of at an approved disposal site. The Kern County Environmental Health Services Division is responsible for monitoring the use of portable toilet facilities, and a condition of approval would require the project proponent to provide documentation of a portable toilet pumping contract. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Therefore, there would be no need for the construction or relocation of water or wastewater treatment facilities.

Stormwater Drainage

The project area is presently drained by natural stream channels and drainages and does not rely on constructed stormwater drainage. The existing pattern and concentration of runoff could potentially be altered by project construction activities, such as the grading of access roads. The proposed project would create a small amount of additional impervious surfaces and would use water during construction mainly for site preparation, including dust suppression. However, these changes would not substantially increase the amount of stormwater runoff from the project site, as discussed further in Section 4.10, *Hydrology and Water Quality*, of this EIR.

As described in Section 4.7, Geology and Soils, and in compliance with National Pollutant Discharge Elimination System (NPDES) General Construction Permit requirements, the proposed project would design and submit a site-specific Storm Water Pollution Prevention Plan (SWPPP) to minimize the discharge of wastewater during construction and a Water Quality Management Plan that include best management practices (BMPs) for runoff control as required by Mitigation Measure MM 4.7-3. Therefore, the proposed project would not require new stormwater drainage facilities to manage stormwater runoff during construction or operation, and impacts would be less than significant.

Electrical Power

No electrical facilities are located on the project site as the project site is currently vacant. Electricity is not expected to be consumed in large quantity during project construction, as construction equipment and vehicles are not electric (diesel- or gas-powered). Electricity for construction would be provided by SCE and a hookup would be installed on the project site. Because construction of the project would not displace existing electrical facilities, and would tie into existing offsite facilities, relocation of electrical facilities would not be required. During construction, installation of the new electrical infrastructure would create a temporary environmental disturbance, however, since the electrical power lines would be placed underground for the duration of project, the impact would be less than significant.

Natural Gas

No natural gas pipelines are located on the project site, nor would natural gas be required for project construction. Therefore, relocation or construction of new or expanded natural gas facilities would not be required and impacts would be less than significant.

Telecommunications

No existing telecommunication facilities are located onsite. During construction, telecommunications equipment would be constructed and may include both underground and overhead routing paths.

The project would require telecommunications facilities to meet the communication requirements for interconnecting with the SCE and California Independent System Operator (CAISO) grid and to support project operations during monitoring. Fiber optic communication lines would follow the electrical collector system. The communication lines would link each solar inverter module to the substation and O&M building, which would house the supervisory control and data acquisition (SCADA) system. Since construction of the fiber optic communication lines and land line systems would follow the electrical collector system, relocation of telecommunication facilities would not be required. The construction of new telecommunication facilities would occur simultaneously with the other project improvements that would occur on vacant land and, thus, construction of such facilities would not result in significant environmental impacts. Therefore, impacts would be less than significant.

Operation and Maintenance

Water

During operation and maintenance of the proposed project, it is anticipated that water would be required primarily for PV panel washing, equipment washing, and non-sanitary uses. Long-term operational water demand is expected to be a maximum of 1.22 AFY, primarily to support PV panel washing activities. Water required for proposed project operation would be provided from an onsite water well, trucked onto the site from the Inyokern Community Service District, or provided by an offsite water purveyor. The Inyokern Community Services District has provided multiple will-serve letters indicating their ability to provide sufficient water during the construction of the project.

However, as discussed in Section 4.10, *Hydrology and Water Quality*, the Indian Wells Valley Groundwater Basin is in a critical condition of overdraft. Even with the implementation of Mitigation Measures MM 4.10-2 requiring the project proponent to verify the water source for operation and construction prior to the issuance of building and/or grading permits and Mitigation Measure MM 4.10-3 requiring the project proponent to comply with any restrictions that result from the final Groundwater Sustainability Plan, significant impacts from constructing a new onsite water supply well would remain significant and unavoidable.

Wastewater

As noted above and in the IS/NOP, the project would truck in water or pump from an onsite well for panel washing and would generate a relatively low volume of wastewater. The O&M building would be unmanned and monitored remotely 24 hours per day, seven days a week. No offsite sewage or disposal connections to a municipal sewer system exist or are proposed. Maintenance personnel are expected to visit the project site several times per year for routine maintenance. PV panel washing may occur up to four times per year and is expected to take 10 days to complete per washing activity. Additional staff of two to five people would be required during panel washing. Therefore, no relocation or construction of new or expanded wastewater or wastewater treatment facilities would be required and no impact would occur.

Stormwater Drainage

The design of the proposed project is such that stormwater would remain onsite and infiltration would occur similar to existing conditions. With exception of a few residential structures outside the project boundary, the project site is undeveloped, relatively flat, and covered with soils that allow for stormwater percolation. The impervious surfaces required for the panel columns, and other infrastructure would be minimized as much as possible and no project component would concentrate runoff and exceed the capacity of existing onsite drainages and percolation. Similarly, no component of the project is anticipated to generate a substantial source of polluted runoff. Changes in impervious area would be limited to solar panel columns, inverters, and substations. Solar panels do not measurably increase impervious area since they are mounted on small columns and allow percolation of runoff from each panel to occur in pervious areas effectively the same size as the panel. Any runoff produced follows its natural flow once in the pervious areas.

Since the impervious equipment pads and other structures on the project site would be surrounded by undeveloped land, runoff from the pads and storage systems would percolate to the surrounding pervious areas and mainly follow its natural flow. However, with the implementation of Mitigation Measure MM 4.10-1, in Section 4.10, *Hydrology and Water Quality*, a drainage plan would be developed that would include measures to offset increases in stormwater runoff caused by the project. During the operational phase, the project site would not regularly discharge wastes or provide any sources of pollution that would violate water quality standards or require the construction of stormwater drainage infrastructure. The proposed project is not expected to exceed the capacity of existing stormwater drainage systems or create substantial additional sources of polluted runoff. Impacts would be less than significant with implementation of Mitigation Measure MM 4.10-1.

Electrical Power

Project operation would generate up to 26.6 MW of electrical energy that would help reduce or offset electricity on the state-wide utility grid. The existing infrastructure associated with the gen-tie line has adequate capacity to accept and handle the additional 26.6 MW that would be generated by the project without modifications. Operational energy consumption in the form of electricity would occur at the O&M building and the project's associated structures such as electrical enclosures, and for plant lighting, and security. Power for the project would be supplied by SCE. The switchgear building battery room would supply DC power for the substation protection equipment.

As described in Section 4.6, *Energy*, of this EIR, operation of the project would consume 16,972 kilowatt-hours (kWh) of electricity, which is approximately 0.00002 percent of the total electricity consumption in the SCE service area in 2018. Total electricity generation is estimated to be 65 gigawatt-hours (GWh) over the life of the project, which more than offsets the energy consumed annually to operate the project. Therefore, relocation or construction of new or expanded electrical facilities would not be required during operation and impacts would be less than significant.

Natural Gas

No natural gas facilities would be required for operation of the project. The project includes a solar array and battery storage station that would not require heating from natural gas during operation. Therefore, operation of the project would not require the relocation or construction of new or expanded natural gas facilities and no impact would occur.

Telecommunications

The project would require telecommunications facilities to meet the communication requirements for interconnecting substations associated with the proposed project and to support project operations during monitoring. During operation, the SCADA system would allow individual solar inverter modules and other project elements to be monitored and controlled in the O&M Building from remote locations. Additional fiber optic lines required for the operational phase of the project would be located in proximity to the other telecommunication facilities and would not result in additional demand such that the construction of offsite facilities would be required. Therefore, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.7-3 and MM 4.10-1 through MM 4.10-3 would be required (see Section 4.7, *Geology and Soils*, and Section 4.10, *Hydrology and Water Quality*, for full text).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.7-3 and MM 4.10-1 through MM 4.10-3, impacts would be significant and unavoidable due to the development of a new onsite water well.

Impact 4.17-2: The project would have insufficient water supplies available to serve the project from existing entitlements and resources, and new or expanded entitlement is needed.

Water use for the project would include approximately 73.6 AF (but no greater than 100 AF) for dust suppression during the seven to 10-month construction period and approximately 1.22 AFY throughout its lifetime for panel washing (QK, 2017b). Water supply for the project would be provided by the Inyokern CSD, which obtains its water solely from the Indian Wells Valley Groundwater Basin. The Indian Wells Valley Groundwater Basin's State-designated critical overdraft condition, which still requires a solution. Per Mitigation Measure MM 4.10-2 in Section 4.10, *Hydrology and Water Quality*, the proposed project would be required to comply with any restrictions that result from the final Groundwater Sustainability Plan that is anticipated to be approved by DWR. Implementation of this mitigation measure would help reduce impacts to water supply by ensuring that any applicable restrictions by the Watermaster are enacted. Despite the overdrafted groundwater basin, the Inyokern CSD has provided a Will-Serve Letter for the proposed project indicating they will have sufficient supplies to meet the project's anticipated water demand (Inyokern CSD, 2020). Therefore, it is anticipated that sufficient water supplies would be available to serve the project and the project would not contribute to pre-existing overdraft conditions. Impacts of the project on water supply would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-2, impacts would be less than significant.

Impact 4.17-3: The project would result in a determination by the waste water treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As previously mentioned, the project would generate a minimal volume of wastewater. During construction activities, wastewater would be contained within portable toilet facilities and would be trucked offsite and disposed of at an approved disposal site. Wastewater produced during construction activities would be contained onsite per the SWPPP and disposed of at an approved facility. No permanent staff would be located onsite, and minimal wastewater would be generated, thus the project would not exceed wastewater treatment requirements of the Lahontan RWQCB.

Mitigation Measures

No mitigation required.

Level of Significance

Less than significant.

Impact 4.17-4: The project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Construction

It is anticipated the project would generate minimal amounts of waste during construction. Currently, the project site contains minimal development and would therefore require minimal demolition or removal of large debris. Solar modules would be delivered to the site via shipping containers packaged via use of wood and cardboard materials. The shipping containers materials for module deliveries would be recycled and are not anticipated to generate non-recyclable waste. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. Any hazardous waste generated during construction would be disposed of at an approved location.

The small amount of solid waste generated by construction activities is not expected to exceed the capacity of these landfills. The Ridgecrest Recycling and Sanitary Landfill (RSLF) is approximately 5 miles southeast of the project site and is the landfill most likely to serve the project site for disposal of solid waste. The Ridgecrest RSLF has a remaining capacity of 4,283,343 cy with an estimated closure year of 2050 (CIWMB, 2015). The other solid waste disposal sites that may serve the project include: Boron Sanitary Landfill, approximately 47 miles away with a remaining disposal capacity of 94,851 cy and an anticipated closure date of 2048; and the Mojave-Rosamond RSLF, approximately 48 miles away with a remaining disposal capacity of 76,310,297 cy and an anticipated closure date of 2123 (CalRecycle, 2019). All three landfills are Class III landfills and would accept wastes from construction and demolition, as well as industrial sources, but do not accept hazardous waste, hot ashes, and liquids of any kind.

Additionally, the construction period for the project is expected to be 7 to 10 months and the landfills that would serve the project would be in operation during the construction period. Furthermore, the amount of materials needed to construct the gen-tie line is relatively small in scale compared to the project, and

construction would not require demolition of existing structures. Construction of the gen-tie line route is expected to generate minimal amounts of waste. In addition, with the implementation of Mitigation Measure MM 4.17-1, a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during construction. Therefore, construction impacts of the project to existing landfills are anticipated to be less than significant.

Operation

The project site would produce small amounts of waste associated with operation and maintenance (O&M) activities. Photovoltaic (PV) solar system wastes typically include broken and rusted metal, defective or malfunctioning modules, electrical materials, and empty containers and other miscellaneous solid materials. Most of these materials would be collected and delivered back to the manufacturer for recycling. Small amounts of typical household refuse would be generated by workers during maintenance visits. The operation of the gen-tie line route would not require full-time personnel or cleaning, and would therefore not generate solid waste during operation. As described above, the existing landfills have adequate capacity, and the recycling of decommissioned materials would further reduce the waste stream. Post-construction operational solid wastes would most likely be disposed of at the Ridgecrest RSLF, which is permitted to operate through 2050 (CIWMB, 2015). Therefore, operational solid waste could be disposed of at the Ridgecrest RSLF for the majority of the projects' operational lifespan. During the 4 years of project operation past 2050, it is anticipated that another landfill would have been established to collect solid waste from communities in the project vicinity. In addition, with the implementation of Mitigation Measure MM 4.17-1, a recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste during operation. Therefore, the project would not generate a significant amount of solid waste during operation and would not exceed the permitted capacity of local landfills. Impacts would be less than significant with the implementation of MM 4.17-1.

Decommissioning

Solar PV panels have a lifespan of over 35 years, after which the land could be converted to other uses in accordance with applicable land use regulations in effect at that time. Decommissioning of the gen-tie line route would not generate substantial amounts of solid waste. During decommissioning, a collection and recycling program would be implemented to recycle project components and minimize disposal of project components in landfills. All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities, in accordance with all applicable federal, State, and County regulations. Following decommissioning, the project site would be returned to predevelopment conditions. The decommissioning process could result in larger volumes of waste that require disposal; however, the recycling coordination required in Mitigation Measure MM 4.17-1 would reduce solid waste impacts to a less-than-significant level.

Mitigation Measures

- MM 4.17-1:** During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible.
- a. An onsite Recycling Coordinator shall be designated by the project proponent/operator to facilitate recycling as part of the Maintenance, Trash Abatement and Pest Management Program.

- b. The Recycling Coordinator shall facilitate recycling of all construction waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes.
- c. The onsite Recycling Coordinator shall also be responsible for ensuring wastes requiring special disposal are handled according to State and County regulations that are in effect at the time of disposal.
- d. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.
- e. The project proponent/operator shall provide a storage area for recyclable materials within the fenced project area that is clearly identified for recycling. This area shall be maintained on the site during construction, operations and decommissioning. A site plan showing the recycling storage area shall be submitted prior to the issuance of any grading or building permit for the site.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.17-1, impacts would be less than significant.

Impact 4.17-5: The project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

The proposed project would generate solid waste during construction, operation, and decommissioning. Common construction waste may include metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste related to land development. The 1989 California Integrated Waste Management Act (AB 939) requires Kern County to attain specific waste diversion goals. 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 project. In 2011, the State passed AB 341, which established a policy goal that a minimum of 75 percent of solid waste must be reduced, recycled, or composted by the year 2020. In addition, as part of compliance with CALGreen requirements, Kern County implements the following construction waste diversion requirements:

- Submittal of a Construction Waste Management Plan
- Recycle and/or reuse a minimum 65 percent C&D waste; and
- Recycle or reuse 100 percent of tree stumps, rocks, and associated vegetation and soils resulting from land clearing.

Furthermore, 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 project design. Implementation of Mitigation Measure MM 4.17-1 would ensure compliance with all waste diversion and recycling requirements by requiring recycling during construction, operation, and decommissioning of the project. The proposed project would be required to comply with all federal, State, and local statutes and regulations related to the handling and disposal of solid waste. Therefore, implementation of the project would result in less-than-significant impacts.

Mitigation Measures

Implementation of Mitigation Measure MM 4.17-1 would be required.

Level of Significance after Mitigation

With implementation of the Mitigation Measure MM 4.17-1, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative analysis of impacts on water supply are the related projects in the Indian Wells Valley that would impact the Indian Wells Valley Groundwater Basin. The geographic scope for wastewater includes the Inyokern CSD service area. The geographic scope of analysis for stormwater drainage and solid waste disposal includes the projects that would be relying on the same facilities and infrastructure. Impacts of the proposed project would be cumulatively considerable if the incremental effects of the proposed project when combined with other past, present, or reasonably foreseeable projects (listed in Table 3-5, *Cumulative Project List*, in Chapter 3, *Project Description*) would result in a significant cumulative effect. Physical impacts to public services, utilities, and service systems are usually associated with population in-migration and growth in an area, which increase the demand for a particular service, leading to the need for expanded or new facilities. There is little to no growth associated with the proposed project and nearby other solar and wind energy projects, thereby limiting the potential to contribute to demand for a particular service.

As described above, the proposed project would place few demands on water, stormwater drainage, and solid waste disposal.

Water

Several utility-scale renewable energy solar projects are proposed in Kern County, including supporting infrastructure, such as transmission lines and electrical substations. With many of these projects expected to undergo construction in the next few years, the project vicinity would experience increasing demands on water resources, associated in particular with the construction phase of these projects. The proposed project has a secured agreement to obtain water from the Inyokern CSD during both construction and operation, as indicated by the Will-Serve Letters from the District for the project (Shawn Barker Construction, Inc., 2017 and Inyokern CSD, 2020). However, the project proponent is also proposing to construct and develop an onsite water well. Other cumulative projects are expected to either obtain water from the Inyokern CSD, use permitted onsite wells, or truck in water supplied by an outside water purveyor. The project's use of water within the Indian Wells Valley Groundwater Basin could limit other projects' ability to use Inyokern CSD or other water suppliers to obtain water from the critically-overdrafted Basin. Plans to address this overdraft condition are still underway, but pumping may be restricted in the future. As discussed in Section 4.10, *Hydrology and Water Quality*, even with the implementation of Mitigation Measures MM 4.10-2 requiring the project proponent to verify the water source for operation and construction prior to the issuance of building and/or grading permits and Mitigation Measure MM 4.10-3 requiring the project proponent to comply with any restrictions that result from the final Groundwater Sustainability Plan, cumulative impacts to water supply would be significant and unavoidable.

