Draft
Environmental Impact Report
SCH# 2023050214

Volume 1
Chapters 1 through 10

ENTERPRISE SOLAR STORAGE PROJECT
by Enterprise Solar Storage, LLC *(PP23401)*

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Kern County
Planning and Natural Resources Department
Bakersfield, California
November 2023

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PLANNING AND NATURAL RESOURCES DEPARTMENT

Planning
Community Development
Administrative Operations

DATE: November 21, 2023

TO: See Attached Mailing List

FROM: Kern County Planning and Natural Resources Department
Attn: Alexis Brito
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661)862-5029; Britoal@kerncounty.com

SUBJECT: DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE ENTERPRISE SOLAR STORAGE PROJECT BY ENTERPRISE SOLAR STORAGE, LLC (PP23401).

Dear Interested Party:

The Kern County Planning and Natural Resources Department, as Lead Agency, has prepared a Draft Environmental Impact Report (DEIR) for the construction and operation of a photovoltaic (PV) solar facility and associated infrastructure necessary to generate 600 megawatts (MW) of renewable electrical energy with up to 4,000 megawatt-hours (MWh) of energy storage capacity (approximately 1,000 MW) on approximately 2,320 acres across five non-contiguous sites. The proposed associated infrastructure includes laydown yards, a meteorological station, and a substation. PV panels, inverters, converters, foundations, and transformers will be installed onsite. The proposed project also includes preferred and optional generation-tie (gen-tie) routes to enter the Windhub Substation, only one of which would be constructed.

The project is located in an unincorporated area in southeastern Kern County, California, at the western edge of the Antelope Valley and south of the community of Mojave. Portions of the project site are adjacent to State Route (SR)-58 and SR-14. The project site is directly south of the unincorporated community of Mojave, approximately 2 miles southwest of California City, approximately 8 miles north of the unincorporated community of Rosamond, and approximately 8 miles northwest of Edwards Airforce Base.

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 **January 5, 2024, 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 Britoal@kerncounty.com or (661) 862-5029.

Sincerely,

Alexis Brito, Planner I
Advanced Planning Division

Enterprise Solar Project
Agency & Tribal List

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San Bernardino, CA 92415-0182

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

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

Caltrans/Dist 6
Planning/Land Bank Bldg.
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Fresno, CA 93778

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

California Fish & Wildlife
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California Regional Water Quality Control Board/Lahontan Region
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Victorville, CA 92392

Kern County
Agriculture Department

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

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

Federal Aviation Administration
Western Reg Office/
777 South Aviation Boulevard
Suite 150
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Eastern Kern Resource Cons Dist
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Ridgecrest, CA 93555-4436

State Air Resources Board
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Caltrans/Dist 9
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State Dept of Conservation
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China Lake Naval Weapons Center
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California Energy Commission
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Public Utilities Comm Energy Div
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San Francisco, CA 94102

Cal Environmental Protection Agency/
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Kern County Library/Beale
Local History Room

Kern County Library/Beale
Andie Sullivan

Kern County Parks & Recreation

Kern County Sheriff's Dept
Administration

Kern County Public Works Department/
Building & Development/Development
Review

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Quechan Tribe of the Fort Yuma Reservation
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Quechan Tribe of the Fort Yuma Reservation
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Twenty-Nine Palms Band of Mission Indians
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Yuhaaviatam of San Manuel Nation
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26569 Community Center Dr.
Highland, CA 92346

NOTICE OF AVAILABILITY FOR PUBLIC REVIEW AND HEARING ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE ENTERPRISE SOLAR STORAGE PROJECT

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.

PROJECT TITLE: Enterprise Solar Storage Project by Enterprise Solar Storage, LLC (PP22401); Site 1 (a) ZCC 60, Map 196; (b) CUP 62, Map 196 (c) NSV Map No. 196; Site 2 (d) SPA 34, Map 196; (e) ZCC 61, Map 196; (f) CUP 63, Map 196 (g) NSV Map No. 196; Site 3 (h) ZCC 3, Map 195; (i) ZCC 62, Map 196; (j) CUP 2, Map 195; (k) CUP 64, Map 196; (l) CUP 65, Map 196; (m) SPA 35, Map 196 (n) NSV Map No. 195 (o) NSV Map No. 196; Site 4 (p) SPA 4, Map 212; (q) ZCC 4, Map 195; (r) ZCC 3, Map 212; (s) CUP 3, Map 195; (t) CUP 6, Map 212; (u) GPA 3, Map 212 (v) NSV Map No. 212; Site 5 (w) CUP 20, Map No. 197

PROJECT LOCATION: The project is located in an unincorporated area in southeastern Kern County, California, at the western edge of the Antelope Valley and south of the community of Mojave. Portions of the project site are adjacent to State Route (SR)-58 and SR-14. The project site is directly south of the unincorporated community of Mojave, approximately 2 miles southwest of California City, approximately 8 miles north of the unincorporated community of Rosamond, and approximately 8 miles northwest of Edwards Airforce Base. The proposed project site is located on Section 6 of Township 10 North, Range 11 West, Sections 20-26, 28, and 36 of Township 11 North, Range 12 West, and Sections 30 and 32 of Township 11 North, Range 11 West, with the interconnection facilities located in Section 17 and 20 of Township 11 North, Range 13 West. In addition, interconnection facilities are located within Sections 17 and 20 of Township 11 North, Range 13 of the San Bernadino Base Meridian (SBBM).

DOCUMENT AVAILABILITY: The Draft EIR and the documents referenced in it are available for public review at the Planning and Natural Resources Department, which is located at 2700 "M" Street, Suite 100, in Bakersfield, CA 93301 or on the Departmental website at **https://kernplanning.com/planning/environmental-documents/.**

PUBLIC HEARING AND COMMENT: A public hearing has been scheduled with the Kern County Planning Commission to solicit comments on the adequacy and completeness of the analysis and proposed mitigation measures described in the Draft EIR. You may comment by providing testimony at the public hearing on:

DATE: **February 8, 2024**
TIME: **7:00 P.M. or soon thereafter**
LOCATION: **Chambers of the Board of Supervisors**
Kern County Administrative Center, First Floor
1115 Truxtun Avenue, Bakersfield, CA 93301

And/or by submitting written comments to the project planner identified below prior to the close of the public comment period on January 5, 2024, at 5:00 p.m. to:

Kern County Planning and Natural Resources Department
ATTN: Alexis Brito, Planner I
2700 "M" Street, Suite 100, Bakersfield, CA 93301
Phone: (661) 862-5029
E-mail: Britoal@kerncounty.com

If you challenge the action taken on this request in court, you may be limited to raising only those issues you or someone else raised at this public hearing, or in written correspondence delivered to the Planning and Natural Resources Department at, or prior to, the public hearing.

PROJECT DESCRIPTION: The Enterprise Solar Storage Project, as proposed by Enterprise Solar Storage, LLC, is for the construction and operation of a photovoltaic (PV) solar facility and associated infrastructure necessary to generate 600 megawatts (MW) of renewable electrical energy with up to 4,000 megawatt-hours (MWh) of energy storage capacity (approximately 1,000 MW) on approximately 2,320 acres across five non-contiguous sites. The proposed associated infrastructure includes laydown yards, a meteorological station, and a substation. PV panels, inverters, converters, foundations, and transformers will be installed onsite. The proposed project also includes preferred and optional generation-tie (gen-tie) routes to enter the Windhub Substation, only one of which would be constructed.

Implementation of the proposed project includes the following request from the Kern County Planning & Natural Resources Department:

Site 1 (Northern):

(a) Zone Classification Change No. 60, Map 196 from A-1 (Limited Agriculture) to A (Exclusive Agriculture), or a more restrictive district, on approximately 93 acres;

(b) Conditional Use Permit No. 62, Map 196, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 93 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance.

(c) Nonsummary Vacations Map No. 196

Site 2 (Western):

(a) Specific Plan Amendment No. 34, Map 196, of the Mojave Specific Plan from Land Use Designations 3.1 (Parks and Recreation) on approximately 19 acres, 5.2 (Residential, maximum 16 units/net acre) on approximately 13 acres, 5.3 (Residential, maximum 10 units/net acre) on approximately 90 acres, 5.4 (Residential, maximum 4 unit/net acres) on approximately 15 acres, 6.2 (General Commercial) on approximately 15 acres, and 6.3 (Highway Commercial) on approximately 5 acres to 8.5 (Resources Management) for approximately 157 acres.