Wastewater

The project is located in the Inyokern CSD service area, which is the designated wastewater treatment provider for the project area. As described above, the project is not expected to generate a significant amount of wastewater. Wastewater produced during construction would be collected in portable toilet facilities and disposed of at an approved facility. During operation, the project would be unmanned and monitored remotely. Maintenance personnel are expected to visit the project site several times per year for routine maintenance. Offsite restroom facilities with septic tanks and/or portable toilets would be used for sanitary purposes by maintenance staff. Bottled water for the staff would be provided. As such, a minimal amount of wastewater is expected during operations. Therefore, the proposed project would not substantially contribute to a cumulative impact on regional wastewater treatment facilities or capacity.

Stormwater

The project area is presently drained by natural stream channels and drainages and does not rely on constructed stormwater drainage systems. The existing pattern and concentration of runoff could potentially be altered by project activities, such as the grading of access roads; however, the amount of runoff across the project site would not be substantially altered. Therefore, the proposed project is not expected to exceed the capacity of existing stormwater drainage systems in the area or create substantial additional sources of polluted runoff. In accordance with Mitigation Measure MM 4.10-1, the proposed project would implement a drainage plan that would incorporate measures to offset increases in stormwater flows caused by the project. Surrounding projects would also be required to prepare a drainage plan in accordance with Kern County Development Standards and Kern County Code of Building Regulations, that would help avoid substantial increases of stormwater generated onsite by their proposed ground disturbance; depending on the findings of their drainage plan, these projects may need to construct stormwater control structures onsite to reduce the potential for increased stormwater runoff. Additionally, as with the proposed project, all projects that would not retain all runoff onsite would be required to prepare a SWPPP, per Mitigation Measure MM 4.7-3, which would include BMPs designed to prevent the mixture of sediment and other pollutants with stormwater and degrading water quality. Therefore, cumulative impacts related to stormwater would be less than significant.

Solid Waste

The proposed project would generate a minimal amount of waste and is not expected to significantly impact Kern County landfills. However, generation of waste from cumulative projects, including residential and commercial developments, and other solar projects could result in a cumulative impact. To ensure that the proposed project reduces the amount of waste sent to landfills, implementation of Mitigation Measure MM 4.17-1 requires that debris and waste generated shall be recycled to the extent feasible, and an onsite recycling coordinator be designated by the project proponent to facilitate recycling efforts. With implementation of Mitigation Measure MM 4.17-1, the proposed project's incremental contribution to a cumulative scenario would be less than cumulatively considerable. Other planned projects would also comply with State and local waste reduction policies as well. Therefore, the proposed project would not be expected to combine with impacts from past, present, or reasonably foreseeable projects to result in a cumulative impact to landfills.

In conclusion, the proposed project would be self-contained; however, it would have a significant impact on public utilities with regard to water supply. The project's use of water within the Indian Wells Valley

Groundwater Basin could limit other projects' ability to use Inyokern CSD or other water suppliers to obtain water from the critically-overdrafted Basin. The incremental effects of the proposed project on all other utilities and service systems would also not be substantial enough to result in a cumulatively considerable impact. Furthermore, the proposed project would result in a beneficial impact on utility services and offset future stress on energy service providers as energy demand grows in Kern County and Southern California.

Mitigation Measures

Implementation of Mitigation Measures MM 4.7-3, MM 4.10-1 through MM 4.10-3, and MM 4.17-1 would be required.

Level of Significance after Mitigation

Despite implementation of Mitigation Measures MM 4.7-3, MM 4.10-1 through MM 4.10-3, and MM 4.17-1, cumulative impacts would remain significant and unavoidable for water supply.

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4.18.1 Introduction

The following section discusses potential impacts related to wildland wildfire impacts. The analysis in this section is based on a variety of resources, including CAL FIRE maps showing FHSZs, FRAP, and fire history, vegetation data from the Reconnaissance Survey for Agassiz's Desert Tortoise, Habitat Assessments for Burrowing Owl and Mohave Ground Squirrel, and General Biological Resources Assessment (Circle Mountain Biological Consultants, 2015; Circle Mountain Biological Consultants, 2016), Phase I Survey and Phase II Significance Evaluations (ASM, 2019), Hydrology Investigation (SEI, 2014), project location maps, and project characteristics.

4.18.2 Environmental Setting

Site Characteristics and Fire Environment

The California Department of Forestry and Fire Protection (CAL FIRE) maps fire hazard severity zones (FHSZs), based on factors such fuel, slope, and fire weather to identify the degree of fire hazard throughout California (i.e., moderate, high, or very high). While FHSZs do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern. According to the CAL FIRE, Kern County Fire Hazards Severity Zone Maps for the Local Responsible Areas, a majority of the project site is classified as Local Responsibility Area (LRA) and a small portion of the gen-tie line route is classified as Federal Responsibility Area (FRA) Moderate (see **Figure 4.18-1**, *Fire Hazard Severity Zones for Local Responsibility Areas*). The project site is outside of areas identified by CAL FIRE as having substantial or very high fire risk. Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. The project site is not within a State Responsibility Area (SRA). The project site primarily consists of sparse desert vegetation surrounded by major roadways. Existing development in the project vicinity includes wastewater treatment plant, rural access roads, scattered rural residences, a gasoline station, a mobile home and RV park, and the Inyokern Airport; otherwise open space is prevalent in the vicinity. The closest SRA is west of the project site, and is categorized as SRA Moderate (see **Figure 4.18-2**, *Fire Hazard Severity Zones for State Responsibility Areas*).

Fire History

Fire history information can provide an understanding of fire frequency, fire type, most vulnerable project areas, and significant ignition sources. Fire history represented in this section uses CAL FIRE's California Statewide Fire Map that shows fires back through 2013 (CAL FIRE, 2020) and CAL FIRE's Fire and Resource Assessment Program (FRAP) Fire Perimeters: Wildfires 1950-2018 map (CAL FIRE, 2019). Based on a review of these maps, no fires in the recorded history have burned across the project site.

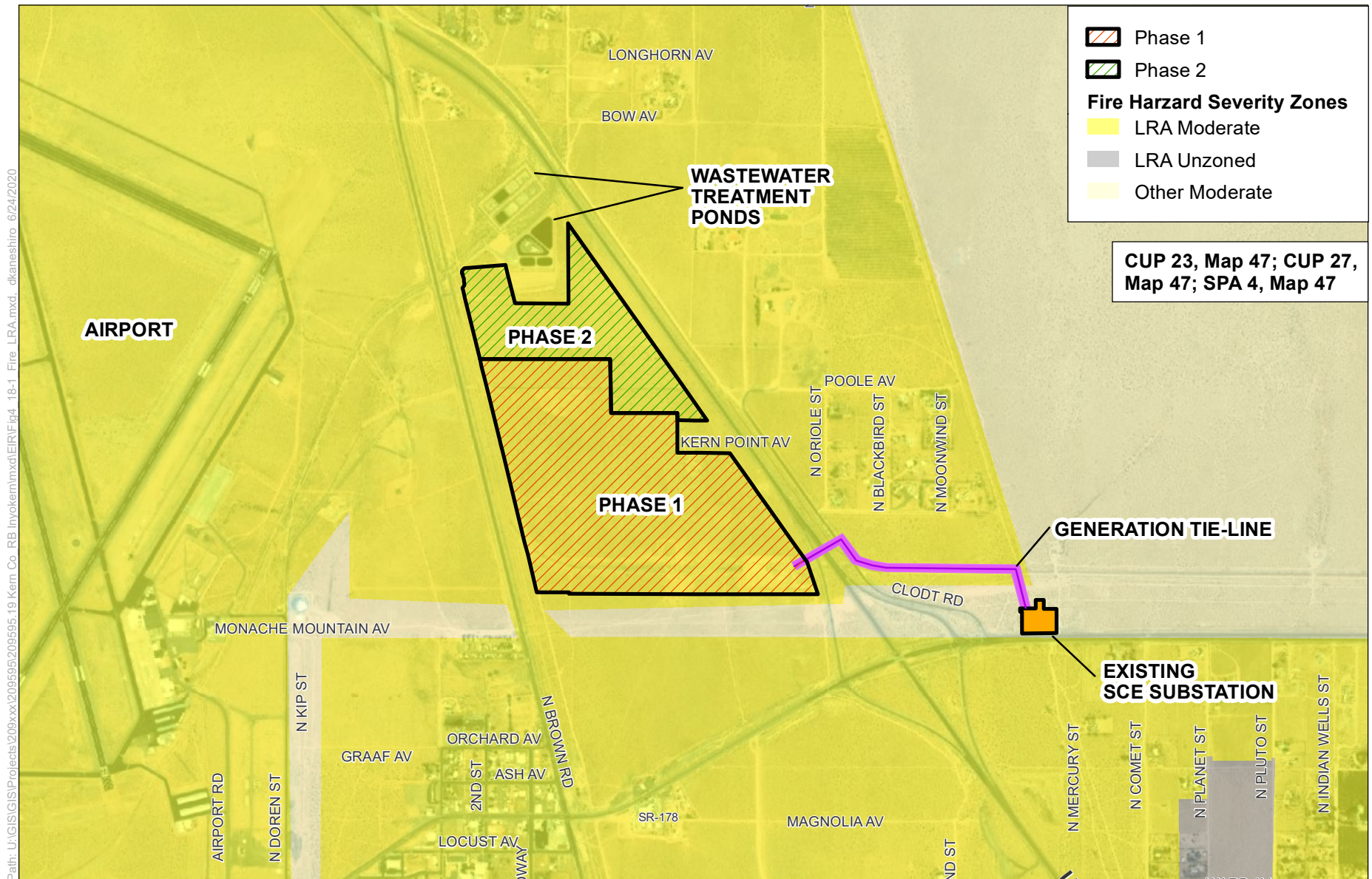


Figure 4.18-1: FIRE HAZARD SEVERITY ZONES FOR LOCAL RESPONSIBILITY AREAS

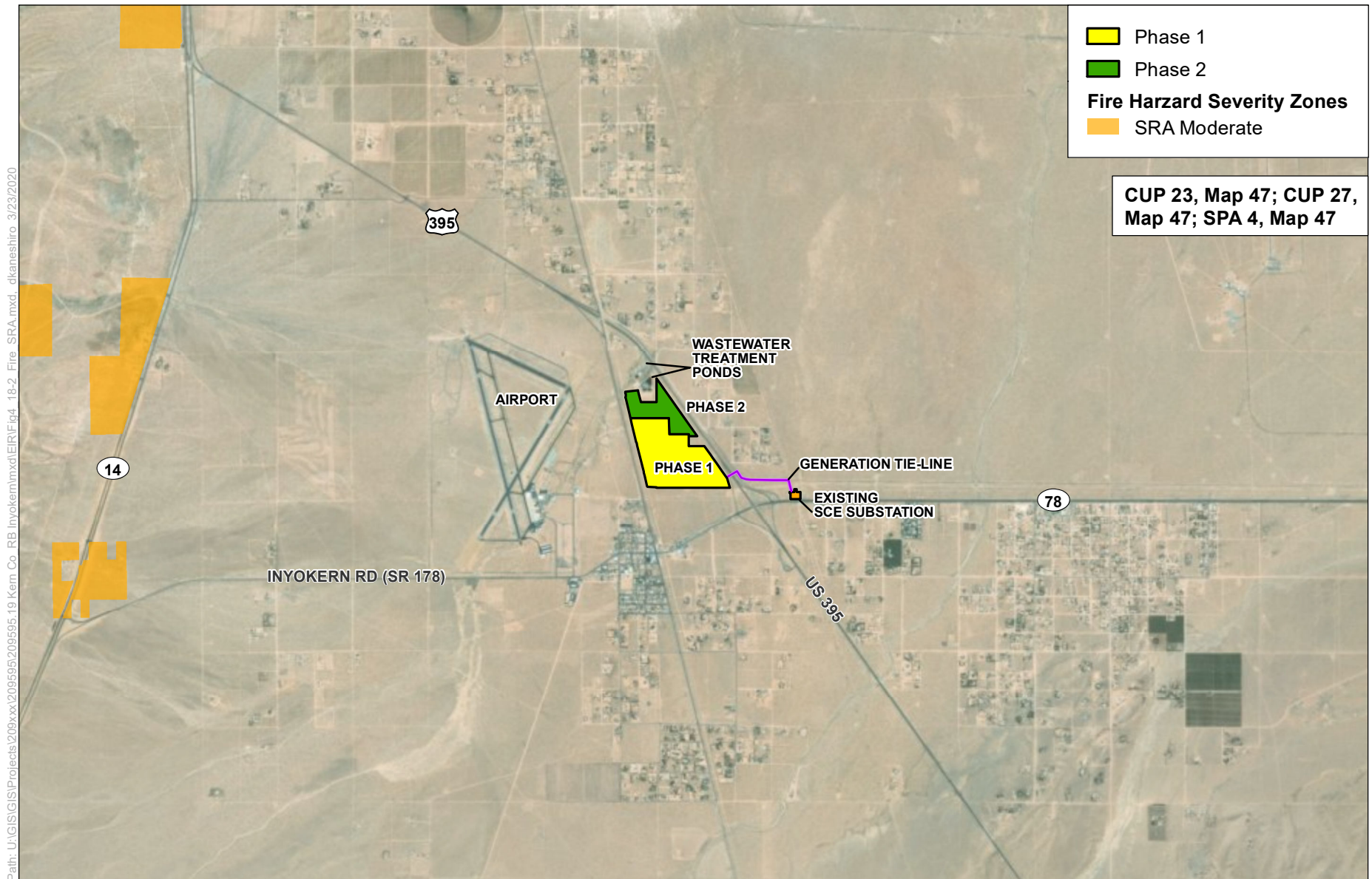


Figure 4.18-2: FIRE HAZARD SEVERITY ZONES FOR STATE RESPONSIBILITY AREAS

Vegetation (Fuels)

A total of 92 plant species were identified on the project site during the biological surveys conducted by Circle Mountain Biological Consultants in 2015 and 2016. Two vegetation communities and land cover types occur within or adjacent to the project site (Circle Mountain Biological Consultants in 2015 and 2016). Phase 1 is vegetated mostly by Mojave creosote bush scrub, which tends more towards allscale (saltbush) scrub in the north portion of Phase 1. Phase 2 is mainly dominated by allscale (saltbush) scrub. Non-native species on the project site are in highest concentrations in previously disturbed areas. A complete list of plant species identified on the project site during site surveys is provided in Appendix D (Circle Mountain Biological Consultants, 2015; Circle Mountain Biological Consultants, 2016).

4.18.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

2016 California Fire Code

The 2016 California Fire Code (Title 24, Part 9, of the California Code of Regulations) establishes regulations to safeguard against the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. Chapter 6 (Building Services and Systems) of the Code focuses on building systems and services as they relate to potential safety hazards and when and how they should be installed. Building services and systems are addressed include emergency and standby power systems, electrical equipment, wiring and hazards, and stationary storage battery systems. Chapter 33 (Fire Safety During Construction and Demolition) of the Code outlines general fire safety precautions to maintain required levels of fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire service features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

2016 California Building Code, Chapter 7A

Chapter 7 of the 2016 California Building Code details the materials, systems, and/or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area. A Wildland-Urban Interface Area is defined in Section 702A as a geographical area identified by the state as a “fire hazard severity zone” in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at

a significant risk from wildfires. The building code details the materials, systems and assemblies used for structural fire resistance and fire-resistance-rated construction separation of adjacent spaces to safeguard against the spread of fire and smoke within a building and the spread of fire to or from buildings.

Public Resources Code Sections 4291–4299

California Public Resources Code Sections 4291–4299 et seq. requires that brush, flammable vegetation, or combustible growth within 100 feet of buildings be maintained. Vegetation that is more than 30 feet from the building, less than 18 inches high, and important for soil stability, may be maintained; as may single specimens of trees or other vegetation that is maintained so as to manage fuels and not form a means of rapid fire transmission from other nearby vegetation to a structure. Additionally, the Public Resources Code outlines infraction fees, certification, and compliance procedures applicable with state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code.

Local

Kern County General Plan

Chapter 4: Safety Element

4.6: Wildland and Urban Fire

Policies

- | | |
|----------|--|
| Policy 1 | Require discretionary projects to assess impacts on emergency services and facilities. |
| Policy 4 | Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents. |
| Policy 6 | All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department. |

Implementation Measure

- | | |
|-----------|--|
| Measure A | Require that all development comply with the requirements of the Kern County Fire Department or other appropriate agency regarding access, fire flows, and fire protection facilities. |
|-----------|--|

Inyokern Specific Plan

The entire project is subject to the provisions of the Inyokern Specific Plan. The Inyokern Specific Plan contains goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Inyokern Area. There are no wildfire-related policies and measures contained in the Inyokern Specific Plan that are applicable to the project.

Kern County Fire Code

Chapter 17.32 of the County Municipal Code details the Kern County Fire Code, which is an adoption of the 2016 California Fire Code with some amendments.

Kern County Fire Department Wildland Fire Management Plan

The KCFD Wildland Fire Management Plan adopted in 2009 assesses the wildland fire situation throughout the SRA within the County. The Plan includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan systematically assesses the existing levels of wildland protection services and identifies high-risk and high-value areas, which are potential locations for costly and damaging wildfires. The plan also ranks the areas in terms of priority needs and prescribes what can be done to reduce future costs and losses. The project site is located within a moderate FHSZ (KCFD, 2009).

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which is an adoption of the 2016 California Fire Code and the 2015 International Fire Code with some amendments. The purpose of the Kern County Fire Code is to regulate the safeguarding of life, property, and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and/or explosion due to handling of dangerous and hazardous materials, conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation, construction, and location of attendant equipment, the installation and maintenance of adequate means of egress, and providing for the issuance of permits and collection of fees therefore.

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in March of 2018 is the most current document that assesses the wildland fire situation throughout the SRA within the County. Similar to other plans, this document includes stakeholder contributions and priorities, and identifies strategic targets for pre-fire solutions as defined by the people who live and work within the local fire problem. The plan provides for a comprehensive analysis of fire hazards, assets at risk, and level of services to systematically assess the existing levels of wildland protection services and identifies high-risk and high-value areas that are potential locations for costly and damaging wildfires. Additionally, the plan provides an annual report of unit accomplishments, which, in 2017, included completion of a number of fuel reduction projects, hosted three wildfire safety expos in Battalions 1, 5, and 7, and the award of three SRA fuel reduction grants for a total of \$500,000. The plan gives an overview of KCFD battalions and ranks these areas in terms of priority needs as well as identifies the areas of SRA. According to the plan, 69 percent of Kern County areas are within a SRA. The County is broken up into six different fuel management areas, Tehachapi, Western Kern, Northern Kern, Mt. Pinos Communities, Kern River Valley, and Valley. The project site is located within Battalion 1 (Tehachapi) which is within a moderate FHSZ within the Tehachapi fire plan management area (KCFD, 2018b).

Fire Prevention Standard No. 503-507 Solar Panels

The Kern County Fire Department Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial & Residential) on March 27, 2019. The standard is implemented in accordance with the 2016 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for photovoltaic ground-mounted and roof-mounted solar panels. The proposed project would mount systems for the modules on steel support posts that would be pile driven into the ground and would therefore comply with the ground mounted requirements of this fire prevention standard. Ground mounted solar panel requirements of this standard include water supply, clearance and combustibles, stationary storage battery/energy storage systems, clean agent system permits, fire extinguisher placement, and emergency vehicle access (KCFD, 2019c).

4.18.4 Impacts and Mitigation Measures

Methodology

Wildfire impacts are considered on the basis of: (1) offsite wildland fires that could result due to the proposed project and (2) onsite generated combustion that could affect surrounding areas. The proposed project's potential impacts associated with wildfires have been evaluated using a variety of resources, including CAL FIRE maps showing FHSZs, FRAP, and fire history, vegetation data from the Reconnaissance Survey for Agassiz's Desert Tortoise, Habitat Assessments for Burrowing Owl and Mohave Ground Squirrel, and General Biological Resources Assessment (Circle Mountain Biological Consultants, 2015; Circle Mountain Biological Consultants, 2016), Phase I Survey and Phase II Significance Evaluations (ASM, 2019), Hydrology Investigation (SEI, 2014), project location maps, and project characteristics. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described below.

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify the following criteria, as established in Appendix G of the *CEQA Guidelines*, to determine if a project could potentially have a significant impact with respect to Wildfires.

A project would have a significant impact with respect to wildfires if it would be located in or near state responsibility areas or lands classified as very high fire hazard severity zones, and if the project would:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan;
- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment;
- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes.

Project Impacts

Impact 4.18-1: The project would substantially impair an adopted emergency response plan or emergency evacuation plan.

The project site is not classified as being within a high FHSZ and is not anticipated to physically impede the existing emergency response plans, emergency vehicle access, or personnel access to the site. The site is located in a rural, sparsely developed areas with limited population. The project site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan. Also in compliance with applicable Fire Code and Building Code requirements, construction managers and personnel would be trained in fire prevention and emergency response. Fire suppression equipment specific to construction would be maintained on site. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Therefore, the project would not conflict with the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan are anticipated and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance

Impacts would be less than significant.

Impact 4.18-2: The project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Slope and wind speed can influence the spread of fires. Upslope topography eventually increases the spread rate of the fire in all fuel beds over flat conditions (International Journal of Wildland Fire 2002, 2010). As described in Chapter 3, *Project Description*, the project site is relatively flat and has an elevation that ranges from approximately 2,300 to 2,400 feet (700 to 730 meters) above mean sea level (amsl). Phase 1 site slopes gradually towards the north, and the Phase 2 site slopes gradually towards the north-northwest. While the proposed project would introduce temporary onsite employees, it would not introduce any permanent occupants that could be exposed to pollutant concentrations from wildfire. Furthermore, the project site classified as a LRA and FRA Moderate and is outside of areas identified by CAL FIRE as having substantial or very high fire risk. Thus, the potential for wildfire on the project site is considered low. Additionally, project construction would comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Given the moderate potential for fire and the lack of permanent occupants, the project is not anticipated to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds and other factors. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance

Impacts would be less than significant.

Impact 4.18-3: The project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

The proposed project includes the option for one or two gen-tie lines as described in Chapter 3, *Project Description*, of this EIR. The proposed project would interconnect to an existing Southern California Edison (SCE) 33-kilovolt electrical distribution line to an existing SCE Inyokern Substation approximately 0.5 miles to the east. The distribution line is located within an existing transmission corridor alongside of the project site. The combined energy of the solar field would transfer to the SCE Inyokern Substation for ultimate delivery of electrical power and communications. All utility poles, cabling, trenches, and corresponding dirt maintenance road associated with the gen-tie line would be maintained during operations and maintenance and therefore, would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment.

Additionally, new project site access roads would be installed throughout the project area. Access roads would be constructed of earthen or gravel materials that are pervious. Roads may be additionally compacted to 90 percent or greater, as required, to support construction and emergency vehicles. Certain access roads may also require the use of aggregate to meet emergency access requirements. These project site access roads would remain in place for ongoing operations and maintenance activities after construction is completed. All new roads would comply with development requirements for emergency access, and therefore, would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment.

Most fires in the desert are caused by lightning or vehicles. The installation of the gen-tie and electrical collector system and internal/perimeter dirt maintenance roads would not be placed within a high FHSZ, and the vegetation would be cleared; therefore, the proposed project would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Additionally, as discussed in Section 4.14, *Public Services*, the project proponent/operator shall develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning, per implementation of Mitigation Measure MM 4.14-1. Implementation of this plan would ensure that potential impacts related to installation or maintenance of associated infrastructure is reduced and, thus, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.14-1 would be required (see Section 4.14, *Public Services*, for full text of Mitigation Measure MM 4.14-1).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.14-1, impacts would be less than significant.

Impact 4.18-4: The project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire instability, or drainage changes.

Development of the proposed project would alter existing onsite drainage patterns and flow paths compared to existing conditions and include the introduction of new impervious surfaces. The project would require implementation of a Stormwater Pollution Prevention Plan (SWPPP), which would include erosion and sediment control BMPs during construction, thereby reducing the potential of erosion and siltation during construction and would control potential flooding events that could occur during construction. Additionally, the proposed new impervious surfaces would generate additional stormwater runoff onsite, albeit in minor quantities compared to existing conditions. However, this could exacerbate potential erosion and sedimentation onsite or downstream. As discussed in Section 4.10, *Hydrology and Water Quality*, Kern County requires development of a drainage plan with the site development grading permit, which will manage stormwater and reduce the risk for offsite impacts due to erosion and impacts on water quality, as implemented by Mitigation Measure MM 4.10-1. Design measures are intended to minimize or manage flow concentration and changes in flow depth or velocity so as to minimize erosion, sedimentation, and flooding on or off site. The drainage plan would include engineer recommendations meant to offset increases in stormwater runoff and would incorporate them into the project design. Since the project site is entirely undeveloped under existing conditions, the project would result in a net increase in the amount of impervious surfaces as a result of constructing equipment foundations, the O&M building and energy storage facilities foundations, and access roads. However, a majority of the project site would remain pervious. Implementation of Mitigation Measure MM 4.10-1 would minimize potential increases in runoff and ensure that the retention basins and other stormwater management features are implemented to minimize erosion and sedimentation to less than significant. As discussed in Section 4.10, *Hydrology and Water Quality*, most of the drainage flow within the project site infiltrates into the soils onsite.

There are no drainage formations on the project site itself. Surface runoff on the project site occurs as sheet flows and generally follows the contours of the ground surface; although the project site is relatively flat, the Phase 1 site slopes gradually towards the north, and the Phase 2 site slopes gradually towards the north-northwest (Terracon, 2015b). The project site is currently undeveloped and contains minimal vegetation (Terracon, 2015a); most drainage flow originating in the study area infiltrates into the soil in the vicinity of the study area. Based on the fire history immediately surrounding the site, moderate zone designation, soil types, and surface hydrology, there is a low potential for the project site to be at risk of post-fire instability or drainage changes.

While the project would introduce new structures to the project site, the structures would not be placed in a highly flammable landscape. Furthermore, with the implementation of Mitigation Measure MM 4.10-1, any potential impacts from runoff and erosion would be minimized. Therefore, the project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-1 would be required (see Section 4.10, *Hydrology and Water Quality*, for full text of Mitigation Measure MM 4.10-1).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1, impacts would be less than significant.

Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for wildfire impacts is considered the Indian Wells Valley. This geographic scope is selected because of its relatively uniform terrain, soil conditions, climate, and habitat value; its low population and development density; and the region's common groundwater basin and water supply considerations. As shown in Chapter 3, *Project Description*, Table 3-5, *Cumulative Projects List*, there are approximately six solar and non-solar projects proposed or approved throughout the Indian Wells Valley in Kern County. Of the approximately six total projects in Kern County, four would be located within 6 miles of the project site.

With regard to impairment of an adopted emergency response plan or emergency evacuation plan, all of the related projects would be required to provide adequate emergency access in accordance with County Fire Code and Building Code requirements and prior to the issuance of a building permit. As previously mentioned, the project site is not classified as being within a high FHSZ, is located in rural, sparsely developed areas with limited population, is not located along an identified emergency evacuation route or within an adopted emergency evacuation plan, and would be in compliance with Fire Code and Building Code requirements including fire prevention and emergency response training for site personnel. As concluded in the discussion of project impacts above, the project would have a less than significant impact related to impairment of an adopted emergency response or evacuation plan. Similar to the project, related projects would be required to determine whether they are classified as being within a high FHSZ, identified within an emergency evacuation route or within an adopted emergency evacuation plan, and whether they meet the requirements of applicable Fire Code and Building Code. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact to an adopted emergency response plan or emergency evacuation plan and, thus, would result in a significant and unavoidable cumulative impact.

With regard to cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire, while the proposed project is not within SRAs and/or high FHSZs, some related projects in the area may be. Similar to the proposed project, all related projects would be required to implement building and landscape design features in accordance with the Fire Code and Building Code to reduce wildfire risk and exposure of occupants to pollutant concentrations from a wildfire. Adherence to the Fire Code and Building Code requirements would minimize potential impacts related to exposure to and the uncontrolled spread of a wildfire. As concluded in the discussion of project impacts above, the project would have a less-than-significant impact related to exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to exposure of project occupants to pollutant concentrations from a wildfire and, thus, would result in a significant and unavoidable cumulative impact.

Related projects may require associated infrastructure such as roads, fuel breaks, and power lines that could exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. These projects would be reviewed by Kern County for land use and zoning consistency and compliance with applicable requirements, and potentially analyzed for environmental impacts. The placement of infrastructure would

adhere to all fire codes to minimize the potential fire risk such as siting and design. The proposed project would involve the installation and maintenance of a gen-tie line, solar panel arrays, an O&M facility, an energy storage facility, a collector substation, and access roads to support project construction and ongoing maintenance and operation. While the potential for fire is considered moderate, Mitigation Measure MM 4.14-1 would be implemented to ensure that a Fire Safety Plan is prepared that contains notification procedures and emergency fire precautions consistent with the 2016 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to the *installation or maintenance of associated infrastructure* and, thus, would result in a significant and unavoidable cumulative impact.

Some related projects could be proposed in areas that could expose people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. Based on the recent fire events in California, all projects would be required to adhere to Kern County's zoning and land use designations and codes, State and local fire codes, and regulations associated with drainage and site stability. These regulations, policies, and codes would reduce the potential for exposing people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. Each project would require site-specific hydrology and drainage studies for effective drainage design. As concluded in the discussion of project impacts above, with the implementation of Mitigation Measure MM 4.10-1, the project would not expose people or structures to significant risks due to post-fire slope instability or drainage changes and would have a less-than-significant impact. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to *exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes* and, thus, would result in a significant and unavoidable cumulative impact.

Mitigation Measures

Implementation of Mitigation Measures MM 4.10-1 and MM 4.14-1 would be required (see Sections 4.10, *Hydrology and Water Quality*, and 4.14, *Public Services*, for full text of Mitigation Measures MM 4.10-1 and MM 4.14-1, respectively).

Level of Significance after Mitigation

Even with implementation of Mitigation Measures MM 4.10-1 and MM 4.14-1, impacts would remain significant and unavoidable.

Chapter 5

Consequences of Project Implementation

5.1 Environmental Effects Found to Be Less than Significant

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.”

Kern County has engaged the public in the scoping of the environmental document. Comments received during scoping have been considered in the process of identifying issue areas that should receive attention in the EIR. The EIR’s contents were established based on the Notice of Preparation/Initial Study (NOP/IS) located in Appendix A of this EIR that was prepared in accordance with the *CEQA Guidelines* and in consideration of public and agency input received during the scoping process.

Issues that were found to have no impact or less-than-significant impacts do not need to be addressed further in this EIR. Based on the findings of the NOP/IS and the results of scoping, it was determined that the project would have no impact with regard to the following impact thresholds:

- Population and Housing
- Recreation

The NOP/IS determined that the proposed project would not include any permanent employees as the operations and maintenance (O&M) buildings would be remotely operated. Maintenance personnel would be expected to visit the project site several times per year for routine maintenance, but they would likely be drawn from the local labor force and would commute from their permanent residences to the project site during those times. However, even if the maintenance employees were hired from out of the area and had to relocate to eastern Kern County, the minor addition of persons to this area would not result in a substantial increase in population in the area. Consequently, this would represent a minor increase in the number of users at local recreational facilities. As a result, the project would not directly or indirectly induce the development of any new housing or businesses, and there would not be a detectable increase in the use of parks or other recreational facilities. No impacts to population and housing or recreation would occur and no further analysis is warranted.

For all other resource areas, this EIR contains a comprehensive analysis of potential environmental impacts.

After further study and environmental review, as provided in this EIR, it was determined that most project-level impacts in the following areas would be less than significant or could be reduced to less-than-significant levels with mitigation measures; however, these resource areas are evaluated in this EIR for their potential significance:

- Aesthetics
- Agriculture and Forestry
- Biological Resources
- Land Use and Planning
- Mineral Resources
- Noise

- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Public Services
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

5.2 Significant Environmental Effects that Cannot Be Avoided

CEQA Guidelines Section 15126.2(b) requires that the EIR describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. Potential environmental effects of the project and proposed mitigation measures are discussed in detail in Chapter 4 of this EIR.

After further study and environmental review, as provided in this EIR, it was determined that certain project-level and cumulative impacts in the following areas would be significant and unavoidable for the project, even with the incorporation of reasonable mitigation measures, which would attempt to reduce impacts to the greatest extent feasible.

As shown in **Table 5-1**, *Summary of Significant and Unavoidable Impacts of the Project*, impacts in the following areas would be significant and unavoidable, even with the incorporation of feasible mitigation measures that attempt to reduce impacts to the extent feasible.