(b) Zone Classification Change No. 61, Map 196:

- From A-1 (Limited Agriculture) to A (Exclusive Agriculture), or a more restrictive district, on approximately 115 acres;
- From C-2 PD FPS (General Commercial Precise Development Combining Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining), or a more restrictive district, on approximately 18 acres
- From CH PD (Highway Commercial Precise Development Combining) to A (Exclusive Agriculture) or a more restrictive district, on approximately 7 acres;
- From CH PD FPS (Highway Commercial Precise Development Combining Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining), or a more restrictive district, on approximately 4 acres
- From CO PD (Commercial Office Precise Development Combining) to A (Exclusive Agriculture) ,or a more restrictive district, on approximately 5 acres;
- From OS (Open Space) to A (Exclusive Agriculture), or a more restrictive district, on approximately 4 acres;

- From OS FPS (Open Space Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining), or a more restrictive district, on approximately 6 acres;
- From E (1/4) (Estate 1/4 Acre) to A (Exclusive Agriculture), or a more restrictive district, on approximately 16 acres;
- From R-1 (Low Density Residential) to A (Exclusive Agriculture), or a more restrictive district, on approximately 18 acres;
- From R-1 FPS (Low Density Residential Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining), or a more restrictive district, on approximately 2 acres
- From R-2 PD (Medium Density Residential Precise Development Combining) to A (Exclusive Agriculture), or a more restrictive district, on approximately 8 acres; and
- From R-2 PD FPS (Medium Density Residential Precise Development Combining Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining), or a more restrictive district, on approximately 2 acres.

(c) Conditional Use Permit 63, Map 196, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 278.98 acres in the A (Exclusive Agriculture) and A FPS (Exclusive Agriculture Floodplain Secondary Combining) Districts, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance.

(d) Nonsummary Vacations Map No. 196

Site 3 Eastern:

(a) Zone Classification Change No. 3, Map 195, from A-1 (Limited Agriculture) to A (Exclusive Agriculture), or a more restrictive district, on approximately 217 acres;

(b) Zone Classification Change No. 62, Map 196

- From A-1 (Limited Agriculture) to A (Exclusive Agriculture), or a more restrictive district, on approximately 165 acres
- From A-1 H (Limited Agriculture Airport Approach Height Combining) to A H (Exclusive Agriculture Airport Approach Height Combining), or a more restrictive district, on approximately 767 acres

(c) Conditional Use Permit No. 2, Map 195, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 216.54 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(d) Conditional Use Permit No. 64, Map 196, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 1,013 acres in the A (Exclusive Agriculture) and A H (Exclusive Agriculture Airport Approach Height Combining) Districts, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(e) Conditional Use Permit No. 65, Map 196, to allow for the temporary construction staging and equipment storage yard for on approximately 10 acres in an A (Exclusive Agriculture District and combining zone classifications), pursuant to Chapter 19.12.030.K of the Kern County Zoning Ordinance; and

(f) Specific Plan Amendment No. 35, Map 196, to the Circulation Element of the Mojave Specific Plan to remove future road reservations on section and mid-section lines within the project boundary.

(g) Nonsummary Vacations Map No. 195

(h) Nonsummary Vacations Map No. 196

Site 4 Southern:

(a) Specific Plan Amendment No. 4, Map 212, to the West Edwards Road Settlement Specific Plan to change Land Use designation from 1.1 (State and Federal Lands) to 8.5 (Resource Management) on approximately 186 acres.

(b) Zone Classification Change No. 4, Map 195, from A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 157 acres;

(c) Zone Classification Change No. 3, Map No 212 from A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 573.43 acres;

(d) Conditional Use Permit No. 3, Map 195, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 157 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(e) Conditional Use Permit No. 6, Map 212, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 573.43 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(f) General Plan Amendment No. 3, Map 212, to the Circulation Element of the Kern County General Plan to remove future road reservations on section and mid-section lines within the project boundary.

(g) Nonsummary Vacations Map No. 212

Site 5 Step-up Substation:

(a) Conditional Use Permit No. 20, Map 197, to allow for the construction and operation of a step-up substation on approximately 23 acres in an A WE (Exclusive Agriculture Wind Energy Combining) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance.

ENVIRONMENTAL REVIEW FINDINGS: Anticipated significant and unavoidable impacts on: Aesthetics (Project and Cumulative); Air Quality (Project and Cumulative); Biological (Cumulative); Wildfire (Cumulative)

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
MOJAVE DESERT NEWS

AB (11/21/23)

cc: County Clerk (2) (with fee)
Environmental Status Board
LiUNA
Supervisorial District No. 2