TABLE 5-1: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

Resources	Project Impacts	Cumulative Impacts
Aesthetics	Although implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3 would reduce the visual changes experienced at individual key observation point locations, there are no mitigation measures that would allow for the preservation of the existing visual character of the area; and the resultant visual impact is considered significant and unavoidable .	The project would have cumulatively significant and unavoidable aesthetic impacts after implementation of mitigation. Although implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3 would reduce the adverse visual changes experienced at individual key observation point locations, there are no mitigation measures that would allow for the preservation of the existing visual character of the area. The conversion of approximately 166.5 acres of currently undeveloped land to a solar energy production facility is considered a significant and unavoidable cumulative impact.

TABLE 5-1: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

Resources	Project Impacts	Cumulative Impacts
Air Quality	Even with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-12, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM _{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project level impacts.	Although implementation of Mitigation Measures MM 4.3-1 through MM 4.3-12 would reduce impacts to air quality, the proposed project would not result in a cumulatively considerable impact related to the incremental contribution to the Mojave Desert Air Basin Emissions Inventory. However, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM _{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable cumulative level impacts.
Biological Resources	There would be no significant and unavoidable project impacts.	As development increases within Kern County, impacts to biological resources within the region are increasing on a cumulative level. When considered with other past, present, and probable future projects, which encompass Indian Wells Valley in the western Mojave Desert, the project would have an incremental contribution to a cumulative loss of foraging and nesting habitat for other special-status species, even with the implementation of project-specific Mitigation Measures MM 4.4-1 through MM 4.4-14 and MM 4.1-4. This loss of foraging and nesting habitat for special-status species that may utilize habitat on the project site would result in a significant and unavoidable cumulative impact.
Hydrology and Water Quality	The proposed project would depend on groundwater supplies for construction and operation. The proposed project has secured an agreement with Inyokern Community Services District, which obtains its water from the Indian Wells Valley Groundwater Basin. The Basin is currently in a critical condition of overdraft. Although implementation of Mitigation Measures MM 4.10-2 and MM 4.10-3 would require compliance with current restrictions on groundwater use within the final Groundwater Sustainability Plan and would require the project proponent to verify the water source for project construction and operation, the proposed use of groundwater supplies from a critically-overdrafted groundwater basin would result in a significant and unavoidable cumulative impact.	The project itself would result in significant and unavoidable impacts to groundwater supplies given that the Indian Wells Valley Groundwater Basin is in a condition of critical overdraft. Other projects proposed in the Indian Wells Valley Groundwater Basin for water supply. Although implementation of Mitigation Measures MM 4.7-3, MM 4.9-1, and MM 4.10-1 through MM 4.10-3 would be required, the use of overdrafted groundwater supplies by the proposed project as well as other projects would result in a significant and unavoidable cumulative impact.

TABLE 5-1: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

Resources	Project Impacts	Cumulative Impacts
Noise	It is anticipated that there would be times during the project's construction activities where the nearest sensitive receptors would be exposed to a perceptible change in noise levels of greater than 5 dBA, even with adherence to all applicable Kern County noise requirements and implementation of Mitigation Measures MM 4.13-1 through MM 4.13-3. Therefore, the project would result in perceptible temporary increases in noise levels during construction and this impact would be considered significant and unavoidable .	There would be no significant and unavoidable cumulative-level impacts.
Utilities and Service Systems	The Indian Wells Valley Groundwater Basin, within which the Inyokern Community Service District is located, is in a critical condition of overdraft. Even with the implementation of Mitigation Measure MM 4.7-3 requiring a Water Quality Management Plan and best management practices, Mitigation Measure MM 4.10-2 requiring the project proponent to verify the water source for operation and construction prior to the issuance of building and/or grading permits, and Mitigation Measure MM 4.10-3 requiring the project proponent to comply with any restrictions that result from the final Groundwater Sustainability Plan, significant impacts from construction and operation of a new onsite water supply well would remain significant and unavoidable .	The Indian Wells Valley Groundwater Basin is in a critical condition of overdraft. Plans to address this overdraft condition are still underway, but pumping may be restricted in the future. Although the project has an agreement with Inyokern Community Services District for water supply, the proposed project's use of this water could preclude other projects from obtaining a water supply from water purveyors that depend on the Indian Wells Valley Groundwater Basin for water supply, including the Inyokern Community Services District. Although implementation of Mitigation Measures MM 4.7-3, MM 4.10-1 through MM 4.10-3, and MM 4.17-1 would be required, affecting available local water purveyor supply would result in a significant and unavoidable cumulative impact.
Wildfire	There would be no significant and unavoidable project impacts.	Despite implementation of Mitigation Measures MM 4.10-1 and MM 4.14-1, given the location in a rural area, the project and related projects have the potential to result in a cumulative impact related to the following: an adopted emergency response plan or emergency evacuation plan; exposure of project occupants to pollutant concentrations from a wildfire; installation or maintenance of associated infrastructure; and exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage change. Thus, would result in a significant and unavoidable cumulative impact.

5.3 Irreversible Impacts

CEQA Guidelines Section 15126.2(c) defines an irreversible impact as an impact that uses nonrenewable resources during the initial and continued phases of the project. Irreversible impacts can also result from damage caused by environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to ensure that such consumption is justified.

Build-out of the project would commit nonrenewable resources during project construction. During project operations, oil, gas, and other fossil fuels and nonrenewable resources would be consumed, primarily in the form of transportation fuel for project employees. Therefore, an irreversible commitment of nonrenewable resources would occur as a result of long-term project operations. However, assuming that those commitments occur in accordance with the adopted goals, policies, and implementation measures of the Kern County General Plan and the Inyokern Specific Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan and the Inyokern Specific Plan ensure that any irreversible environmental changes associated with those commitments will be minimized.

5.4 Growth Inducement

The Kern County General Plan recognizes that certain forms of growth are beneficial, both economically and socially. *CEQA Guidelines* Section 15126.2(d) provides the following guidance on growth-inducing impacts:

A project is identified as growth-inducing if it “would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

Growth inducement can be a result of new development that requires an increase in employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the project would not induce substantial growth. There is no on-site workforce for the project. It is anticipated that the construction workforce would commute to the sites each day from local communities, and the majority would likely come from the existing labor pool as construction workers travel from site to site as needed. Construction staff not drawn from the local labor pool would stay in any of the local hotels in Inyokern, Ridgecrest or other local communities.

Although the project would contribute to the energy supply, which supports growth, the development of power infrastructure is a response to increased market demand. It does not induce new growth. Kern County planning documents already permit and anticipate a certain level of growth in the area of the project and in the State as a whole, along with attendant growth in energy demand. It is this anticipated growth that drives energy-production projects, not vice versa. The project would supply energy to accommodate and support existing demand and projected growth, but it would not foster any new growth. Therefore, any link between the project and growth in Kern County would be speculative.

In *Kerncrest Audubon Society v. Los Angeles Department of Water and Power*, the analysis of growth-inducing effects contained in the EIR for the Pine Tree Wind Development Project was challenged. Plaintiffs argued that the discussion was too cursory to provide adequate information about how additional electricity generated by the project would sustain further growth in the Los Angeles area. The court held that the additional electricity that the project would produce was intended to meet the current forecast of growth in the Los Angeles area. As such, the wind development project would not cause growth, and so it was not reasonable to require a detailed analysis of growth-inducing impacts. In addition, EIRs for similar energy projects have contained similarly detailed analyses of growth-inducing impacts. Their conclusions that increasing the energy supply would not create growth has been upheld, because: (1) the additional energy would be used to ease the burdens of meeting existing energy demands within and beyond the area of the project; (2) the energy would be used to support already-projected growth; or (3) the factors affecting growth are so multifarious that any potential connection between additional energy production and growth

would necessarily be too speculative and tenuous to merit extensive analysis. Thus, as has been upheld in the courts, this level of analysis provided in this EIR is adequate to inform the public and decision makers of the growth-inducing impacts of the project.

6.1 Introduction

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or lessen any significant environmental impacts of the project while attaining most of the project's basic objectives. An EIR also must compare and evaluate the environmental effects and comparative merits of the alternatives. This chapter describes alternatives considered but eliminated from further consideration (including the reasons for elimination), and compares the environmental impacts of several alternatives retained with those of the project.

The following are key provisions of the *CEQA Guidelines* (Section 15126.6):

- The discussion of alternatives shall focus on alternatives to the project or its site that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly;
- The No-Project Alternative shall be evaluated, along with its impacts. The no-project analysis shall discuss the existing conditions at the time the notice of preparation was published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services;
- The range of alternatives required in an EIR is governed by a “rule of reason.” Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project;
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR; and
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in *CEQA Guidelines* Section 15126.6(f)(1)) are environmental impacts, site suitability, economic viability, social and political acceptability, technological capacity, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the project proponent could reasonably acquire, control, or otherwise have access to an alternative site. If an alternative has effects that cannot be reasonably identified, if its implementation is remote or speculative, and if it would not achieve the basic project objectives, it need not be considered in the EIR.

6.1.1 Significant Impacts of the Project after Mitigation

Implementation of the proposed project has the potential to have significant adverse effects on:

- Aesthetics (project and cumulative)
- Air Quality (project and cumulative)
- Biological resources (cumulative only)
- Hydrology and Water Quality (project and cumulative)
- Noise (project only)
- Utilities (project and cumulative)
- Wildfire (cumulative only)

Even with the mitigation measures described in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR, impacts in these issue areas would be significant and unavoidable. Therefore, per the *CEQA Guidelines*, this section discusses alternatives that are capable of avoiding or substantially lessening effects on these resources. The significant and unavoidable impacts of the proposed project are discussed below.

Aesthetics

As discussed in Section 4.1, *Aesthetics*, implementation of the project would result in potentially significant visual impacts to the existing visual quality or character of the site and surrounding area. When introduced into the project viewshed, the industrial nature of the project would substantially change the existing visual character of the landscape as viewed from sensitive receptors for the life of the project. Operation of a solar power generation and battery storage facility of this size would introduce new infrastructure and other anthropogenic features; alter the existing visual character of the landscape from one that is rural to more industrial in nature; be seen by viewers of high, moderately high, and moderate sensitivity; and reduce existing scenic quality through the intrusion of human-made elements on land that is currently largely undeveloped. Native vegetation would be left in place around the project site where feasible, allowing for a natural screening of project components. Mitigation Measures MM 4.1-1 through MM 4.1-6 would be incorporated to reduce visual impacts through debris clearing, color treatment of buildings, minimizing lighting, minimizing glare from solar panels, and minimizing glare from onsite buildings. However, there are no feasible mitigation measures that can be implemented to preserve the existing open space landscape while at the same time developing a solar energy facility. Therefore, impacts to visual character would remain significant and unavoidable despite implementation of these mitigation measures.

Additionally, while other projects in the region would also be required to implement various mitigation measures to reduce impacts, the conversion of thousands of acres in a presently rural area to solar and wind energy production uses cannot be mitigated to a degree that impacts are no longer significant. Therefore, even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-6, the project's contribution to significant impacts associated with visual character in the Antelope Valley would be cumulatively significant and unavoidable.

Air Quality

With project implementation, long-term increases in operational emissions of primary concern within the region (i.e., ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}) would be minimal and would not exceed applicable significance thresholds. Furthermore, construction and decommissioning of the project would not result in temporary increases of emissions that would exceed Eastern Kern Air Pollution Control District's (EKAPCD's) significance thresholds. As a result, construction- and decommissioning-generated emissions, would not exceed EKAPCD's significance thresholds. Additionally, development of the project would require implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9, in order to reduce emissions during construction and decommissioning of the project. With implementation of this mitigation, temporary increases in emissions during construction and decommissioning would not exceed the Eastern Kern Air Pollution Control District (EKAPCD) significance thresholds.

To evaluate the contribution of the project's operational emissions relative to the cumulative air quality conditions in Kern County and the Mojave Desert Air Basin (MDAB), the project's specific emissions are compared to the 2020 projected emissions of the MDAB and Kern County portion of the MDAB. The proposed project would result in cumulatively considerable impacts related to incremental contribution to the MDAB Emissions Inventory during short-term construction activities. However, the project proponent would be required to implement and comply with a number of regulations and implement Mitigation Measures MM 4.3-1 through MM 4.3-9. This would result in emission reductions through their inclusion in project construction and long-term design. Cumulative impacts would be temporary significant and unavoidable during construction and decommissioning of the project even after the implementation of Mitigation Measures MM 4.3-1 through MM 4.3-9. Cumulative impacts related to operation would be less than significant.

Additionally, emissions of NO_x, CO, and PM₁₀ during construction of the project would be below the EKAPCD's significance thresholds with the implementation of Mitigation Measures MM 4.3-1 through MM 4.3-12. However, as explained earlier, given existing scientific constraints, it is not feasible to analyze health risks associated with criteria pollutant emissions and impacts from construction activities and specifically with a new coronavirus (COVID-19), which has limited research; therefore, the impacts on air quality and health for both project and cumulatively would remain significant and unavoidable.

Biological Resources

There are a number of special-status species that currently utilize the project site and surrounding vicinity. Implementation of the project in addition to the other projects underway or proposed within Kern County would impact transient wildlife species, including burrowing owls, Swainson's hawk, other raptors, Mohave ground squirrel, and desert tortoise. The project site contains habitat that support insects, rodents, and small birds that provide a prey base for raptors and terrestrial wildlife. In addition, based on the literature review and database search completed for the project, the region is known to support a diversity of special-status species, most of which are expected to utilize the project site on at least a transient basis. Within the regional context and when considered with other past, present, and reasonably foreseeable future projects, the project would have an incremental contribution to a cumulative loss of foraging and nesting habitat for special-status bird species, even with the implementation of project-specific mitigation measures. Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-13 and MM 4.1-4 would help reduce impacts to special status species. This mitigation involves avoidance and minimization for special-status plant species, Mojave tarplant avoidance and permitting, Mohave ground squirrel permitting,

preconstruction surveys for desert tortoise, general biological monitoring, construction worker training, general best management practices, raven management, preconstruction clearance surveys, preconstruction surveys for burrowing owl, measures to protect nesting birds, restoration of Mojave creosote scrub habitat, and an avian mortality monitoring program. In addition, Mitigation Measure MM 4.1-4 (from Section 4.1, *Aesthetics*, in this EIR) would minimize nighttime lighting and reduce impacts to special status species. However, given the present and reasonably foreseeable future development projects in the Indian Wells Valley, the proposed project, when combined with other projects, would result in a significant and unavoidable cumulative loss of foraging and nesting habitat for special-status species.

Hydrology and Water Quality

The proposed project would depend on groundwater supplies for construction and operation. The Inyokern Community Services District (CSD) has provided two “will-serve” letters agreeing to supply water for the project. The Inyokern CSD obtains its water from the Indian Wells Valley Groundwater Basin, which is in a designated state of overdraft. Per Mitigation Measure MM 4.10-2, the project proponent would be required to comply with any restrictions from the recently adopted Groundwater Sustainability Plan; the Plan is designed to address overdraft conditions in the Basin and implement projects to get the Basin towards a safe groundwater yield. However, the project’s proposed use of water from the critically overdrafted Basin, which would be highest during the initial construction period, could nonetheless potentially exacerbate overdraft conditions, resulting in a significant and unavoidable impact to groundwater supplies.

Noise

During construction, the project would result in a temporary increase in noise levels at the closest offsite residential receptors located approximately 500 feet from the nearest project boundary. Maximum construction noise levels (L_{max}) at the nearest residence, at approximately 500 feet, would be approximately 64.9 to 72.4 dBA, where ambient noise levels are estimated to range from approximately 34 to 52 dBA L_{eq} . An increase in noise levels of greater than 5 dBA is typically readily perceptible with respect to human perception, and therefore, considered a substantial increase. Implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4 would reduce construction-related noise levels by requiring equipment to be located as far from the noise sensitive receptors as possible and directing noise away from sensitive receptors; requiring equipment to be fitted with approved mufflers and baffles; establishing a noise disturbance coordinator for the project site; ensuring compliance with the County’s noise ordinance and hours of operation and providing written notice of construction to the public; and installing a temporary construction fence with noise blankets. However, even with adherence to all applicable Kern County noise requirements and implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4, there could be times during construction activities where the nearest sensitive receptors would be exposed to a perceptible change (i.e., substantial increase) in ambient noise levels (an increase of 5 dBA or greater). However, even after mitigation, the project would result in a substantial temporary increase in noise levels at sensitive receptors during construction and decommissioning and this impact would remain significant and unavoidable.

Utilities and Services Systems

Several utility-scale renewable energy projects are proposed in Kern County, including wind and solar projects, and supporting infrastructure, such as transmission lines and electrical substations. With many of these projects expected to undergo construction in the next few years, the project vicinity would experience increasing demands on water resources, associated in particular with the construction phase of these projects. The proposed project has a secured agreement to obtain water from the Inyokern CSD during both construction and operation, as indicated by the Water Supply Assessment (QK, 2018) and the Will-Serve Letter (Inyokern CSD, 2020), located in Appendix M of this EIR. Other cumulative projects are expected to either obtain water from the Inyokern CSD, use permitted onsite wells, or truck in water supplied by an outside water purveyor. The project's use of Inyokern CSD water could limit other projects' ability to use Inyokern CSD or other water suppliers that obtain water from the critically overdrafted Indian Wells Valley Groundwater Basin. Plans to address this overdraft condition are still underway, but pumping may be restricted in the future. Per Mitigation Measure MM 4.10-2 in Section 4.10, *Hydrology and Water Quality*, the proposed project would be required to comply with any restrictions that result from the Groundwater Sustainability Plan that has been drafted for the Indian Wells Valley Groundwater Basin and is awaiting approval by DWR. However, the project's most intensive water use period (construction) could occur prior to finalization of this Plan. Therefore, impacts to water supply would be significant and unavoidable at both the project and cumulative level.

Wildfire

With regard to impairment of an adopted emergency response plan or emergency evacuation plan, all of the related projects would be required to provide adequate emergency access in accordance with County Fire Code and Building Code requirements and prior to the issuance of a building permit. With regard to cumulative impacts related to exposure of project occupants to pollutant concentrations from a wildfire, while the proposed project is not within SRAs and/or High Fire Hazard Severity Zones, some related projects in the area may be. Related projects may also require associated infrastructure such as roads, fuel breaks, and power lines that could exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Some related projects could be proposed in areas that could expose people or structures to risks from downslope or downstream flooding or landslides as a result of post-fire instability. However, these projects would be reviewed by Kern County for land use and zoning consistency and compliance with applicable requirements, and potentially analyzed for environmental impacts. The implementation of related projects would adhere to all fire codes to minimize the potential fire risk such as siting and design.

Furthermore, as previously mentioned, the project site is not classified as being within a high fire hazard severity zone, is located in rural, sparsely developed areas with limited population, is not located along an identified emergency evacuation route or within an adopted emergency evacuation plan, and would be in compliance with Fire Code and Building Code requirements. Nevertheless, given the location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

6.2 Project Objectives

As described in Chapter 3, *Project Description*, the following objectives have been established for the project and will aid decision makers in the review of the proposed project and associated environmental impacts.

- Minimize the network upgrade costs borne to the consumer by locating the project on a transmission line that does not require major upgrades to accommodate the new facility;
- Maximize the use of existing transmission infrastructure;
- Ensure a distance of the point of interconnection is less than 0.5 miles, which would minimize the cost on the generator interconnection tie-line and reduce environmental impacts;
- Develop a site to maximize renewable energy production and economic viability through the installation of up to 26.6 megawatts (MW) of solar photovoltaic (PV) panels and energy storage facilities on private lands with excellent solar resources (an average insolation value of 6 kilowatt-hours per square meter per day (kWh/m²/day) or greater);
- Ensure that the project can be constructed in a technologically feasible manner and operated in a manner that allows electricity to be provided at a competitive price; and
- Locate the facility on land that is zoned for industrial use with no agricultural value, or soil quality conducive to agriculture.
- Assist California utilities in meeting their obligations under California's Renewable Portfolio Standard (RPS). In April 2011, Governor Brown signed into law Senate Bill (SB) X1-2, which establishes a new RPS for all electricity retailers in the State. Electricity retailers must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, with the 33 percent requirement being met by the end of 2020.
- Assist California in meeting greenhouse gas (GHG) emissions reduction goal by 2020 and 2030 as required by the California Global Warming Solutions Act (Assembly Bill 32), as amended by SB 32 in 2016.
- Assist California utilities in meeting their obligations under California's RPS under SB 350 (2015), which requires that 50 percent of all electricity sold in the State be generated from renewable energy sources by December 31, 2030.

6.3 Overview of the Proposed Project

The proposed project would include the development a solar facility and associated infrastructure with the capacity to generate up to 26.6 MW of renewable electric energy and/or energy storage capacity. Power generated by the proposed project would be transferred directly to SCE's Inyokern 33 kV electrical distribution line, which connects to the existing SCE Inyokern Substation approximately 0.5 miles east of the project site. The solar facility would utilize PV technology and consist of solar arrays mounted on either fixed or tracking structures mounted to vertical posts. The solar facility would operate year-round and would generate electricity during the daylight hours when electricity demand is at its peak.

The proposed project consists of two separate sites that comprise the overall 166.5-acre project site. These sites may be combined and constructed at the same time as a single, 26.6 MW AC solar facility, or alternatively, could be developed as two independent solar facilities. Phase 1 would include 20 MW of renewable energy generating solar facilities and battery energy storage on approximately 124.56 acres, and

Phase 2 would include 6.6 MW of renewable energy generating solar facilities and battery energy storage on approximately 41.98 acres.

The combined project would include the following components: solar PV generating facilities and solar modules; energy storage systems; operations and maintenance facilities; switchyards; an electrical collector system and inverters; one or two generation-tie lines and an interconnection to the Statewide grid; telecommunication facilities; site access and security measures; and potential SCE offsite upgrades. See Chapter 3, *Project Description*, of this Draft EIR for a detailed project description.

6.4 Overview of Alternatives to the Project

The purpose of the alternatives analysis is to analyze alternatives that could reduce the significant impacts of a project. Based on the significant environmental impacts of the proposed project, the aforementioned objectives established for the proposed project and the feasibility of the alternatives considered, a range of alternatives is analyzed below and summarized in **Table 6-1, Summary of Development Alternatives**. The Environmentally Superior Alternative, as required by CEQA, is described in Section 6.7, *Environmentally Superior Alternative*.

6.4.1 Alternative 1: No Project Alternative

The *CEQA Guidelines* require EIRs to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the proposed project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of the (up to) 26.6 MW PV solar facility and battery energy storage on the 166.5-acre site would not occur. The No Project Alternative would not require an amendment to the Inyokern Specific Plan Circulation Element to eliminate future road reservations or the Lot Line Adjustment. The No Project Alternative would maintain the current zoning, land use classifications, and existing land uses, which consisting mostly of undeveloped desert vegetation. No physical changes would be made to the project site.

6.4.2 Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative

Alternative 2, the General Plan/Specific Plan and Zoning Build-Out Alternative, would develop the project site to the maximum intensity allowed under the existing Kern County General Plan, Inyokern Specific Plan, and Kern County Zoning Ordinance. According to the Kern County General Plan, the 4.1 (Accepted County Plan Areas) land use designation applies to areas where specific land use plans have already been prepared and approved. In the case of the project site, the project would be within the boundaries of the Inyokern Specific Plan. The entire project site is currently designated as 7.2/2.5 (Service Industrial/Flood Hazard) under the Inyokern Specific Plan and a zoning code designation of M-2 (Medium Industrial).

Implementation of Alternative 2 would consist of developing the project site under the current land use classification of 7.2/2.5 (Service Industrial/Flood Hazard). The 7.2 classification pertains to commercial or industrial activities which involve outdoor storage or the use of heavy equipment. These industries can be visually obtrusive and are not generally suited for locations next to residential uses. Typical permitted land uses include auto and truck parking, welding, automobile body and painting shop, freighting or trucking

yards, and lumber yard. The 2.5 classification pertains to a special flood hazard area (Zone A) as identified by the Federal Emergency Management Agency (FEMA) where 100-year flood events occur.

The project site would also be developed under its current zoning classification of M-2 (Medium Industrial). The M-2 zoning classification involves general manufacturing, processing and assembly activities. Therefore, under this alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities.

6.4.3 Alternative 3: Reduced Project Alternative

Alternative 3, the Reduced Project Alternative, would develop only Phase 1, the southern parcel of the project site and eliminate the construction and operation of Phase 2. The proposed gen-tie line connecting Phase 1 to the existing substation would remain unchanged. Eliminating Phase 2 facilities from the project would reduce the project's total generation and battery storage capacity to 20 MW and reduce the developed area from approximately 166.5 acres to 124.56 acres. Similar to the proposed project, this alternative would require amendments to the Inyokern Specific Plan Circulation Element to eliminate future road reservations and approval of a conditional use permit (CUP) for construction and operation of a commercial solar electrical generating facility. The Lot Line Adjustment would not be required under this alternative.

6.4.4 Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only

Alternative 4, the No Ground-Mounted Utility-Solar Development Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kWh to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout the Indian Wells Valley. Under this alternative, no new land would be developed or altered. However, depending on the type of solar modules installed and the type of tracking equipment used (if any), a similar or greater amount of acreage (i.e., greater than 166.5 acres of total rooftop area) may be required to attain project's capacity of 26.6 MW of solar PV generating capacity. Because of space or capital cost constraints, many rooftop solar PV systems would be fixed-axis systems or would not include the same type of sun-tracking equipment that would be installed in a freestanding utility-scale solar PV project and, therefore, would not attain the same level of efficiency with respect to solar PV generation. Alternative 4 would generate 26.6 MW of electricity, but it would be for onsite use only. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed on site by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities. The battery energy storage facility would not be constructed as part of this alternative.

Table 6-1, *Summary of Development Alternatives*, provides a summary of the relative impacts and feasibility of each alternative. A complete discussion of each alternative is also provided below.

TABLE 6-1: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility with battery energy storage on approximately 166.5 acres that would generate up to 26.6 MW of electricity and deliver it to the grid. The proposed project would interconnect to an existing Southern California Edison (SCE) 33 kV electrical distribution line to an existing SCE Inyokern Substation approximately 0.5 miles to the east. Approval of two Conditional Use Permits (CUPs) for construction and operation of commercial solar electrical generating facility with battery energy storage and a Specific Plan Amendment (SPA) to the Circulation Element would be required.	N/A
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	<ul style="list-style-type: none"> • Required by CEQA • Avoids need for CUPs and SPA • Avoids all significant and unavoidable impacts • Greater impacts to GHGs • Similar impacts to agricultural and forestry resources, tribal cultural resources, and mineral resources • Fewer overall impacts in all remaining environmental issue areas • Does not meet any of the project objectives
Alternative 2: General Plan/ Specific Plan and Zoning Build-Out Alternative	Project site would be developed to the maximum intensity allowed under the Kern County General Plan land use designations, Inyokern Specific Plan, Kern County zoning, and other existing applicable restrictions.	<ul style="list-style-type: none"> • Avoids need for CUPs and SPA • Similar impacts to agricultural and forestry resources, cultural resources, tribal cultural resources, and mineral resources • Fewer impacts to land use and planning • Greater overall impacts in all remaining environmental issue areas • Would not reduce any significant and unavoidable impacts • Does not meet any of the project objectives

TABLE 6-1: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative 3: Reduced Project Alternative	Construction and operation of one solar facility on approximately 124.56 acres, situated on the southern parcel of the project site, would generate up to 20 MW of electricity and battery energy storage and deliver it to the grid. The project site would require CUP and SPA approvals.	<ul style="list-style-type: none"> • Does not avoid any significant and unavoidable impacts but would reduce overall impacts to aesthetics, air quality, biological resources, hydrology and water quality, noise, utilities and service systems, and wildfire • Greater impacts to GHGs • Similar impacts to agriculture and forestry resources, tribal cultural resources, land use and planning, and mineral resources • Fewer overall impacts in all remaining environmental issue areas • Does not meet all the project objectives
Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 26.6 MW of PV solar distributed on rooftops throughout the Indian Wells Valley. Electricity generated would be for onsite use only.	<ul style="list-style-type: none"> • Avoids need for CUPs and SPA at the project site but may require other entitlements (such as a CUP or variance) on other sites • Avoid significant and unavoidable impacts associated with aesthetics, air quality, biological resources, hydrology and water quality, noise, utilities and service systems, and wildfire • Greater impacts to GHGs and land use and planning • Similar impacts to agriculture and forestry resources, cultural resources, mineral resources, and tribal cultural resources • Fewer impacts in all remaining issue areas • Does not meet all of the project objectives nor does this alternative account for the energy storage component of the project.

6.5 Alternatives Considered and Rejected

Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects (*CEQA Guidelines* Section 15126.6(c)). Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, also do not need to be considered (*CEQA Guidelines* Section 15126(f)(2)). Kern County considered several alternatives to reduce impacts to aesthetics (project and cumulative), air quality (project and cumulative), biological resources (cumulative), hydrology and water quality (project and cumulative), noise (project), utilities and service systems (project and cumulative), and wildfire (cumulative). Per CEQA, the lead agency may make an initial determination as to which alternatives are feasible and warrant further consideration, and which are infeasible. The following alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet project objectives or were infeasible.

- Wind Energy Project Alternative
- Industrial Power Plant Alternative
- Alternative Site Alternative

6.5.1 Wind Energy Project Alternative

The Wind Energy Project Alternative would involve the use of wind energy as an alternative to development of solar site. Similar solar power, power from the wind is an alternative to energy production from coal, oil, or nuclear sources. Wind energy provides the following benefits:

- It is a renewable and infinite resource;
- It is free of any emissions, including carbon dioxide (GHG); and
- It is a free resource after the capital cost of installation (excluding maintenance).

In addition, energy production from wind power would not require the significant water usage associated with coal, nuclear, and combined-cycle sources. Turbines used in wind farms for commercial production of electric power are usually three-bladed units that are pointed into the wind by computer-controlled motors. The wind farm would consist of a group of wind turbines placed where electrical power is produced. The individual turbines would be interconnected with a medium-voltage power collection system and a communications network. At a substation, the medium-voltage electrical current would be increased through a transformer before connection to the high-voltage transmission system. Compared with traditional energy sources, the environmental effects of wind power are relatively minor. However, wind farms would not decrease short-term construction-related air emissions. Wind turbines would also have the potential to affect avian species in the local area.

As noted above, some of the project proponent's objectives for the project are to develop a solar project that will help meet the increasing demand for clean, renewable electrical power, as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects by using proven and established PV technology that is efficient, requires low maintenance and is recyclable. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would substantially increase the significant aesthetic impacts associated with the project because wind turbines would be much taller than solar panels, would be more visible from many viewpoints, and would require FAA lighting;
- It may conflict with the Inyokern Airport, Kern County Airport Land Use Compatibility Plan and potentially the China Lake NAWS due to the heights of the turbines;
- It may result in additional/greater biological resources impacts than the project;
- It may generate long-term noise impacts to nearby sensitive receptors from rotating turbine blades; and
- It would require a greater overall project footprint that would result in increased disturbance.

6.5.2 Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 26.6 MW) in Kern County. Fossil fuel-powered plants are designed on a large scale for continuous operation. However, byproducts of industrial power plant operation need to be considered in both design and operation. When waste heat that results from the finite efficiency of the power cycle is not recovered and used as steam or hot water, it must be released to the atmosphere, and often uses a cooling tower as a

cooling medium (especially for condensing steam). The flue gas from combustion of the fossil fuels is discharged to the air and contains carbon dioxide and water vapor as well as other substances, such as nitrogen, nitrogen oxides, and sulfur oxides. Furthermore, unlike the proposed project, fossil fuel-powered plants are major emitters of GHGs. In addition, industrial power plants generally involve the construction of large structures, such as cooling towers and gas stacks, as well as a large number of employees to operate the facility on a 24/7 basis 365 days a year. Accordingly, the development of an industrial power plant would typically result in greater adverse impacts related to: (1) air quality and GHG emissions, (2) aesthetics and the local visual setting of the project area, (3) land use and planning conflicts with the rural development of the surrounding area, (4) noise from the plant operations, (5) traffic from increased employment at the facility, and (6) demand on public utilities, including water and waste disposal.

As noted above, some of the objectives for the proposed project are to develop a solar project that would help meet the increasing demand for clean, renewable electrical power as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because:

- It would result in additional/greater impacts than the proposed project (aesthetics, air quality, GHG emissions, land use and planning, noise, traffic, public utilities, and water use and disposal);
- It may conflict with the Inyokern Airport, Kern County Airport Land Use Compatibility Plan and potentially the China Lake NAWS due to the heights of the cooling towers and smoke stacks.
- Depending on siting, it may also result in greater biological resources impacts than the project; and
- It would not contribute to the statewide renewable energy and GHG reduction objectives.

6.5.3 Alternative Site

This alternative would involve the development of the proposed project on another site located within Kern County, other than constructing rooftop distributed generation systems. Although undetermined at this time, the alternative project site would likely be located in the Indian Wells Valley desert region of the County. This alternative is assumed to involve construction of a 26.6 MW PV solar facility on a site totaling 166.5 acres. *CEQA Guidelines* Section 15126.6(f)(2)(a) states that the key and initial step in considering an alternative site is whether “any of the significant effects of the project would be avoided or substantially lessened” in relocating the project, while remaining consistent with the same basic objectives of the proposed project.

The Indian Wells Valley has attracted renewable energy development applications that are being proposed for vacant land or land with a history of agricultural uses. The availability of alternative sites is constrained by the renewable energy market itself. While other sites with similar size, configuration, and use history may exist in the Indian Wells Valley, alternative project sites in the area are likely to have similar project and cumulatively significant impacts after mitigation, including cumulatively significant impacts to aesthetics, biological resources, hydrology and water quality, noise, and utilities and service systems. This is based on the known general conditions in the area and the magnitude of the proposed project.