Enterprise Solar
APN List

428 171 07 00 6
ADKISON FAMILY TRUST
17641 FAIRBREEZE CT
RIVERSIDE CA 92504-8849

428 191 29 00 6
ALCARAZ GEORGE
15855 MAYALL ST
NORTH HILLS CA 91343

428 191 20 00 9
ALLEN RICHARD & JUNE REV TR
2710 SAFE CI
LANCASTER CA 93536

235 132 52 00 5
ANTELOPE VALLEY E KERN WTR AG
P O BOX 3176
QUARTZ HILL CA 93534

427 020 28 00 9
ANTELOPE VALLEY-EAST KERN
WATER AGENCY
6500 W AVENUE N
PALMDALE CA 93551

235 204 18 00 1
AQUINO DEMETRIO Z ET AL
8560 4TH AV
HESPERIA CA 92345-4051

235 163 10 00 9
ASH DONALD G ET AL
914 WEST FAIRVIEW AV # 16
ARCADIA CA 91006

244 234 08 00 7
BAYSHORE LLC
1925 E CENTURY PK STE 1700
LOS ANGELES CA 90067

428 191 27 00 0
BLANKE CHAD
895 7TH ST
OGDEN UT 84404-5159

235 410 01 00 4
26SB 8ME LLC
4370 TOWN CENTER BL STE 110
EL DORADO HILLS CA 95762

235 204 16 00 5
AHN YOUNG OCK
1614 W 168TH ST # C
GARDENA CA 90247

428 171 35 00 7
ALDACO JOSE A
44135 BEGONIY ST
LANCASTER CA 93535

244 413 58 00 7
AMAYA SEGUNDO REINALDO
CALDERON
15805 MOSSDALE AV
LANCASTER CA 93535

428 202 37 00 8
ARCA LILIA F
187 CHERRYWOOD LN
BATTLE CREEK MI 49015-7605

244 233 05 00 1
AV VISTA HOLDINGS LLC
602 COMMERCE AV STE F
PALMDALE CA 93551

235 192 07 00 3
BELTRAN TR & BERG N & M TR
25175 LUNA BONITA DR
LAGUNA HILLS CA 92653-5650

235 204 22 00 2
BLAUSTEIN MARK MORRIS
6282 S SONIC DR
SAINT GEORGE UT 84790

428 161 09 00 9
WIEGAND CAROLYN ANITA LIV TR
11455 PAULS DR
CONIFER CO 80433

235 172 04 00 8
ZAPATA MICHAEL & VALENCIA
GERALDINE
10665 DOROTHY AV
GARDEN GROVETY CA 92843-2416

428 171 16 00 2
1987 DE MONTE FAMILY TRUST A
2423 NICKLAUS DR
SANTA MARIA CA 93455-1524

235 410 09 00 8
ALBERTS LARRY & SANDRA
3860 MISSION HILLS RD
NORTHBROOK IL 60062-5742

427 090 39 00 2
ALL AMERICAN PIPELINE LP
3600 BOWMAN CT
BAKERSFIELD CA 93308

235 191 08 00 9
ANA PROPERTIES LLC
P O BOX 1510
LA MIRADA CA 90637

427 100 14 00 1
ANTELOPE VALLEY E KERN WTR AG
P O BOX 847
BISHOP CA 93514

235 204 20 00 6
APPLE VALLEY LAND OWNERS
3787 E 11TH ST
LONG BEACH CA 90804

428 162 12 00 4
ASAMOTO MARITAL TR
16216 DAPHNE AV
TORANCE CA 90504

428 212 11 00 5
BASTIDA ROGELIO & VICTORIA
2848 AUGUSTA WY
SANTA ANA CA 92706-1121

235 191 10 00 4
BIVEN EARL U
6352 SIERRA ELENA RD.
IRVINE CA 92715-3927

428 030 17 00 7
BNSF RAILWAY CO
PO BOX 961039
FORT WORTH TX 76161

428 171 03 00 4
BOBBITT JANET J
9000 5TH AV
INGLEWOOD CA 90305

428 192 08 00 2
BOUCHARD ROBERT J & MARIE P
8021 VIA DE VIVA
SCOTTSDALE AZ 85258

428 173 07 00 0
BRADY MAL & PARTICIA E
P O BOX 544
CARPINTERIA CA 93014

235 202 04 00 6
BULL JACK W
15514 CALLE HERMOSA
SANTA CLARITA CA 91390-1014

428 211 39 00 0
BURGERS WILLY L
7461 MERMAID LN
CARLSBAD CA 92011

428 174 28 00 8
CADIZ ERNESTO G & EVANGELINE
854 S LAFLIN ST
CHICAGO IL 60607-4026

235 182 05 00 4
CASTELLANOS JOSE M & LIDIA
FAMILY REV TRUST
6759 COLOMA WY
RIVERSIDE CA 92509

235 202 07 00 5
CENTURY LAND LLC
PO BOX 4276
ORANGE CA 92863-4276

427 030 07 00 1
WESTERN NATURAL RESOURCES
LLC
11512 EL CAMINO REAL STE 370
SAN DIEGO CA 92130

235 204 42 00 0
WILLIAMS FMLY TR
4627 MARBELLA CT
SAN JOSE CA 95124

235 192 10 00 1
BOYER EMMETT L
5209 TAMANAR DR
LAS VEGAS NV 89130-0120

244 413 60 00 2
BRAMBACH CHAUNCEY STEPHEN
JR
PO BOX 643
MOJAVE CA 93502-0105

235 212 23 00 4
BULL JACK W
808 WEST AVENUE J-10
LANCASTER CA 93534

428 171 04 00 7
BURNS YVONNE
830 RIESSEN RD
GRANTS PASS OR 97526-9374

428 172 04 00 4
CALDWELL JOLENE ALLEN
8200 CORTELAND DR
KNOXVILLE TN 37909

235 191 07 00 6
CAMPBELL SHANNON M
12885 OAK TREE LN
POWAY CA 92064-6048

428 202 34 00 9
CARLSON CHILDRENS TR
25612 GOLDENSPRING DR
DANA POINT CA 92629-1537

235 191 04 00 7
CATBAGAN POMPEYO &
ADELAIDA Z
2354 PERU ST
LOS ANGELES CA 90039

427 400 08 00 1
CHARTER VENTURE LLC
P O BOX 11513
GLENDALE CA 91226

244 413 49 00 1
WESTRUP JEAN M
10306 CHESTNUT ST
BELLFLOWER CA 90706

428 172 10 00 1
BOBBITT TURNER TRUST
30015 HAWKSET ST
CASTAIC CA 91384-3403

235 191 09 00 2
BRACAMONTES FRANCISCA
4889 INGLEWOOD BL
CULVER CITY CA 90230-5861

428 174 36 00 1
BRANDEN MICHAEL
PO BOX 12472
MARINA DEL REY CA 90295-3472

428 174 13 00 4
BURGALES JAVIER VIVANCO
32597 SUNNYVAIL CIRCLE
TEMECULA CA 92592

235 181 13 00 0
BUSH FAMILY TRUST
4095 FRUIT ST SP 212
LA VERNE CA 91750-2919

235 182 08 00 3
CAMPBELL BRADLEY C LIVING
TRUST
22394 MONTERA CT
SALINAS CA 93908

235 163 09 00 7
CANN FAMILY TRUST
29268 PARADISE CANYON DR
MENIFEE CA 92584-8796

244 234 28 00 5
CARPENTER SUSAN
5 ROUND HILL CI
MADISON WI 53717

235 192 06 00 0
CEDERLIND LEON E LIV REV TR
807 W 15 RD
PHILLIPS NE 68865-3704

244 234 26 00 9
CHAVEZ SARA
831 N CLYBOURN AV
BURBANK CA 91505-2708

235 410 19 00 7
CHENG CHAUR C & C Y & C C ET AL
19604 CASTLE BAR DR
ROLLING HTS CA 91748

235 164 09 00 4
CLAWSON WILLIAM J
13930 CHURCH PL APT 68G
SEAL BEACH CA 90740-5320

235 410 08 00 5
COOLEY SCOTT M 1997 SEPARATE PROPERTY TRUST
15900 KENNEDY RD
LOS GATOS CA 95032

428 171 17 00 5
CURTIS ADRIANA
22583 FLAMINGO ST
WOODLAND HILLS CA 91364-4917

235 212 20 00 5
DEBS GLORIA J SEPARATE PROP TRUST
12206 MELINDA CI
SARATOGA CA 95070

235 212 08 00 1
DL INVESTORS 1 LLC
166 W WASHINGTON ST STE 730
CHICAGO IL 60602

235 212 04 00 9
DUDDY TR
4038 SAN REMO WY
TARZANA CA 91356-5700

244 413 41 00 7
DYAS ROBERT K & KATHRYN M
P O BOX 687
ROSAMOND CA 93560

428 173 02 00 5
EASTERN KERN CO RESOURCE CONSERVATION DIST
300 S RICHMOND RD
RIDGECREST CA 93555-4436

427 030 28 00 2
EDWARDS SANBORN LAND HOLDINGS LLC
11455 EL CAMINO REAL STE 160
SAN DIEGO CA 92130

244 411 03 00 3
CHINGARI JOSEPH J JR
2325 FARGO CT
TRACY CA 95377

235 171 15 00 3
COHEN JONATHAN J
2980 ALLESANDRO ST APT 205
LOS ANGELES CA 90039-3448

428 161 19 00 8
CORDON JUAN D & ZOILA M AB TRUST
3034 N CHARLOTTE AV
ROSEMEAD CA 91770

235 181 15 00 6
DAVIS DOUGLAS & YVONNE
1991 VIKING DR
CAMARILLO CA 93010-2136

244 234 29 00 8
DELGADO MIGUEL A