In addition, alternative sites for the project are not considered to be “potentially feasible,” as there are no suitable sites within the control of the project proponent that would reduce project impacts. The potential amount of available, similar sites is further reduced because unlike the proposed project, alternative sites

may not include sites with close proximity to transmission infrastructure. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the proposed project.

6.6 Analysis Format

In accordance with *CEQA Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the project. Furthermore, each alternative is evaluated to determine whether the project objectives identified in Chapter 3, *Project Description*, of this EIR would be mostly attained by the alternative. The project's impacts that form the basis of comparison in the alternatives analysis are those impacts which represent a conservative assessment of project impacts. The evaluation of each of the alternatives follows the process described below.

- a) The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this EIR.
- b) Post-mitigation significant and less than significant environmental impacts of the alternative and the project are compared for each environmental issue area as follows:
 - Less: Where the impact of the alternative after feasible mitigation would be clearly less adverse than the impact of the project, the comparative impact is said to be "less."
 - Greater: Where the impact of the alternative after feasible mitigation would be clearly more adverse than the impact of the project, the comparative impact is said to be "greater."
 - Similar: Where the impacts of the alternative after feasible mitigation and the project would be roughly equivalent, the comparative impact is said to be "similar."
- c) The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose for the project, as well as the project's basic objectives would be substantially attained by the alternative.

Table 6-2, *Comparison of Alternatives*, provides a summary and side-by-side comparison of the proposed project with the impacts of each of the alternatives analyzed. Please note that in Alternatives 1 through 4 in Table 6-2, the references to "less, similar, or greater," refer to the impact of the alternative compared to the proposed project, and the impacts "no impact (NI), less than significant (LTS), or significant and unavoidable (SU)," in the parentheses refer to the significant impact of the specific alternative.

TABLE 6-2: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Alternative 3: Reduced Project Alternative	Alternative 4: No Ground Mounted Utility- Solar– Distributed Commercial and Industrial Rooftop Solar Only
Aesthetics	Significant and unavoidable (project and cumulative)	Fewer (NI)	Greater (SU)	Fewer (SU)	Fewer (LTS)
Agricultural and Forestry Resources	No impact	Similar (NI)	Similar (NI)	Similar (NI)	Similar (NI)
Air Quality	Significant and Unavoidable (Project and Cumulative)	Fewer (NI)	Greater (SU – Project and Cumulative)	Fewer (SU – Project and Cumulative)	Fewer (LTS)
Biological Resources	Significant and unavoidable (cumulative only)	Fewer (NI)	Greater (SU)	Fewer (SU)	Fewer (LTS)
Cultural Resources	Less than significant with mitigation	Fewer (NI)	Similar (LTS)	Fewer (LTS)	Fewer (LTS)
Energy	Less than significant with mitigation	Fewer (NI)	Greater (LTS)	Fewer (LTS)	Fewer (LTS)
Geology and Soils	Less than significant with mitigation	Fewer (NI)	Greater (LTS)	Fewer (LTS)	Fewer (LTS)
Greenhouse Gas Emissions	Less than significant	Potentially Greater (LTS)	Potentially Greater (LTS)	Potentially Greater (LTS)	Greater (LTS)
Hazards and Hazardous Materials	Less than significant with mitigation	Fewer (NI)	Greater (LTS)	Fewer (LTS)	Fewer (LTS)
Hydrology and Water Quality	Significant and unavoidable (project and cumulative)	Fewer (NI)	Greater (SU)	Fewer (SU)	Fewer (LTS)
Land Use and Planning	Less than significant with mitigation	Fewer (NI)	Fewer (NI)	Similar (LTS)	Greater (LTS)
Mineral Resources	Less than significant	Similar (NI)	Similar (NI)	Similar (NI)	Similar (NI)
Noise	Less than significant with mitigation	Fewer (NI)	Greater (SU)	Fewer (SU)	Similar (LTS)

TABLE 6-2: COMPARISON OF ALTERNATIVES

Environmental Resource	Proposed Project	Alternative 1: No Project Alternative	Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative	Alternative 3: Reduced Project Alternative	Alternative 4: No Ground Mounted Utility- Solar– Distributed Commercial and Industrial Rooftop Solar Only
Public Services	Less than significant with mitigation	Fewer (NI)	Greater (LTS)	Fewer (LTS)	Fewer (LTS)
Traffic and Transportation	Less than significant with mitigation	Fewer (NI)	Greater (LTS)	Fewer (LTS)	Fewer (LTS)
Tribal Cultural Resources	No impact	Similar (NI)	Similar (NI)	Similar (NI)	Similar (NI)
Utilities and Service Systems	Significant and unavoidable (project and cumulative)	Fewer (NI)	Greater (SU)	Fewer (SU)	Fewer (LTS)
Wildfire	Less than Significant with Mitigation (project); Significant and Unavoidable (cumulative)	Fewer (NI)	Greater (SU)	Fewer (SU)	Fewer (SU)
Meet Project Objectives?	All	None	None	Some	Some
Reduce Significant and Unavoidable Impacts?	N/A	All	None	None	Some

6.7 Impact Analysis

6.7.1 Alternative 1: No Project Alternative

Environmental Impact Analysis

Aesthetics

Under the No Project Alternative, no development would take place on the project site. The project site would remain in its current state as undeveloped land and no change to the existing visual character of the site would occur. Therefore, there would be no impact. The No Project Alternative would result in fewer impacts to aesthetic resources compared to the proposed project.

Agricultural and Forestry Resources

Under the No Project Alternative, the project site would remain undeveloped. The project site does not contain agriculture or forestry resources. Therefore, there would be no impact. The No Project Alternative would result in similar agricultural resource impacts compared to the proposed project.

Air Quality

Under the No Project Alternative, the project site would remain undeveloped and there would be no construction or operational activities that would generate air emissions. No exceedance of the EKAPCD's significance thresholds for PM₁₀ and PM_{2.5} would occur, no conflict with the attainment standard, nor would the No Project Alternative contribute to a cumulative net increase of criteria pollutant in the projects' region. Therefore, there would be no impact. The No Project Alternative would result in fewer air quality impacts compared to the proposed project.

Biological Resources

Under the No Project Alternative, the project site would remain undeveloped and existing biological resources on the project site including special-status plant and wildlife species would remain undisturbed since no construction or operation would occur. This alternative would contribute to a cumulative loss of foraging and nesting habitat for special-status species that may utilize habitat on the project site. Therefore, there would be no impact. The No Project Alternative would result in fewer biological resources impacts compared to the proposed project.

Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbing activities would occur. Therefore, disturbance to potential historical, cultural, archeological, or paleontological resources located onsite would not occur and this alternative would not require mitigation. There would be no impact. The No Project Alternative would result in fewer cultural resource impacts compared to the proposed project.

Energy

Under the No Project Alternative, the project site would remain undeveloped and no energy consumption activities would occur. As such, the No Project Alternative would not result in wasteful, inefficient, or unnecessary consumption of energy resources and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. However, it should be noted that the No Project Alternative would not support the goals of the Renewable Portfolio Standard. Therefore, there would be no impact and the No Project Alternative would result in less impacts related to energy compared to the project.

Geology and Soils

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbance would occur. As such, the No Project Alternative would not directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, and landslides; result in substantial soil erosion or loss of topsoil; result in on- or offsite landslides, be located on expansive soil; or directly or indirectly destroy a unique paleontological resource or unique geologic feature. No construction workers or maintenance workers would be present onsite for potential exposure to existing geologic hazards, and project activities would not exacerbate existing or create new geologic hazards. Therefore, there would be no impact. The No Project Alternative would result in fewer impacts related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Project Alternative, emissions associated with construction and operation of a solar energy facility would not occur. Therefore, those emissions that contribute to GHGs would be eliminated. However, the potential offset of GHGs resulting from operation of the solar power generating facility would not be realized. Impacts would be less than significant under this alternative. There would be no GHG impacts from construction of the proposed project; however, GHG impacts from implementation and operation of this alternative have the potential to be greater than those of the project as it would not result in the generation of a renewable electricity source and therefore would not have the potential to offset GHG emissions.

Hazards and Hazardous Materials

Under the No Project Alternative, the project site would remain undeveloped, and no construction or operational activities would occur. Unlike the proposed project, this alternative would not involve use, transport, and disposal of hazardous materials associated with the project site and the project site would remain in its current condition. Therefore, there would no impact. The No Project Alternative would result in fewer impacts related to hazards and hazardous materials compared to the proposed project.

Hydrology and Water Quality

Under the No Project Alternative, the project site's existing hydrology and water quality would remain unchanged as no development or ground disturbance would occur on the project site. This alternative would not impact groundwater supplies as it would not require the use of water. Thus, there would be no impact. No Project Alternative would result in fewer impacts related to hydrology and water quality compared to the proposed project.

Land Use and Planning

The No Project Alternative would not implement any new development at the project site, and would thus not require the issuance of CUPs or approval of the SPA. Current land uses on the site are consistent with the zoning and general plan land use classifications. Thus, there would be no impact. The No Project Alternative would result in fewer impacts related to land use and planning compared to the proposed project.

Mineral Resources

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbance would occur. There are no mineral resources on the project site or in the project area. No impact to mineral resources would occur. Thus, the No Project Alternative would result in similar impacts related to mineral resources compared to the proposed project.

Noise

Under the No Project Alternative, the project site would remain undeveloped. Noise sources from construction and operation would not be present on site, and existing noise conditions would remain the same. As such, the No Project Alternative would not result in generation of a substantial temporary or permanent increase in ambient noise levels or generate excessive groundborne vibration. Therefore, there would be no impact and the No Project Alternative would result in less impact related to noise compared to the project.

Public Services

Under the No Project Alternative, the project site would remain undeveloped and would not add people or structures to the project site on a temporary or permanent basis. No new demand for fire or police protection services or drilling of a new onsite water well would be generated. Thus, there would be no impact. The No Project Alternative would result in fewer impacts to public services than the proposed project.

Transportation and Traffic

Under the No Project Alternative, the solar facilities would not be constructed and this alternative would not introduce construction and operational-related trips. Existing traffic patterns and volumes on nearby roadways would remain unchanged. Therefore, there would be no impact. The No Project Alternative would result in fewer impacts related to transportation and traffic than the project.

Tribal Cultural Resources

Under the No Project Alternative, the project site would remain undeveloped and no ground disturbing activities would occur. According to record searches and tribal resource consultations, no tribal resources are present on the project site. There would be no impact. The No Project Alternative would result in similar tribal cultural resource impacts compared to the proposed project.

Utilities and Service Systems

Under the No Project Alternative, the solar facilities would not be constructed and there would be no new demand for utilities and service systems on the project site. Therefore, there would be no impact. The No Project Alternative would result in fewer impacts to utilities and service systems than the proposed project.

Wildfires

Under the No Project Alternative, the solar facilities would not be constructed. As such, the No Project Alternative would not expose occupants to pollutant concentrations from a wildfire; require the installation or maintenance of associated infrastructure; or expose people or structures to significant risks. Therefore, there would be no impact and the No Project Alternative would result in less impact to risks associated with wildfires than the proposed project.

Comparison of Impacts

The No Project Alternative would avoid creating all of the significant and unavoidable impacts associated with the project. This alternative would result in similar impacts related to agriculture and forestry resources, tribal cultural resources, and mineral resources. This alternative would result in fewer impacts to all remaining environmental issue areas with the exception of GHGs; since this alternative would not offset GHGs through the operation of a solar energy facility, impacts to GHGs would be greater under this alternative.

Relationship to Project Objectives

The No Project Alternative would not achieve any of the project objectives listed above in Section 6.2, including assisting California in reducing GHG emissions. Although this alternative would create fewer environmental impacts overall, the objectives that shape the project would not be realized under this alternative.

6.7.2 Alternative 2: General Plan/Specific Plan and Zoning Build-Out Alternative

Environmental Impact Analysis

Aesthetics

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. Although the proposed solar panels and related infrastructure would not be installed on the site, development of the project site with commercial and industrial structures would still result in impacts to aesthetics. The commercial and industrial uses allowed on the project site are, by County definition, “visually obtrusive,” and include auto and truck parking, welding, automobile body and painting shops, freighting and trucking yards, and lumber yards. Compared to uniform, relatively low-lying solar facilities under the proposed project, dense development of visually obtrusive commercial and/or industrial uses that would likely exceed the height of solar panels would greatly impact the area’s visual character and scenic vistas. Therefore, impacts to visual character would be significant and unavoidable. The General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater impacts to aesthetics than the proposed project.

Agriculture and Forestry Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. The project site does not contain agriculture or forestry resources. Thus, there would be no impact. This alternative would result in similar impacts to agriculture and forestry resources as the proposed project.

Air Quality

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the ongoing use of heavy equipment, including general manufacturing processing and assembly activities. Similar to, but more intensive than, the proposed project, this alternative would result in short-term construction emissions. The commercial and industrial land uses proposed under this alternative would generate daily operational emissions from workers and operation of heavy equipment stored onsite, whereas the proposed project would result in minimal operational emissions during occasional site visits for maintenance. With implementation of similar mitigation proposed by the project, impacts to air quality under this alternative would likely be less than significant. However, given more-intensive construction activities and the greater operational emissions, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater impacts to air quality than the proposed project. In addition, even with implementation of mitigation measures, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project level impacts. Furthermore, as with the proposed project, potential cumulative impacts to air quality could occur from construction and operation of the General Plan/Specific Plan and Zoning Build-Out Alternative and would similarly result in cumulatively considerable impacts related to incremental contribution to the MDAB Emissions Inventory during short-term construction activities, even after the implementation of mitigation measures.

Biological Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. Unlike the proposed project, the commercial and industrial development would be denser and would permanently displace more vegetation and habitat than the proposed solar facilities, which would maintain a large amount of impervious surfaces onsite. Also unlike the proposed project, this alternative would involve permanent human presence that would deter wildlife presence on project site more than the proposed project's maintenance activities. Cumulative impacts to biological resources would remain significant and unavoidable under this alternative and the General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater overall impacts to biology compared to the proposed project given its larger footprint and permanent human presence.

Cultural Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy

equipment, including general manufacturing processing and assembly activities. Similar to the proposed project, this alternative would involve ground disturbance during construction activities that adversely affect undocumented subsurface archaeological and/or paleontological resources during construction, and would be required to implement mitigation measures in order to reduce potential impacts to cultural resources. These impacts would likely be reduced using mitigation similar to the proposed project. Therefore, impacts would be less than significant under this alternative. Impacts to cultural resources would be similar under the General Plan/Specific Plan and Zoning Build-Out Alternative compared to the proposed project.

Energy

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. Similar to, but more intensive than the project, this Alternative would result in short-term energy consumption during construction activities. Permanent human presence onsite would result in greater energy consumption during daily operation of the project site. Impacts from energy consumption under this alternative would likely be less than significant. However, given the permanent increase in energy consumption from operation of the site under Alternative 2 compared to the proposed project, potential impacts from the General Plan/Specific Plan and Zoning Build-Out Alternative with respect to energy would be greater than the proposed project.

Geology and Soils

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the ongoing use of heavy equipment, including general manufacturing processing and assembly activities. Given the larger footprint of this development than the proposed project, this alternative would result in greater initial soil disturbance during construction. The permanent human presence onsite under this alternative would result in a greater potential to expose people to seismic hazards. Following mitigation similar to that proposed for the project, impacts would likely be less than significant. However, impacts to geology and soils would be slightly greater under this alternative compared to the proposed project.

Greenhouse Gas Emissions

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. Similar to, but more intensive than, the project, this Alternative would result in short-term GHG emissions during construction activities. However, permanent human presence onsite would result in greater GHG emissions during operation from routine worker and customer commutes to the project site. Further, operation of the industrial and commercial land uses would not have the potential to offset of GHGs like the proposed project's solar power generating facility may. Impacts to greenhouse gases under this alternative would likely be less than significant. However, given the permanent increase in GHG emissions from worker and customer commutes, potential impacts from the General Plan/Specific Plan and Zoning Build-Out Alternative to GHGs would be greater than the proposed project.

Hazards and Hazardous Materials

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. Similar to the project, the General Plan/Specific Plan and Zoning Build-Out Alternative would involve the use of hazardous materials during construction. Because the General Plan/Specific Plan and Zoning Build-Out Alternative would develop commercial and industrial operations, there is an increased potential for the perpetual use of chemicals on the project site required for daily operation of commercial and industrial land uses that would not occur under the proposed project. Following mitigation similar to that proposed for the project, impacts to hazardous and hazardous materials would likely be less than significant. Therefore, while impacts would be less than significant, the potential impacts from hazards and hazardous materials under the General Plan/Specific Plan and Zoning Build-Out Alternative would be greater than those for the project.

Hydrology and Water Quality

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the ongoing use of heavy equipment, including general manufacturing processing and assembly activities. Given the larger footprint of ground disturbance and impervious surfaces proposed under this alternative compared with the proposed project, it would likely result in greater impacts to water quality and hydrology. Similar to the project, industrial and commercial land uses would likely also take obtain water from the Inyokern CSD, which obtains its water from the critically overdrafted Indian Wells Valley Groundwater Basin. However, water demand for this proposed alternative is expected to be greater than the water demand for the proposed solar facility. Impacts to groundwater supplies would be significant and unavoidable similar to the proposed project; however, this alternative would have greater impacts to hydrology and water quality and groundwater supplies compared with the proposed project.

Land Use and Planning

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. Similar to the project, the General Plan/Specific Plan and Zoning Build-Out Alternative would not conflict with the existing land use at the project site. However, this alternative would not require the issuance of CUPs or the approval of the SPA, and thus, would be entirely consistent with the existing zoning. Therefore, there would be no impact. The General Plan/Specific Plan and Zoning Build-Out Alternative would result in fewer impacts related to land use and planning compared to the proposed project.

Mineral Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. Because the project site is not located on land designated for mineral resources by the Kern County General Plan/Specific Plan, there would be no impact. Impacts to mineral resources under the General Plan/Specific Plan and Zoning Build-Out Alternative would be similar to the proposed project.

Noise

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the ongoing use of heavy equipment, including general manufacturing processing and assembly activities. Similar to the proposed project, this alternative would likely result in significant and unavoidable noise impacts during construction. During operation, there would be an increase in daily traffic to the project site due to commercial and industrial uses. Additionally, daily human presence on the project site would also be a source of permanent onsite noise. However, this increase would not increase permanent onsite noise to the extent that an impact would occur and impacts would be less than significant. However, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater overall impacts to noise than the proposed project.

Public Services

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. The permanent presence of equipment and workers on the project site would increase the need for public services, including police and fire protection, in an area that is not currently serviced. In addition, additional employment opportunities on the project site resulting from this alternative could generate an increase in employees that may result in an increase in population, which could increase the need for other public services, such as schools, recreational facilities, parks, and libraries. Nevertheless, any potential impacts from an increase in population could be mitigated to less than significant with implementation of mitigation similar to the proposed project. However, public service impacts under the General Plan/Specific Plan Build-Out Alternative would be greater than those of the proposed project.

Transportation and Traffic

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. Similar to the proposed project, construction of industrial and commercial uses generates trips from construction workers and equipment-hauling vehicles. Unlike the proposed project, the alternative would result in routine vehicle trips associated with operation of industrial and commercial uses. However, given the limited traffic in the area, the increase in traffic is likely to be less than significant. Nonetheless, given the increase in operational vehicle trips, impacts to traffic and transportation from the General Plan/Specific Plan Build-Out Alternative would be greater than those of the project.

Tribal Cultural Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. According to record searches and tribal resource consultations, no tribal resources are present on the project site. Therefore, there would be no impact to tribal cultural resources. Impacts to tribal cultural resources under the General Plan/Specific Plan and Zoning Build-out Alternative are similar to the proposed project.

Utilities and Service Systems

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the entire project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. The commercial and industrial land uses proposed as part of the General Plan/Specific Plan and Zoning Build-Out Alternative would result in a greater increased water and wastewater demand as well as greater solid waste generation rate than the proposed project. Similar to the project, industrial and commercial land uses would likely also take obtain water from the Inyokern Community Services District, which obtains its water from the critically overdrafted Indian Wells Valley Groundwater Basin. Impacts would remain significant and unavoidable to water supply under this alternative; however, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater overall impacts to utilities and service systems than those identified for the proposed project.

Wildfires

As mentioned above, the entire project site is zoned as M-2 (Medium Industrial). Under the General Plan and Zoning Build-Out Alternative, the project site would be developed with commercial and industrial land uses that include outdoor storage and/or the use of heavy equipment, including general manufacturing processing and assembly activities. The addition of commercial and industrial land uses would require greater employment, and subsequently, the human presence on site would be greater than that of the proposed project.

Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project, which would further reduce the fire risks on site. With regard to the installation or maintenance of associated infrastructure, the commercial and industrial land uses would require installation of electrical and other types of associated infrastructure, similar to the proposed project. The installation of infrastructure would not be placed within a high fire hazard zone and the vegetation would be cleared and thus would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the General Plan and Zoning Build-Out Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Based on the above, with implementation of similar mitigation as proposed for the project, impacts would remain less than significant under this alternative as it relates to wildfire impacts. However, the General Plan and Zoning Build-Out Alternative would have greater impacts from risks associated with wildfires than the proposed project due to the increase in the number of onsite employees and the additional infrastructure associated with the uses proposed under this alternative.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the General Plan and Zoning Build-Out Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The General Plan/Specific Plan and Zoning Build-Out Alternative would result in similar impacts to agricultural resources, cultural resources, and mineral resources. This alternative would result in greater impacts to aesthetics, air quality, biological resources, GHG emissions, hydrology and water quality, noise, public services, traffic and transportation, and utilities and service systems. This alternative would result in fewer impacts to land use and planning. This alternative would not reduce any significant and unavoidable impacts.

Relationship to Project Objectives

This alternative would not achieve any of the project objectives listed above in Section 6.2, including satisfying the project objective of assisting California in reducing GHG emissions.

6.7.3 Alternative 3: Reduced Project Alternative

Environmental Impact Analysis

Aesthetics

Under the Reduced Project Alternative, only the southern 124.56-acre portion of the project site (Phase 1) would be developed. The northern parcel (Phase 2) would not be developed. However, overall impacts from the change to the visual character of the site would remain significant and unavoidable for Phase 1. Impacts to visual character on Phase 1 would still be significant and avoidable. However, due to the reduction in project site size, the Reduced Project Alternative would have fewer impacts to aesthetics.

Agriculture and Forestry Resources

Under the Reduced Project Alternative, only Phase 1 would be developed; Phase 2 would not be developed. There are no agriculture or forestry resources on the project site. Therefore, there would be no impact. The Reduced Project Alternative would result in similar agricultural resource impacts compared to the proposed project.

Air Quality

Under the Reduced Project Alternative, only Phase 1 would be developed. Eliminating Phase 2 from project development would reduce the developed area to approximately 124.56 acres, thereby reducing the extent of construction-related impacts to air quality. The use of construction vehicles, heavy equipment operation, and worker carpool trips would be reduced compared to the proposed project and would not occur on the western most portions of the site. Operational emissions would likely be similar under this alternative as the same amount of maintenance trips would be required. Using similar mitigation proposed for the project, impacts to air quality under this alternative would likely be less than significant. However, even with implementation of mitigation measures, the uncertainty of the project's regional and localized health impacts associated with criteria air pollutants, such as PM_{2.5} along with indirect linkages of criteria pollutants and COVID-19, on vulnerable populations would result in significant and unavoidable project level impacts. In addition, as with the proposed project, the Reduced Project Alternative would similarly

result in cumulatively considerable impacts related to incremental contribution to the MDAB Emissions Inventory during short-term construction activities, even after the implementation of mitigation measures. The Reduced Project Alternative would result in fewer overall impacts to air quality than the proposed project.

Biological Resources

Under the Reduced Project Alternative, only Phase 1 would be developed. This alternative would result less ground disturbance and displacement of habitat for use by species. However, this alternative would still contribute to a cumulative loss of foraging and nesting habitat for special-status species that may utilize habitat on Phase 1. Cumulative impacts to biological resources would remain significant and unavoidable. However, overall, the Reduced Project Alternative would result in fewer biological impacts compared to the proposed project.

Cultural Resources

Under the Reduced Project Alternative, only Phase 1 would be developed. Eliminating Phase 2 from being developed would reduce the developed area to approximately 143 acres. Therefore, the potential to disturb or discover unknown cultural resources within the project area would also be reduced; however, this alternative would still have the potential to impact cultural resources on Phase 1. After implementing mitigation similar to the mitigation proposed for the project, impacts to cultural resources under this alternative would be less than significant. The Reduced Project Alternative would result in fewer cultural resource-related impacts than the proposed project.

Energy

Under the Reduced Project Alternative, only Phase 1 would be developed. Eliminating Phase 2 from project development would reduce renewable generation by 6.6 MW from 26.6 MW to 20 MW. The use of construction vehicles, heavy equipment operation, and worker carpool trips would be slightly reduced compared to the proposed project and would not occur on the western most portions of the site. Operational emissions would likely be similar under this alternative as the same amount of maintenance trips would be required. Using similar mitigation proposed for the project, impacts to energy under this alternative would likely be less than significant. Impacts from energy consumption under this alternative would likely be less than significant and reduced compared to that of the proposed project.

Geology and Soils

Under the Reduced Project Alternative, only Phase 1 would be developed. Eliminating development at Phase 2 would reduce the developed area to approximately 124.56 acres, and thus there would be less potential for erosion and exposure to geologic hazards. This alternative would still result in some impacts related to geologic hazards, but impacts would be less than significant after implementation of mitigation similar to that proposed for the project. The Reduced Project Alternative would result in fewer impacts to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the Reduced Project Alternative, only Phase 1 would be developed. Therefore, Phase 1 would result in slightly less GHG emissions during construction given a smaller project footprint when compared with

the proposed project. However, the 6.6 MW reduction in generating capacity would result in a reduced potential to offset GHG emissions when compared to the proposed project operation. Impacts would likely be less than significant under this alternative. However, the Reduced Project Alternative could result in greater overall GHG impacts compared to the proposed project given its lower GHG offset potential.

Hazards and Hazardous Materials

Under the Reduced Project Alternative, only Phase 1 would be developed. Eliminating Phase 2 from project development would result in a reduced use, transport, and disposal of hazardous materials. With implementation of mitigation similar to that proposed for the proposed project, impacts would likely be less than significant. This alternative would result in fewer overall impacts to hazards and hazardous materials than the proposed project.

Hydrology and Water Quality

Under the Reduced Project Alternative, only Phase 1 would be developed, reducing total area of development to approximately 124.56 acres. Eliminating Phase 2 from project development would involve a smaller footprint and would thus result in reduced impacts to hydrology and water quality. Although this alternative would result in a lower water demand, it would still depend on the Inyokern CSD for water supply, which obtains its water from the critically overdrafted Indian Wells Valley Groundwater Basin. Therefore, impacts to groundwater supplies would remain significant and unavoidable under this alternative. However, there would be fewer overall impacts to hydrology and water quality under this alternative compared to the proposed project.

Land Use and Planning

Under the Reduced Project Alternative, only Phase 1 would be developed. Eliminating Phase 2 from the project would reduce the project's total generation capacity to 20 MW, and reduce the developed area to approximately 124.56 acres. Nevertheless, development of Phase 1 alone would still require issuance of a CUP and approval of the SPA to operate a solar facility on Phase 1. Impacts would be less than significant under this alternative. Land use and planning impacts would be similar under the Reduced Project Alternative when compared to the project.

Mineral Resources

Under the Reduced Project Alternative, only Phase 1 would be developed. There are no identified mineral resources on the project site. Therefore, there would be no impact. The Reduced Project Alternative would result in similar impacts to mineral resource compared to the proposed project.

Noise

Under the Reduced Project Alternative, only Phase 1 would be developed. Although it would occur on a smaller footprint and likely during a shorter time period than the proposed project, this alternative would still generate temporary construction-related noise that could affect nearby sensitive receptors located close to Phase 1. Therefore, construction noise impacts would likely still be significant and unavoidable for this alternative. With implementation of similar mitigation proposed for the project, this alternative is expected to result in similar and less than significant operational noise impacts. Overall, the Reduced Project

Alternative would likely result in fewer noise impacts than the proposed project given the reduced footprint and time period of temporary noise impacts.

Public Services

Under the Reduced Project Alternative, only Phase 1 would be developed. Eliminating Phase 2 from the project would reduce the amount of structures installed onsite and would likely reduce the construction period. Therefore, this alternative would result in a reduced need for fire and police protection services compared to the project. Impacts would be less than significant under this alternative following implementation of similar mitigation measures proposed for the project. However, there would be fewer impacts to public services compared to the proposed project given the fewer amount of structures proposed under this alternative.

Transportation and Traffic

Under the Reduced Project Alternative, only Phase 1 would be developed. Eliminating Phase 2 from development would reduce construction and operations-related traffic, as it would require the transportation of fewer construction equipment and materials, and would require less maintenance, dust control and panel washing activities during operation. Impacts would be less than significant under this alternative following implementation of similar mitigation measures required for the proposed project. However, given the reduction in construction and operational vehicle and truck trips, the Reduced Project Alternative would result in fewer impacts to transportation and traffic than the proposed project.

Tribal Cultural Resources

Under the Reduced Project Alternative, only Phase 1 would be developed. Eliminating Phase 2 from being developed would reduce the developed area to approximately 124.56 acres. However, no tribal cultural resources were identified within or immediately adjacent to the project site. There would be no impact. Therefore, impacts to tribal cultural resources would be similar when compared to the proposed project.

Utilities and Service Systems

Under the Reduced Project Alternative, the area of development would be reduced and thus the need for utilities and services systems would be reduced compared to the proposed project. During both construction and operation, less overall water demand and solid waste generation under this alternative would result in fewer related impacts to water supply and solid waste facilities. However, any use of water from the Inyokern Community Services District or onsite water well that obtains water from the critically overdrafted Indian Wells Valley Groundwater Basin would likely exacerbate overdraft conditions, resulting in a significant and unavoidable impact in relation to water demand. Impacts to water supply would remain significant and unavoidable. However, the Reduced Project Alternative would result in fewer overall impacts than the proposed project.

Wildfires

Under the Reduced Project Alternative, the project would only develop Phase 1 and would not develop Phase 2, reducing the project's footprint from 166.5 acres to 124.56 acres.

Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.14-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project, which would further reduce the fire risks on site. With regard to the installation or maintenance of associated infrastructure, solar panels would require installation of the electrical collector line, similar to the proposed project. The installation of the electrical collector line would not be placed within a high fire hazard zone and the vegetation would be cleared and thus would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the Reduced Acreage Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

With implementation of similar mitigation proposed for the project, this alternative is expected to result in less-than-significant impacts to wildfires. The Reduced Acreage Alternative would likely result in slightly less impact than the proposed project due to the reduced footprint compared with the proposed project.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the Reduced Acreage Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The Reduced Project Alternative would be reduced in size compared to the proposed project and would result in fewer impacts for the majority of environmental issue areas. However, this alternative would not eliminate significant and unavoidable impacts associated with aesthetics, air quality, biological resources, hydrology and water quality, noise, utilities and service systems, and wildfire. Additionally, this alternative would result in greater GHG emission impacts than the project because the potential offset of GHGs from operation of the solar power generating facility would not be realized.

Relationship to Project Objectives

The Reduced Project Alternative would achieve the majority of the project objectives listed above in Section 6.2, such as using existing transmission infrastructure and locating the project on land that is zoned for industrial use with no agricultural value. The Reduced Project Alternative would satisfy the project objective of assisting California in reducing GHG emissions, but would produce fewer megawatts than the proposed project. The reduction from 26.6 MW under the proposed project to 20 MW under this alternative may not achieve the project objective of developing a site with an average insolation value equal to or greater than 6 kWh/m²/day. Therefore, although this alternative would create fewer environmental impacts, the goals and objectives that shape the project would not be realized to the same extent under this alternative.

6.7.4 Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only

Environmental Impact Analysis

Aesthetics

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Indian Wells Valley. The installation of solar panels on large commercial and industrial rooftops would be visually unobtrusive or unnoticeable from receptors at ground level. In other circumstances, the installation of rooftop solar panels may be visible, but would not likely affect the visual character or scenic quality of an area, because the character or quality of an area has already been altered as a result of the building's construction. The exceptions may be if rooftop solar were proposed on historic buildings, which could affect the historic character and integrity of the buildings. Implementation of this alternative would require historic surveys and investigations to evaluate the eligibility of potentially historic structures that are over 50 years old, and either avoidance of such buildings, or incorporation of design measures to minimize impacts on historic integrity of historically significant structures. This alternative would avoid significant and unavoidable aesthetic impacts that would occur under the proposed project. Impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in fewer aesthetics impacts compared to the proposed project.

Agriculture and Forest Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Since the solar PV systems proposed for this alternative would be constructed on existing structures, no impacts to agriculture or forestry resources would occur. There would be no impact. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in similar agricultural resource impacts compared to the proposed project.

Air Quality

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Under this alternative, no construction activities associated with ground disturbance would occur and, thus, this alternative would reduce construction emissions. During operation, this alternative would have similar impacts on air quality as the proposed project related to occasional vehicular visits for maintenance. Vehicular mobile-source emissions from commuting workers associated with equipment installation and maintenance would be spread out over a larger area, resulting in a dispersion of air quality impacts. With implementation of similar mitigation proposed under the project, air quality impacts under this alternative would be less than significant at the project level, consistent with the proposed project; therefore, the project would not be cumulatively considerable under this alternative.