200 ARBOR ST
VACAVILLE CA 95688-2702

235 132 13 00 2
DORSETT DANA P
87 HICKS ST # 2B
BROOKLYN NY 11201

428 174 19 00 2
DURAN ESIQUE
15616 PATRONELLA AV
GARDENA CA 90249

244 234 15 00 7
EAGLE DESERT VISTA CORP
PO BOX 2470
VICTORVILLE CA 92393

235 171 06 00 7
EDEN SCOTT
951 MT VIEW LN
MOLALLA OR 97038-7373

235 164 13 00 5
EL PARAISO LIV TR
PO BOX 330134
PACOIMA CA 91333

428 174 02 00 2
CHITTY LOUIS & NANCY DOWNS
PO BOX 21680
LONG BEACH CA 90801-4680

428 174 24 00 6
COLEMAN GLEN R
904 WEST AVENUE J-8
LANCASTER CA 93534

428 030 33 00 3
COUNTY OF KERN
1115 TRUXTUN AV FLR 3
BAKERSFIELD CA 93301

428 202 35 00 2
DAVIS RANDOLPH S & MELINDA
24 SYDNEY CI
HARPERS FERRY WV 25425

244 234 32 00 6
DISCOUNTLAND INC
2261 MONACO DR
OXNARD CA 93035-2915

428 171 33 00 1
DOWD SUSAN
4926 SW 11TH PL
MARGATE FL 33068

235 204 12 00 3
DUTRA GERALD O TR
2845 CARRADALE DR
ROSEVILLE CA 95661-4047

244 233 01 00 9
EDWARDS SANBORN LAND HOLDINGS LLC
9480 GATEWAY DR STE 201
RENO NV 89521

235 172 06 00 4
ELASAAD MOHAMAD & KATHI
PO BOX 2075
LANCASTER CA 93539

244 413 59 00 0
WILSON THOMAS J & YURIKO
91-1012 KAIOHEE ST
EWA BEACH HI 96706-5078

428 151 06 00 7
ELMOHTASEB SAGA
36 DOVETAILL
IRVINE CA 92603

235 163 04 00 2
EMAMI DARA
12166 METRIC BL # 3004
AUSTIN TX 78758-8609

235 164 07 00 8
EMPIRE LAND INVS LLC
3207 W HIBISCUS DR
BELLEAIR BEACH FL 33786-3629

428 140 17 00 9
ENGEL ROBERT
26500 AGOURA RD
CALABASAS CA 91302-1952

428 151 07 00 0
FLASH EXPRESS LLC
9230 MARGERY AV
CALIFORNIA CITY CA 93505

235 181 12 00 7
FOGG FRANCES WING YEE
1319 BARRINGTON WY U 101
GLENDALE CA 91206-5631

428 201 02 00 9
FOX STEPHEN CRAIG & SCOTT C
3588 QUIMBY ST
SAN DIEGO CA 92106-1840

235 204 07 00 9
FRESOLONE BYPASS TR
11766 RICASOLI WY
PORTER RANCH CA 91326-4615

244 413 42 00 0
FRIEDMAN BERNARD & BETTY E
4513 GILBERT ST
SCOTTSDALE AZ 85255

428 161 05 00 7
FUKUMOTO RAY & MARIKO
REVOCABLE LIV TRUST
8150 SIERRA BONITA AV
S SAN GABRIEL CA 91770

428 171 13 00 3
FUND 5 LLC
PO BOX 1413
BEND OR 97709

428 202 50 00 5
GAOIRAN LUIS G & TERESITA T
440 KEA ST
KAHULUI HI 96732-1424

428 151 08 00 3
GENTRY TRUST
28338 HIDDEN HILLS DR
SANTA CLARITA CA 91390

428 161 12 00 7
GIBBS MARJORIE J
217 VIA ORVIETO
NEWPORT BEACH CA 92663-4924

235 191 06 00 3
GILL NANCY G
11572 MORNING SPRING CT
CUPERTINO CA 95014-5121

235 204 21 00 9
GILSDORF E G SR & B A & S
248 PARK LAKE DR
BULLHEAD CITY AZ 86429-7252

235 204 02 00 4
GLASGOW ERNEST J & KAREN F
766 N CAMBRIDGE ST
ORANGE CA 92867-6842

235 192 08 00 6
GOMES DANIEL
3630 W BOUQUET AV
ANAHEIM CA 92804-4611

235 212 10 00 6
GONZALEZ ALAN JEFFERY
PO BOX 15616
LONG BEACH CA 90815

235 212 03 00 6
GRAVES JOHN J
34 LINCOLN AV
OLD GREENWICH CT 06870

244 411 04 00 6
GREEN VICTORIA LEE
3300 KAUFFMAN AV # 9
VANCOUVER WA 98660-1483

428 151 05 00 4
GUIANG RODOLFO L JR & ERLINDA
E TRUST
2741 VIA ANITA
PALOS VERDES ES CA 90274-1012

235 204 11 00 0
HADEN MARY
4660 DEAN DR
VENTURA CA 93003-3833

244 234 17 00 3
HART PHUOC THI
3031 S LORI LN
SARATOGA SPRING UT 84045-5030

428 152 06 00 4
HAYNES ANTHONY
1240 SE JOHNSON AV
PULLMAN WA 99163-5413

428 162 01 00 2
HAZEN LARRY E LIVING TRU
8311 W MANCHESTER AV APT 1
PLAYA DEL REY CA 90293-8130

428 171 14 00 6
HENDERSON ROWENA L TR
1485 N LONGHORN AV
EAGLE ID 83616

235 171 05 00 4
HENDRICKS TAMARA S &
GREGORY A
PO BOX 56867
SHERMAN OAKS CA 91413-6867

429 152 18 00 6
HERNANDEZ MONICA Y AYALA
PO BOX 902064
PALMDALE CA 93590-2064

235 192 12 00 7
HOLZER SURVIVOR TRUST
261 W KENNETH RD
GLENDALE CA 91202-1458

428 152 04 00 8
HORVATH JENO & PAMELA INTER VIVOEXEMP TRUST
16654 SOLEDAD CANYON RD # 517
SANTA CLARITA CA 91387

235 204 26 00 4
HSU SHIH CHIEH
100 WHITE JASMINE
IRVINE CA 92618

428 192 17 00 8
IRYAMI MOUSA & ALBERT
11872 WILSHIRE BL
W LOS ANGELES CA 90025

235 204 23 00 5
JAMES LON O TR
2714 KITCHEN DICK RD
SEQUIM WA 98382-9538

428 192 07 00 9
JIBILIAN ALBERT
8117 W MANCHESTER AV # 777
PLAYA DEL REY CA 90293-8728

244 234 12 00 8
JOHNSTON BARBARA Z
106 SILVER VALLEY BL
MUNROE FALLS OH 44262

235 172 05 00 1
KEGANS JEAN E TR
474 BLOCKHOUSE RUN RD # G
NEW BRIGHTON PA 15066-3565

428 191 15 00 5
KIDZ KIDDS INC
190 SIERRA KOURT STE A307
PALMDALE CA 93551

428 202 36 00 5
KIRKSEY PATRICK W
241 N BALDWIN AV # B
SIERRA MADRE CA 91024

428 152 02 00 2
LAW ARDEN S
PO BOX 4971
COVINA CA 91723

235 172 09 00 3
HOU QINGMING
195 41ST ST STE 11140
OAKLAND CA 94611

428 172 03 00 1
HUTCHISON DENISE & ZANETTA DANNY
PO BOX 2453
AVILA BEACH CA 93424-2453

235 204 24 00 8
J D LOOMIS INVS LLC
7100 LOCH LOMOND DR
BETHESDA MD 20817-4760

244 234 35 00 5
JAMES MILDRED J SEPARATE PROPERTY TRUST
12823 ENCANTO WY
REDDING CA 96003

235 163 13 00 8
JIMENEZ PEDRO
785 GLEN OAKS RD
THOUSAND OAKS CA 91360

428 171 34 00 4
JORDAN HELEN M
2356 WILLIET WY
ARROYO GRANDE CA 93420

428 161 14 00 3
KEREN & ASSCS LLC
P O BOX 2016
BEVERLY HILLS CA 90213

428 140 10 00 8
KILBY SIDNEY ROBERT
P O BOX 1085
MOJAVE CA 93502

428 212 30 00 0
KLASSEN VIRGINIA M
14710 SE TIGER MOUNTAIN RD
ISSAQUAH WA 98027-7333

428 174 01 00 9
LEE JANG WOO
2867 MUIR TRAIL DR
FULLERTON CA 92833-5517

244 413 45 00 9
HSU JOSHUA S & JENNIFER K
24401 E STAR CT
DIAMOND BAR CA 91765

235 181 16 00 9
HUYNH CHIN & NGUYEN BINH
16098 MOUNT HICKS ST
FOUNTAIN VALLEY CA 92708-1723

235 164 08 00 1
JACKSON LISA A & DENNIS R
2303 HARBINGER LN
DALLAS TX 75287-5823

244 411 41 00 3
JASZAROWSKI WAYNE
39577 CORBETT CANYON CI
MURRIETA CA 92563-4831

428 192 09 00 5
JOHNSON RUSSELL V & SUSAN FAMILY TRUST
3425 HERON LN
PASO ROBLES CA 93446

235 192 11 01 3
KALRA HIRA LAL & NEETA
5936 LEMP AV
NO HOLLYWOOD CA 91601

235 134 01 00 1
KHAN FAMILY TRUST 2001
5315 HEIDORN RANCH RD
BRENTWOOD CA 94513-5304

235 163 01 00 3
KIM FAMILY TRUST
11828 DARBY AV
NORTHRIDGE CA 91326

428 140 18 00 2
KLEINE NEIL WAYNE REV TRUST
55 CATHEDRAL ROCK DR # 45
SEDONA AZ 86351

235 204 03 00 7
LELAH CHRIS
1770 GREEN VALLEY PKWY # 2811
HENDERSON NV 89074

244 234 33 00 9
LENAHAN TRUCKING LLC
1104 VIEWPOINT CT
FRAZIER PARK CA 93225

235 171 08 00 3
LEVY LINDA SUSAN
19780 SIERRA MEADOWS LN
PORTER RANCH CA 91326-4125

235 065 03 00 4
LIU WARNER
18830 NORWALK BL
ARTESIA CA 90701-5973

235 202 11 00 6
LOCKWOOD LARRY
110 S MOUNTAIN VIEW ST
YERRINGTON NV 89447

235 204 31 00 8
LOPEZ CONSUELO TRUST
12648 REXTON ST
NORWALK CA 90650-4458

244 413 44 00 6
LOPEZ GLADYS
68140 SANTELMO RD
CATHEDRAL CITY CA 92234

235 212 16 00 4
LOPEZ GLICERIO B
115 MINGES FOREST
BATTLE CREEK MI 49015

244 234 36 00 8
LORENZO VENTON T
2115 DENMEAD ST
LAKEWOOD CA 90712

235 164 10 00 6
LU DANNY & CONNIE TR
735 S SEVENTH ST
ALHAMBRA CA 91801

235 171 07 00 0
MAES WILLIAM ARTHUR &
DOREEN KAY FAMILY TR
7671 NEARFIELD LN
LA PALMA CA 90623-1530

235 212 14 00 8
MAKHANIAN ENTERPRISES
1920 GRIFFITH AV
LOS ANGELES CA 90011

428 192 14 00 9
MALEKZADEH ALI A & ALVAREZ
M
19 E CHATFIELD PL
PAINTED POST NY 14870

428 191 18 00 4
MARTINEZ DENISE A
1542 ALAYSSA DR
IDAHO FALLS ID 83402

235 163 08 00 4
MAQ DEVELOPERS LLC
6221 WEST ATLANTIC BL
MARGATE FL 33063

235 204 09 00 5
MARTIN JOHN A & GAIL R TRUST
552 DUNES ST
MORRO BAY CA 93442-1902

428 191 25 00 4
MAURER ROBERT R REVOCABLE
TRUST
20165 RICKY LN
SPRINGDALE AR 72764

244 234 30 00 0
MARTINI JOSEPH F TR
41181 SUMMITVIEW LN
PALMDALE CA 93551-2763

428 172 05 00 7
MATROS BARBARA LEE
1768 GREENTREE RD
ENCINITAS CA 92021-3024

235 204 29 00 3
MEINERT GORDON E & LINDA
1649 2ND ST
DUARTE CA 91010

244 413 52 00 9
MC CURDY SUSAN H TR
1737 LA LOMA RD
PASADENA CA 91105-1332

244 411 14 00 5
MC GOWAN MARION J TR
P O BOX 19372
SAN DIEGO CA 92159

244 411 47 00 1
MILLER CECILIA J
136 CHARMOUTH DR
SYRACUSE NY 13207-1949

235 202 12 00 9
MENDOZA SARA EVELLA
5506 PINEHURST AV
MILWAUKIE OR 97267-1536

428 191 22 00 5
MIHALAK HELEN A
2158 BUCKSKIN PL
RIVERSIDE CA 92506-4607

235 171 16 00 6
MOJAVE AIRPORT INDUSTRIAL
LLC
12671 HIGH BLUFF DR STE 150
SAN DIEGO CA 92130

428 162 10 00 8
MITCHELL SANDRA JEAN
183 PHEASANT DR
BAYVILLE NJ 08721-1940

428 211 21 00 7
MOJAVE 58 INVS LLC
PO BOX 9716
BAKERSFIELD CA 93389

427 020 43 00 2
WORLD ENERGY MOJAVE LLC
225 FRANKLIN ST STE 2330
BOSTON MA 02110

428 161 15 00 6
MOJAVE PIPELINE CO ET AL
PO BOX 4372
HOUSTON TX 77210-4372

429 152 20 00 1
MONTES NEMECIO A & GARCIA
MARIA ESPERANZA
10482 SILVER ST
MOJAVE CA 93501-7050

428 192 06 00 6
MOODY CANIDA C
13712 MILL VALLEY RD
VALENCIA CA 91355-2641

428 151 02 00 5
MOONBASE & BACK PARRA LLC
7415 HAVENHURST PL
VAN NUYS CA 91406

428 162 22 00 3
NAGEL FAMILY TRUST
9800 JAMES RIVER CI
FOUNTAIN VALLEY CA 92708-7310

428 152 05 00 1
NGUYEN BINH N & HUYNH CHIN T
16098 MOUNT HICKS ST
FOUNTAIN VALLEY CA 92708-1723

244 413 43 00 3
NAVARRO RONNY
15901 BADGER FLAT RD
LOS BANOS CA 93635-9786

235 410 02 00 7
NELSON TAWNEY LYNNE
188 MEADOW VIEW DR
PHOENIX OR 97535-9431

235 181 07 00 3
NORRIS CHRISTOPHER T &
TOMMIE L
23638 LYONS AV # 162
NEWHALL CA 91321-2513

428 171 18 00 8
NORTON LYNN MARIE
6005 PASEO CANYON DR
MALIBU CA 90265-3131

428 162 15 00 3
NGUYEN DAO TH H
3115 LASHBROOK AV
EL MONTE CA 91733

244 234 10 00 2
O BRIEN SUSAN M TRUST
3921 SUNSET LN
OXNARD CA 93035-3948

428 212 18 00 6
O KELLY SOLOMON KAREN
86 LAWRENCE AV
WATSONVILLE CA 95076-2930

244 234 27 00 2
NYE JAMES
11325 BARHARBOR WY
KNOXVILLE TN 37934-3962

428 191 19 00 7
OJO DAVID & GBEMISOLA
7318 DANA DR
PALMDALE CA 93551

427 090 11 00 0
OLIVER STEVEN LIVING TRUST
468 MEADOWBROOK DR
SANTA BARBARA CA 93108-2687

428 173 08 00 3
OJO ADENIKE T
9501 COPPER CREEK CT
UPPER MARLBORO MD 20772

235 410 33 00 7
OSTERMIER BERNARD J
20451 SHAMROCK PL
CHATSWORTH CA 91311-1746

427 090 37 00 6
PACIFIC GAS & ELECTRIC CO
1 MARKET PZ STE 400
SAN FRANCISCO CA 94105-1004

428 192 12 00 3
ONODERA FAMILY TR
5558 W BAYSHORE DR
PORT ORANGE FL 32127-6116

428 174 27 00 5
PALM HORIZON
4640 DUNAS LN
TARZANA CA 91356-4602

428 174 30 00 3
PANG HOWARD F
PO BOX 1673
ARCADIA CA 91077-1673

428 140 20 00 7
PAGE TRUST
21250 TRAIL RD
YORBA LINDA CA 92886-7806

235 164 04 00 9
PEARSON FAMILY TRUST FBO
PEARSON TIMOTHY A
16516 WILKIE AV
TORRANCE CA 90504-1844

428 171 32 00 8
PATTERSON FREDA B
1713 W ALMANSOR ST
ALHAMBRA CA 91801

428 174 32 00 9
PANG SHIOULAN
1609 SOUTH CAMPBELL
ALHAMBRA CA 91803

235 204 25 00 1
WOODS LONNIE C
4709 LA RICA AV
BALDWIN PARK CA 91706

428 191 26 00 7
PEPPER GLENN E & VIRGINIA
5608 HAROLD WY
SACRAMENTO CA 95822-3128

244 413 40 00 4
PAULEY JOSEPH L & BEVERLY M
TR
P O BOX 57
ROSAMOND CA 93560

235 204 27 00 7
WU CHIE HUEI & YU-CHEN
10521 FREDRICK DR
VILLA PARK CA 92667-5334

428 162 23 00 6
WU FAMILY SURVIVOR'S TRUST
5012 SPENCER ST
TORRANCE CA 90503-2231

428 202 48 00 0
PEREZ PEDRO & CONNIE FAMILY
TRUST
828 S 6TH ST
MONTEBELLO CA 90640-5914

244 413 56 00 1
PERSICO FAMILY TR
11102 PARAMOUNT
DOWNEY CA 90241

428 162 08 00 3
PHAM CONG CHI
8132 E HILLSDALE DR
ORANGE CA 92869

428 162 09 00 6
PHAN ANN FAMILY TRUST
1551 RESORT ST
UPLAND CA 91784-7450

235 164 01 00 0
PHILLIPS LEE ROY & CAROLYN TR
1524 W KILDARE AV
LANCASTER CA 93534

244 411 40 00 0
PIERSON EARLINE & HIBBLER JOHN
845 WEST STOCKWELL
COMPTON CA 90222

244 413 50 00 3
PIFER LIVING TR
26616 PARISO DR
MISSION VIEJO CA 92691

235 182 06 01 6
PLANK OREN D
1205 E D ST
ONTARIO CA 91764-4329

428 192 16 00 5
PNW HOLDINGS LLC
166 W WASHINGTON ST STE 730
CHICAGO IL 60602-3588

235 182 07 00 0
PORTER MICHELLE A
20206 BEECHVIEW LN
KATY TX 77449

244 413 02 00 4
PREWITT MARK A & BARBARA K
P O BOX 1146
ROY WA 98580

428 191 21 00 2
PROFESSIONAL EQUITIES IN
23201 MILL CREEK DR FLR 3
LAGUNA HILLS CA 92653-1692

235 164 03 00 6
PROPERTY ENTERPRISES LLC
11280 CORBIN AV STE A
PORTER RANCH CA 91326

428 174 20 00 4
PW REAL EST VENTURES LLC
166 W WASHINGTON ST STE 730
CHICAGO IL 60602