The No Ground-Mounted Utility-Solar Development Alternative would result in fewer overall construction-related air quality impacts compared to the proposed project and would have similar operational impacts.

Biological Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Indian Wells Valley. The project site would remain undeveloped and only developed areas, typically on the rooftops of commercial and industrial facilities, in the Indian Wells Valley would be modified. Given that rooftops of existing commercial and industrial facilities would be used for solar PV system installation, these areas would be unlikely to provide habitat for special-status species. Therefore, the alternative would not contribute to a cumulative loss of foraging and nesting habitat special-status species and impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in fewer biological impacts compared to the proposed project.

Cultural Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Indian Wells Valley. Given that development would occur on the rooftops of existing structures, there would be no potential for disturbance or damage to buried cultural resources. If rooftop solar systems were proposed on historic buildings, this alternative could affect the historic character and integrity of these buildings. However, historic surveys and investigations would be conducted prior to project construction to evaluate the eligibility of potentially historic structures that are over 50-years old; historic structures would be either avoided or the alternative would be required to incorporate design measures to minimize the impact on these structures. Therefore, unexpected impacts to unknown cultural resources would not occur under this alternative. Impacts would be less than significant. With the appropriate mitigation measures in place, the potential to disturb or discover unknown cultural resources within the project area would be less than significant. However, given the inability to impact unknown cultural resources under this alternative, the No Ground-Mounted Utility-Solar Development Alternative would result in fewer cultural resource-related impacts compared to the proposed project.

Energy

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. This alternative would not consume transportation fuels from heavy equipment required for ground disturbing activities, but could potentially result in more days of installation due to the nature of installation locations. The distributed systems on rooftops would lack tracking systems and be less efficient, therefore resulting in more rooftop coverage to achieve the same electrical generation. Similar to the proposed project, impacts would be less than significant. Energy consumption under the No Ground-Mounted Utility-Solar Development Alternative would result in fewer overall construction related impacts compared to the proposed project however operational impacts would be the same as the proposed project.

Geology and Soils

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Indian Wells Valley. Given that only developed areas would be modified, there would be no potential for disturbing undeveloped land and resulting in erosion, or creating new exposure to geologic hazards. Development of rooftop solar would require adherence to all requirements of the Kern County Building Ordinance. Therefore, impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. This alternative would not generate GHG emissions from heavy equipment required for ground disturbing activities, but distributed systems on rooftops would lack tracking systems and be less efficient, therefore resulting in more rooftop coverage. Therefore, this alternative's overall GHG emission offset potential would be to the same as the proposed project. Impacts would be less than significant. GHG impacts under the No Ground-Mounted Utility-Solar Development Alternative would result in fewer overall construction-related GHG impacts compared to the proposed project and operational impacts would be similar to those of the proposed project.

Hazards and Hazardous Materials

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Indian Wells Valley. The installation of rooftop solar equipment on existing structures would involve fewer hazardous materials (such as chemicals and fuels) than the proposed project construction on the undeveloped project site. Impacts under this alternative would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts to hazards and hazardous materials than the proposed project.

Hydrology and Water Quality

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Indian Wells Valley. Although construction of solar facilities on existing development could introduce pollutants to stormwater, the overall impacts to hydrology and water quality under this alternative would be fewer as no ground disturbance would occur. This alternative would also likely require minimal water as no dust suppression or concrete mixing would be required during construction and operational panel washing is expected to be less frequent given the location of panels on top of buildings throughout the Indian Wells Valley (rather than directly on sediment). Therefore, impacts groundwater supply would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in fewer overall impacts to hydrology and water quality materials as the proposed project.

Land Use and Planning

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Indian Wells Valley. Under this alternative, no CUPs or SPA would be required. Installation of rooftop solar would be consistent with current zoning as well as existing land use plans, policies, and regulations. The No Ground-Mounted Utility-Solar Development Alternative would also achieve the County's goals and policies relative to accommodating renewable energy facilities. However, the placement of solar panels on other structures throughout the region would result in unknown entitlement requirements, depending on the project location, zoning, land use, and potential environmental impacts on the site and surrounding areas. Nonetheless, to allow such development, the project proponent would be required to comply with the specific entitlements needed to construct solar PV systems consistent with this alternative. Impacts would be less than significant. Impacts to land use and planning under the No Ground-Mounted Utility-Solar Development Alternative would be greater than the proposed project.

Mineral Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Indian Wells Valley. Since this alternative would not disturb any ground surfaces, there would be no impact to mineral resources. The No Ground-Mounted Utility-Solar Development Alternative would result in similar impacts to mineral resource compared to the proposed project.

Noise

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities. Rooftops of existing commercial and industrial buildings that would be developed under this alternative would be in developed areas. As a result, noise related to construction activities would likely impact sensitive receptors during construction, and significant noise impacts during construction would remain significant and unavoidable. The operational noise generated from these solar PV systems would be similar to that of the proposed project. Impacts to noise would be significant and unavoidable during construction activities. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in similar construction noise impacts than the proposed project.

Public Services

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Indian Wells Valley and the project site would remain undeveloped. Unlike the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would not introduce structures into a currently undeveloped area and is not expected to temporarily or permanently increase the concentration of persons in an area. Impacts are expected to be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts to public services than the proposed project.

Transportation and Traffic

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Indian Wells Valley. Similar to the proposed project, this alternative would require vehicular trips during construction to transport and install the solar panels. However, the trips would be more dispersed than the proposed project given the location of the existing facilities, thereby reducing impacts on the roadways surrounding the project site. Impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts to transportation and traffic compared to the proposed project.

Tribal Cultural Resources

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of commercial and industrial facilities situated throughout the Antelope Valley. It is unlikely that the proposed rooftop solar systems would have an impact on tribal cultural resources. However, prior to construction of this alternative, the Native American Heritage Commission will be contacted for a search of the Sacred Land File for the No Ground-Mounted Utility-Solar Development Alternative construction area. In addition, the County will conduct additional consultation with California Native American tribes on the County's Master List for AB 52, apprising them of the alternative project description. Due to the nature of the No Ground-Mounted Utility-Solar Development Alternative, it is highly unlikely to have an impact on tribal cultural resources. It is anticipated that the Sacred Land File and consultation would not result in the identification of any tribal cultural resources that could be impacted by the No Ground-Mounted Utility-Solar Development Alternative directly or indirectly, however should it be determined the potential exists, this alternative will avoid impacting any such resources through avoidance and re-design. As such, The No Ground-Mounted Utility-Solar Development Alternative would have no impact to tribal cultural resources and no mitigation would be required. Furthermore, the No Ground-Mounted Utility-Solar Development Alternative would result in similar impacts related to tribal cultural resources compared to the proposed project.

Utilities and Service Systems

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing commercial and industrial facilities situated throughout the Indian Wells Valley. This alternative would also likely require minimal water as no dust suppression or concrete mixing would be required during construction and operational panel washing is expected to be less frequent given the location of panels on top of buildings throughout the Indian Wells Valley (rather than directly on sediment). Therefore, impacts groundwater supply would be less than significant. Since existing structures would be used, construction under this alternative would also require fewer materials than the proposed project, resulting in reduced solid waste generation. Impacts to utilities and service systems would be less than significant. This alternative would result in fewer overall impacts to utilities and service systems than the proposed project.

Wildfires

Under the No Ground-Mounted Utility-Solar Development Alternative, a number of geographically distributed small to medium solar PV systems would be developed, typically on the rooftops of existing

commercial and industrial facilities situated throughout the Indian Wells Valley. Due to the numerous power lines that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks above that of the proposed project. As such, similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would implement Mitigation Measure MM 4.14-1, which would require the development and implementation of a Fire Safety Plan for use during construction, operation, and decommissioning of the project, which would further reduce the fire risks. With regard to the installation or maintenance of associated infrastructure, solar panels would require installation of the electrical collector line, similar to the proposed project. The installation of the electrical collector line would not be placed within a high fire hazard zone and thus would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would not include significant risks related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

With implementation of similar mitigation, this alternative is expected to result in less-than-significant impacts to wildfires. The No Ground-Mounted Utility-Solar Development Alternative would likely result in slightly less impact than the proposed project as solar panels would be located in more urbanized areas.

With regard to cumulative wildfire impacts, given the location in a rural area and limited infrastructure, the No Ground-Mounted Utility-Solar Development Alternative and related projects have the potential to result in a cumulative impact related to conflict with an adopted emergency response plan or emergency evacuation plan, exposing people to pollutant concentrations from a wildfire, the installation or maintenance of associated infrastructure, exposing people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes and, thus, would result in a significant and unavoidable cumulative impact.

Comparison of Impacts

The No Ground-Mounted Utility-Solar Development. This alternative would result in fewer overall impacts to air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, public services, traffic and transportation, and utilities and service systems. Further, this alternative would avoid the significant and unavoidable impacts to aesthetics, biological resources, hydrology and water quality, and utilities and service systems that would occur under the proposed project. Greater impacts to tribal cultural resources would occur given this alternative's potential to be located in areas containing tribal cultural resources. This alternative would result in greater impacts to GHG emissions given its reduced solar energy production efficiency. This alternative would also result in greater impacts to land use as it would require extensive discretionary actions, such as design review, CUPs, SPAs, or zone variances, depending on local jurisdictional requirements.

Relationship to Project Objectives

This alternative would satisfy the project objective of assisting California in reducing GHG emissions. However, the project would not achieve other project objective including locating the project site on land zoned for industrial use or utilizing existing transmission infrastructure to minimize costs. It is also unlikely the project would have an average insolation value of 6 kWh/m²/day or greater given the lack of efficiency

of rooftop solar compared to solar tracking technology. Additionally, there are some drawbacks to this alternative that include, but not limited to those listed below.

- The battery energy storage component of the proposed project would not be included.
- The system would not likely be built out within a timeframe that would be similar to that of the proposed project.
- Given the distributed nature of such a network of facilities, construction, management, and maintenance would not be as efficient, and total capital costs would likely be higher.
- The project proponent does not have immediate control or access to potential urban sites that could accommodate facilities to generate 26.6 MW of solar power.
- A distributed system of the scale of the project would be cost-prohibitive.

This alternative would enable the generation of up to 26.6 MW of electricity but it would be used on the sites generating the power and would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Additionally, this alternative does not include battery energy storage. Given the size of the proposed project, the project objectives, and the need to arrange a suitable assemblage of participating commercial and industrial properties, it is impractical and infeasible to propose a distributed generation project of this type and still proceed within a reasonably similar timeframe.

6.8 Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in Table 6-2, there are a number of factors in selecting the environmentally superior alternative. An EIR must identify the environmentally superior alternative to the project. Alternative 1, the No Project Alternative, would be environmentally superior to the project on the basis of its minimization or avoidance of physical environmental impacts. However, *CEQA Guidelines* Section 15126.6(e)(2) states:

The “no project” analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

Because the No Project Alternative cannot be the Environmentally Superior Alternative under CEQA, the Environmentally Superior Alternative is considered to be the No Ground-Mounted Utility-Solar Development Alternative. This alternative would avoid significant and unavoidable impacts to aesthetics, biological resources, hydrology and water quality, and utilities. Greater impacts to tribal cultural resources would occur given this alternative's potential to impact areas containing tribal cultural resources. Impacts related to GHG emissions would be greater under this alternative due to the lower efficiency of the distributed systems, which would not include solar tracking technology. This alternative would also result in greater impacts to land use as it would require extensive discretionary actions, such as design review, CUPs, or zone variances, depending on local jurisdictional requirements. However, this alternative would result in fewer overall impacts to aesthetics, air quality, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, public services, traffic and transportation, and

utilities and service systems. Thus, for most environmental issue areas, this alternative would result in fewer environmental impacts, both short-term and long-term, when compared to the proposed project.

It is important to note that it is considered to be impracticable and infeasible to construct the No Ground-Mounted Utility-Solar Development Alternative within the same timeframe and/or with the same efficiency as the proposed project because the project proponent lacks control and access to the sites required to develop 26.6 MW of distributed solar generated electricity. In addition, this alternative would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Nonetheless, because this alternative reduces impacts to a greater degree than the Alternatives 2 and 3, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

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Chapter 7

Response to Comments

This chapter is being reserved for, and will be included with, the Final EIR.

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Chapter 8

Organizations and Persons Consulted

8.1 Federal

Edwards Air Force Base	U.S. Department of Agriculture,
China Lake Naval Weapons Center	Natural Resource Conservation Service
Federal Aviation Administration	U.S. Environmental Protection Agency Region IX
Federal Communications Commission	U.S. Fish and Wildlife Service
U.S. Air Force	U.S. Marine Corps
U.S. Army	U.S. Navy
U.S. Army Corp of Engineers	U.S. Postal Service
U.S. Bureau of Land Management	

8.2 State of California

California Air Resources Board	California Regional Water Quality Control Board, Lahontan Region
California Department of Conservation	California State Clearinghouse
California Department of Fish & Wildlife, Fresno Region	California State Lands Commission
California Department of Toxic Substances Control	California State University Bakersfield
California Department of Water Resources	Caltrans District 6
California Energy Commission	Caltrans District 9
California Native American Heritage Commission	
California Public Utilities Commission, Energy Division	

8.3 Regional and Local

Adams, Broadwell, Joseph & Cardozo	Kern County Council of Governments	Mojave Foundation
AES Midwest Wind Generation	Kern County Agriculture Department	Mojave Town Council
California Farm Bureau	Kern County Airports Department	National Public Lands News
Center on Race, Poverty & the Environment/California Rural Legal Assistance Foundation	Kern County Environmental Health Services Department	Native American Heritage Council of Kern County
Congentrix Sunshine, LLC	Kern County Fire Department	Pacific Gas & Electric Company
Defenders of Wildlife		Pleistocene Foundation
EDP Renewables Company		Recurrent Energy

East Kern Air Pollution Control District	Kern County Library Beale Branch	Renewal Resources Group
Eastern Kern Resource Conservation District	Kern County Library Ridgecrest Branch	Santa Barbara County Resource Management Department
EcoPlexus, Inc.	Kern County Local Agency Formation Commission	San Bernardino County Planning Department
Fotowatio Renewable Ventures Golden Hills	Kern County Parks and Recreation	Sierra Club
Inyokern Community Services District	Kern County Public Works Department	Sierra Sands Unified School District
Iberdrola Renewables	Kern County Sheriff's Department	South San Joaquin Valley Archaeological Information Center
Indian Wells Valley Airport District	Kern County Superintendent of Schools	Southern California Edison Structure Cast
Indian Wells Valley Water District	Kern County Water Agency	Tehachapi Area Association of Realtors
Indian Wells Water Management Committee	Kern Valley Indian Council	Terra-Gen Power, LLC
Inyo County Planning Department	Kings County Planning Agency	The Gorman Law Firm
Inyokern Airport	Laborers' International Union of North America (LIUNA)	Tulare County Planning and Development Department
Kelly Group	Los Angeles Audubon	Ventura County Resource Management Agency, Planning Division
Kern Audubon Society	Los Angeles County Regional Planning Department	Verizon California, Inc.
Kern County Administrative Officer	Lozeau Drury LLP	Wind Stream, LLC

8.4 Other

Chumash Council of Bakersfield	Tubatulabals of Kern County
Kitanemuk & Yowlumne Tejon Indians	Tule River Indian Tribe
Santa Rosa Rancheria Tribe	Tejon Indian Tribe

9.1 Lead Agency

Kern County Planning and Natural Resources Department

Lorelei H. Oviatt, AICP – Director

Craig M. Murphy – Assistant Director

Katrina A. Slayton – Advanced Planning Division Chief

Ronelle R. Candia – Supervising Planner

Janice Mayes – Planner III

Johnathan Jensen – Planner I

9.2 Technical Assistance

Environmental Science Associates (ESA)

Charles Smith – Project Director

Ryan Todaro – Project Manager

Justin Hall – Deputy Project Manager and Technical Analyst

Alan Sako – Senior Air Quality Analyst

Heather Dubois – Senior Air Quality Analyst

Jacqueline De La Rocha – Technical Analyst

Jeff Goodson – Senior Noise Analyst

Daryl Koutnik – Senior Biological Resource Analyst

Greg Ainsworth – Senior Biological Resource Analyst

Jaclyn Catino-Davenport – Biological Resource Analyst

Michael Bever – Senior Archaeologist

Michael Vader – Cultural Analyst

Shadde Rosenblum – Senior Traffic Analyst

Kimberly Comacho – Technical Analyst

Lisa Maier – Technical Analyst

Aaron Weiner – Technical Analyst

Eric Schniewind – Senior Geologist, Hydrologist, and Hazardous Materials Analyst

Stephan Geissler – GIS Analyst

Jaclyn Anderson – GIS Analyst

Denise Kaneshiro – Graphics

Chapter 10

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