428 211 55 00 6
RAMOS W KENT
P O BOX 401
WEST SACRAMENTO CA 95691

235 191 05 01 9
RAWLS SHEILA D
3108 W GRANDVIEW AV
SPOKANE WA 99224-5527

427 030 37 00 8
RE COLUMBIA 3 LANDCO LLC
1906 TOWNE CENTRE BL U 370
ANNAPOLIS MD 21401-3685

427 400 03 00 6
RE RIO GRANDE LANDCO LLC
1906 TOWN CENTRE BL U 370
ANNAPOLIS MD 21401

244 411 13 00 2
REIFMAN IRVING
12121 WILSHIRE BL STE 1120
LOS ANGELES CA 90025-1164

428 140 21 00 0
REISING JAMES
33781 PASEO DE DECORA
SAN JUAN CAPIST CA 92675-5032

235 164 12 00 2
RICH EST PROP INC
18175 KAREN DR
TARZANA CA 91356-4605

428 161 08 00 6
RIAZ PARVEEN
11866 BROADWAY RD
MOORPARK CA 93021

428 172 08 00 6
RICCIARDI JOHN G
3195 SE VILLA CARMEL DR
PORT ORCHARD WA 98366

427 100 05 00 5
ROGOW BARRY
24731 CALLE LARGO
CALABASAS CA 91302

427 020 42 00 9
RLS INVS L P
P O BOX 50591
IDAHO FALLS ID 83405

428 174 26 00 2
ROBERTS WILLIAM
P O BOX 712501
SAN DIEGO CA 92171-2501

428 191 28 00 3
WOODLEY REALTY CORP
1246 5 CAHUENGA BL
LOS ANGELES CA 90038

428 202 33 00 6
RONAS ERLINDA P
77 SARRAGUT ST
SAN FRANCISCO CA 94112

428 172 01 00 5
ROTUNNO FAMILY TRUST
1001 W LAMBERT RD SP 221
LA HABRA CA 90631-1423

235 410 03 00 0
WRIGHT MILDRED L TR
1732 S MAGNOLIA AV
ONTARIO CA 91762

428 191 24 00 1
ROWTON EARL
1043 HIGHWAY 95
INDIAN VALLEY ID 83632

235 410 20 00 9
ROXY TR
19401 OPAL LN
SANTA CLARITA CA 91350-3244

235 164 05 00 2
RUEDAS VICTOR
2103 N LOMITA AV
FRESNO CA 93703

244 413 55 00 8
RUSEN ANTHONY R
10325 LUBAO
CHATSWORTH CA 91311

244 413 63 00 1
RUSEN HARTLEY D
10325 LUBAO
CHATSWORTH CA 91311

244 411 01 00 7
SAGLIMBENI NICHOLAS
530 S LAKE AV # 601
PASADENA CA 91101

235 163 14 00 1
RUSHING LESTER W & SUSAN FAMILY TR
2159 N WEST AV
PALMDALE CA 93551

427 400 07 00 8
RYBE CORP
4361 W AVE N8
PALMDALE CA 93551-1832

235 164 06 00 5
SANDRICK FAMILY TRUST
3012 SHADY BROOK
BEDFORD TX 76021

235 132 16 00 1
SAHOTA MANDEEP K
8499 MONTE CRISTO AV
LIVINGSTON CA 95334-9354

235 163 07 00 1
SALVADOR OMAR A Q & OSELLIE L
1302 HALL LN
SUISUN CITY CA 94585

428 174 35 00 8
SAUCEDO ALEX & ANN MARIE E
30 LUNETTE
FOOTHILL RANCH CA 92610-2200

428 161 04 00 4
SANTARELLI FAMILY TR
2321 E CURTIS CT
GLENDORA CA 91741-4003

235 163 05 00 5
SANTOS BLANCA ESTELA
13949 CLYDESDALE RUN LN
VICTORVILLE CA 92394-7403

235 171 14 00 0
SEIZED PROP
13312 RANCHERO RD 430
OAK HILLS CA 92344

244 234 13 00 1
SCOTT LINDA LEE
PO BOX 274
FALL RIVER MILL CA 96028-0274

235 410 14 00 2
SEASONS LAND CORP
3595 INLAND EMPIRE BL # 3
ONTARIO CA 91764

235 182 04 00 1
SHAW FAMILY MARTIAL TRUST
3048 EMERALD ISLE DR
GLENDALE CA 91206-1010

428 202 49 00 3
SELIS LAURA
2461 A ST
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428 152 03 00 5
SERVICE ROCK PRODUCTS LP
200 S MAIN ST STE 200
CORONA CA 92882-2212

428 171 12 00 0
SMITH DON S LIV TR
18691 PLUMOSA ST
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235 212 15 00 1
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235 163 03 00 9
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428 192 15 00 2
SPUHLER BETTY F TRUST
P O BOX 252
ACME WA 98220-0252

235 172 10 00 5
SOELTER JOHN
1440 W OAKLAHOMA STAR TR
BILLINGS MT 59105

428 140 09 00 6
SOUMEKH MICHAEL & RACHEL
1140 S ALFRED ST
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428 191 17 00 1
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1331 BRIARGATE LN
GLENDORA CA 91740

427 030 04 00 2
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4361 W AVENUE N8
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428 211 14 00 7
STATE OF CALIFORNIA
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BISHOP CA 93514

235 192 09 00 9
YING WILLIAM H
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CORONA CA 92877-0182

428 171 19 00 1
STEPHENS ELSWORTH & HELEN TRUST
1105 WEST AVENUE L-8
LANCASTER CA 93534

427 100 03 00 9
STURDEVANT JANET M REV FMLY TR
1605 STORMY WY
PASO ROBLES CA 93446-1856

428 161 02 00 8
TANG DAVID K
1942 SAMARA DR
ROWLAND HTS CA 91745

428 162 16 00 6
THOMPSON MARK E A P C PENSION PLAN
963 W AVENUE J
LANCASTER CA 93534

427 090 55 00 8
TIERRA GRANDE MOBILE HOME PARK LLC
2283 E MAZIE AV
FRESNO CA 93730-9727

428 191 14 00 2
TUCKER KENNETH L
39852 NARCISSUS WY
PALM DESSERT CA 92211

427 020 35 00 9
UNION PACIFIC R/R CO
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OMAHA NE 68179

429 152 21 00 4
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1700 KIBBY RD
MERCED CA 95341-9301

235 202 10 00 3
WALSH THOMAS S TRUST
160 TELOMA DR
VENTURA CA 93003-2138

428 140 19 00 5
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6600 VISTA DEL REINO
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235 204 05 00 3
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235 164 11 00 9
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235 212 18 00 0
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963 WEST AVENUE J
LANCASTER CA 93534

428 161 10 00 1
TONG NHIEM & LY HUONG P
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PHOENIX AZ 85048-9432

428 191 16 00 8
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745 S VELIE ST
VISALIA CA 93292

428 151 17 00 9
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507 E NORMAN AV
ARCADIA CA 91006

428 162 24 00 9
WANG NATHAN & LYNDA S
12523 NEON WY
GRANADA HILLS CA 91344-1342

244 234 02 00 9
WEBSTER CHARLEEN
5161 DECATUR DR
LA PALMA CA 90623

428 171 25 00 8
WESTERN NATIONAL RESOURCES LLC
114551 EL CAMINO REAL STE 160
SAN DIEGO CA 92130

235 204 04 00 0
YU WING KWONG & SAU KING
216 S ELECTRIC AV
ALHAMBRA CA 91801

235 212 22 00 1
TAJIMA FAMILY TRUST A
6307 LA PINTURA DR
LA JOLLA CA 92037-6940

235 204 28 00 0
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1819 ESCONDIDO TERRACE
HENDERSON NV 89007

235 181 06 00 0
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CYPRESS CA 90630-4565

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17422 KLEE ST
SHERWOOD FOREST CA 91325-3235

428 192 13 00 6
VIA BURTON ASSCS LLC
4956 VIA DIEGO
YORBA LINDA CA 92887

428 161 06 00 0
VUONG HUNG
8524 SHARP AV
SUN VALLEY CA 91352

235 065 02 00 1
WANG PEI-HO CHEN
1235 S 1ST AV
ARCADIA CA 91006

235 204 41 00 7
WESERN NATURAL RESOURCES LLC
11455 EL CAMINO REAL STE 160
SAN DIEGO CA 92130

428 201 01 00 6
YU JEFFREY T & OLIVIA L FAM TR
20932 SARAHILLS DR
SARATOGA CA 95070-4383

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 # 2023050214

Project Title: Enterprise Solar Storage Project by Enterprise Solar Storage, LLC
Lead Agency: Kern County Planning and Natural Resources Department Contact Person: Alexis Brito
Mailing Address: 2700 "M" Street Suite 100 Phone: (661) 862-5029
City: Bakersfield Zip: 93301 County: Kern

Project Location: County: Kern City/Nearest Community: Mojave, California City
Cross Streets: State Route 14 and State Route 58 Zip Code: 93501
Lat. / Long.: 35.02055° N, 118.10569° W (NAD 83) Total Acres: 2,320
Assessor's Parcel No.: Multi Section: Multi Twp.: Multi Range: Multi Base: SBB&M
Within 2 Miles: State Hwy #: SR-58 / SR-14 Waterways: N/A
Airports: Mojave Railways: N/A Schools: Mojave Jr./Senior High

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: Nonsummary Vacation

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 Photovoltaic Solar MW 600MW
☐ Waste Treatment: Type MGD
☐ Hazardous Waste: Type
☒ Other: Energy Storage System 4,000MWh

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☒ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☒ Biological Resources ☐ Coastal Zone ☒ Drainage/Absorption ☒ Economic/Jobs
☒ 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
☒ Other GHG, Wildfire, Tribal Cultural Resources, Energy

Present Land Use/Zoning/General Plan Designation:

Site 1 – Vacant Land/A-1/8.5. **Site 2** – Vacant Land/A-1, E (1/4), R-1, R-1 FPS, R-2 PD, R-2 PD FPS, CO PD, C-2 PD FPS, CH PD, CH PD FPS, OS, OS FPS/ 2.5, 3.1, 5.2, 5.3, 5.4, 6.2, 6.3, Low Den. Res. **Site 3** – Vacant Land/ A-1, A-1 H/8.5. **Site 4** – Vacant Land/A-1/1.1, 2.4, 8.5. **Site 5** – Wind Energy Facility/A WE/8.4.

Kern County General Plan and Specific Plan Map Code Designation: 1.1 (State and Federal Land), 2.4 (Steep Slope), 2.5 (Flood Hazard). 3.1 (Parks and Recreation Areas), 5.2 (Residential – Maximum 16 Units/Net Acre), 5.3 (Residential – Maximum 10 Units/Net Acre), 5.4 (Maximum 4 Units/Net Acre), 6.2 (General Commercial), 6.3 (Highway Commercial), 8.4 (Mineral and Petroleum, Min 5 Acre Parcel Size), 8.5 (Resource Management, Min 20 Acre Parcel Size).

Kern County Zoning District: A (Exclusive Agriculture); A-1 (Limited Agriculture); A-1 H (Limited Agriculture, Airport Approach Height Combining); A WE (Exclusive Agriculture, Wind Energy Combining), E (1/4) (Estate ¼ Acre), R-1 (Low Density Residential), R-1 FPS (Low Density Residential, Floodplain Secondary Combining), R-2 PD (Medium Density Residential, Precise Development Combining), R-2 PD FPS (Medium Density Residential, Precise Development Combining, Floodplain Secondary Combining), CO PD (Commercial Office, Precise Development Combining), C-2 PD FPS (General Commercial, Precise Development Combining, Floodplain Secondary), CH PD (Highway Commercial, Precise Development

Combining) CH PD FPS (Highway Commercial, Precise Development Combining, Floodplain Secondary Combining), OS (Open Space), OS FPS (Open Space, Floodplain Secondary Combining).

Project Description:

The Enterprise Solar Storage Project (proposed project) is a proposal by Enterprise Solar Storage, LLC (project proponent) for the construction and operation of a photovoltaic (PV) solar facility and associated infrastructure necessary to generate 600 megawatts (MW) of renewable electrical energy with up to 4,000 megawatt-hours (MWh) of energy storage capacity (approximately 1,000 MW) on approximately 2,320 acres across five non-contiguous sites. The proposed associated infrastructure includes laydown yards, a meteorological station, and a substation. PV panels, inverters, converters, foundations, and transformers will be installed onsite. The proposed project also includes preferred and optional generation-tie (gen-tie) routes to enter the Windhub Substation, only one of which would be constructed.

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**".

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

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

Starting Date November 16, 2023 Ending Date January 2, 2023

Lead Agency (Complete if applicable):

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

Applicant:
Address:
City/State/Zip:
Phone

Signature of Lead Agency Representative: /s/ **Date:** 11/21/2023

Alexis Brito, Planner I

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

Draft
Environmental Impact Report
SCH# 2023050214

Volume 1
Chapters 1 through 10

ENTERPRISE SOLAR STORAGE PROJECT
by Enterprise Solar Storage, LLC *(PP23401)*

Site 1
Zone Change Case No. 60, Map No. 196
Conditional Use Permit No. 62, Map No. 196
Nonsummary Vacations Map No. 196

Site 2
Specific Plan Amendment No. 34, Map No. 196
Zone Change Case No. 61, Map No. 196
Conditional Use Permit No. 63, Map No. 196
Nonsummary Vacations Map No. 196

Site 3
Zone Change Case No. 3, Map No. 195
Zone Change Case No. 62, Map No. 196
Conditional Use Permit No. 2, Map No. 195
Conditional Use Permit No. 64, Map No. 196
Conditional Use Permit No. 65, Map No. 196
Specific Plan Amendment No. 35, Map No. 196
Nonsummary Vacations Map No. 195
Nonsummary Vacations Map No. 196

Site 4
Specific Plan Amendment No. 4, Map No. 212
Zone Change Case No. 4, Map No. 195
Zone Change Case No. 3, Map No. 212
Conditional Use Permit No. 3, Map No. 195
Conditional Use Permit No. 6, Map No. 212
General Plan Amendment No. 3, Map No. 212
Nonsummary Vacations Map No. 212

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Conditional Use Permit No. 20, Map No. 197

Kern County
Planning and Natural Resources Department
Bakersfield, California
November 2023

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Chapter 1
Executive Summary

1.1 Introduction

The Enterprise Solar Storage Project (project) proposed by Enterprise Solar Storage, LLC (project applicant/proponent) would develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate 600 megawatts (MW) of renewable electrical energy with up to 4,000 megawatt-hours (MWh) of energy storage capacity (approximately 1,000 MW) on approximately 2,320 acres of privately owned land.

The project consists of four non-contiguous solar sites, a step-up substation site located north of the existing Southern California Edison (SCE)-owned Windhub Substation, a 230-kilovolt (kV) generation tie (gen-tie) line to carry power generated by project solar facilities from the on-site collector substations to the proposed step-up substation, a 500-kV gen-tie line from the step-up substation into Windhub for ultimate grid connection, and temporary construction laydown areas.

The project proponent/proponent is requesting approval of the following applications by Kern County (County; acreages are approximate):

Site 1 (Northern):

(a) Zone Classification Change No. 60, Map 196 from A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 93 acres;

(b) Conditional Use Permit No. 62, Map 196, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 93 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance.

(c) Nonsummary Vacations Map No. 196

Site 2 (Western):

(a) Specific Plan Amendment No. 34, Map 196, of the Mojave Specific Plan from Land Use Designations 3.1 (Parks and Recreation) on approximately 19 acres, 5.2 (Residential, maximum 16 units/net acre) on approximately 13 acres, 5.3 (Residential, maximum 10 units/net acre) on approximately 90 acres, 5.4 (Residential, maximum 4 unit/net acres) on approximately 15 acres, 6.2 (General Commercial) on approximately 15 acres, and 6.3 (Highway Commercial) on approximately 5 acres to 8.5 (Resources Management) for approximately 157 acres.

(b) Zone Classification Change No. 61, Map 196

- From A-1 (Limited Agriculture) to A (Exclusive Agriculture), on approximately 115 acres;
- From C-2 PD FPS (General Commercial Precise Development Combining Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining) on approximately 18 acres
- From CH PD (Highway Commercial Precise Development Combining) to A (Exclusive Agriculture) on approximately 7 acres;

- From CH PD FPS (Highway Commercial Precise Development Combining Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining) on approximately 4 acres
- From CO PD (Commercial Office Precise Development Combining) to A (Exclusive Agriculture) on approximately 5 acres;
- From OS (Open Space) to A (Exclusive Agriculture) on approximately 4 acres;
- From OS FPS (Open Space Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining) on approximately 6 acres;
- From E (1/4) (Estate 1/4 Acre) to A (Exclusive Agriculture) on approximately 16 acres;
- From R-1 (Low Density Residential) to A (Exclusive Agriculture) on approximately 18 acres;
- From R-1 FPS (Low Density Residential Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining) on approximately 2 acres
- From R-2 PD (Medium Density Residential Precise Development Combining) to A (Exclusive Agriculture) on approximately 8 acres; and
- From R-2 PD FPS (Medium Density Residential Precise Development Combining Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining) on approximately 2 acres.

(c) Conditional Use Permit 63, Map 196, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 278.98 acres in the A (Exclusive Agriculture) and A FPS (Exclusive Agriculture Floodplain Secondary Combining) Districts, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance.

(d) Nonsummary Vacations Map No. 196

Site 3 Eastern:

(a) Zone Classification Change No. 3, Map 195, from A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 217 acres;

(b) Zone Classification Change No. 62, Map 196

- From A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 165 acres
- From A-1 H (Limited Agriculture Airport Approach Height Combining) to A H (Exclusive Agriculture Airport Approach Height Combining on approximately 767 acres

(c) Conditional Use Permit No. 2, Map 195, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 216.54 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(d) Conditional Use Permit No. 64, Map 196, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 1,013 acres in the A (Exclusive Agriculture) and A H (Exclusive Agriculture Airport Approach Height Combining) Districts, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(e) Conditional Use Permit No. 65, Map 196, to allow for the temporary construction staging and equipment storage yard for on approximately 10 acres in an A (Exclusive Agriculture District and combining zone classifications), pursuant to Chapter 19.12.030.K of the Kern County Zoning Ordinance; and

(f) Specific Plan Amendment No. 35, Map 196, to the Circulation Element of the Mojave Plan to remove future road reservations on section and mid-section lines within the project boundary.

(g) Nonsummary Vacations Map No. 195.

(h) Nonsummary Vacations Map No. 196.

Site 4 Southern:

(a) Specific Plan Amendment No. 4, Map 212, to the West Edwards Road Settlement to change designation from 1.1 (State and Federal Lands) to 8.5 (Resource Management) on approximately 186 acres.

(b) Zone Classification Change No. 4, Map 195, from A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 157 acres;

(c) Zone Classification Change No. 3, Map No 212 from A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 573.43 acres;

(d) Conditional Use Permit No. 3, Map 195, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 157 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(e) Conditional Use Permit No. 6, Map 212, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 573.43 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(f) General Plan Amendment No. 3, Map 212, to the Circulation Element of the Kern County General Plan to remove future road reservations on section and mid-section lines within the project boundary.

(g) Nonsummary Vacations Map 212.

Site 5 Step-up Substation:

(a) Conditional Use Permit No. 20, Map 197, to allow for the construction and operation of a step-up substation on approximately 23 acres in an A WE (Exclusive Agriculture Wind Energy Combining) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance.

Table 1-1, *Project Assessor Parcel Numbers (APNs) Corresponding Map Codes, Existing and Proposed Zoning, and Acreage*, identifies the Assessor Parcel Numbers (APN) for the project site.

TABLE 1-1: PROJECT ASSESSOR PARCEL NUMBERS (APNS) CORRESPONDING MAP CODES, EXISTING AND PROPOSED ZONING, AND ACREAGE

Number	APN	Map Code Designation	Existing Zoning	Proposed Zoning	Acres
Site 1 (Northern)					
1	428-140-09	8.5	A-1	A	17.49
2	428-140-10	8.5	A-1	A	3.07
3	428-140-11	8.5	A-1	A	3.45
4	428-140-12	8.5	A-1	A	2.55
5	428-140-13	8.5	A-1	A	7.66
6	428-140-15	8.5	A-1	A	15.93
7	428-140-16	8.5	A-1	A	15.15
8	428-152-01	8.5	A-1	A	14.06
9	428-152-02	8.5	A-1	A	13.58
				Site 1 (Northern) Acreage	**92.94**
Site 2 (Western)					
10	427-020-27	6.3, 6.3/2.5	CH PD	A	7.12

Number	APN	Map Code Designation	Existing Zoning	Proposed Zoning	Acres
11	427-030-07	Low Den. Res.	A-1	A	1.59
12	427-030-35	Low Den. Res.	A-1	A	75.59
13	427-030-36	Low Den. Res.	A-1	A	37.35
14	427-100-22	3.1, 5.2, 5.3, 6.2, 6.3, 3.1/2.5, 5.2/2.5, 5.3/2.5, 6.2/2.5, 6.3/2.5	C-2 PD, C-2 PD FPS, CH PD, CH PD FPS, CO PD, OS, OS FPS, R-1, R-2 PD, R-2 PD FPS	A PD FPS	51.35
15	427-100-23	3.1, 5.2, 5.3, 5.4	R-1	A	34.7
16	427-100-24	5.3, 5.4, 6.3, 5.3/2.5, 6.3/2.5	CH PD FPS, E(1/4), R-1, R-1 FPS, R-2 PD, R-2 PD FPS	A PD FPS	71.28
				Site 2 (Western) Acreage 278.98	
		Site 3 (Eastern)			
17	235-202-02	8.5	A-1	A	40
18	235-202-07	8.5	A-1	A	10
19	235-202-08	8.5	A-1	A	10
20	235-202-09	8.5	A-1	A	10
21	235-202-10	8.5	A-1	A	10
22	235-202-11	8.5	A-1	A	10
23	235-202-12	8.5	A-1	A	10
24	235-202-13	8.5	A-1	A	10
25	235-202-14	8.5	A-1	A	10
26	235-204-01	8.5	A-1	A	10.14
27	235-204-07	8.5	A-1	A	5.07
28	235-204-08	8.5	A-1	A	5.07
29	235-204-09	8.5	A-1	A	5.07
30	235-204-10	8.5	A-1	A	5.07
31	235-204-17	8.5	A-1	A	2.61
32	235-204-18	8.5	A-1	A	2.61
33	235-204-19	8.5	A-1	A	2.61
34	235-204-20	8.5	A-1	A	10.15
35	235-204-21	8.5	A-1	A	2.61
36	235-204-31	8.5	A-1	A	2.61
37	235-204-32	8.5	A-1	A	2.61
38	235-204-33	8.5	A-1	A	5.08
39	235-204-34	8.5	A-1	A	5.08
40	235-204-35	8.5	A-1	A	2.54
41	235-204-36	8.5	A-1	A	2.54
42	235-204-37	8.5	A-1	A	2.54
43	235-204-38	8.5	A-1	A	2.53
44	235-204-39	8.5	A-1	A	5
45	235-204-40	8.5	A-1	A	2.5
46	235-204-41	8.5	A-1	A	2.5
47	235-204-42	8.5	A-1	A	10
48	428-030-06	8.5	A	A	40
49	428-161-01	8.5	A-1 H	A H	40
50	428-161-02	8.5	A-1 H	A H	20
51	428-161-03	8.5	A-1 H	A H	19.76
52	428-161-04	8.5	A-1 H	A H	9.06
53	428-161-07	8.5	A-1 H	A H	2.5
54	428-161-08	8.5	A-1 H	A H	2.5
55	428-161-09	8.5	A-1 H	A H	4.4
56	428-161-10	8.5	A-1 H	A H	7.89
57	428-161-11	8.5	A-1 H	A H	17.42

Number	APN	Map Code Designation	Existing Zoning	Proposed Zoning	Acres
58	428-161-14	8.5	A-1 H	A H	5.2
59	428-161-16	8.5	A-1 H	A H	3.26
60	428-161-20	8.5	A-1 H	A H	5.1
61	428-162-11	8.5	A-1	A	5.04
62	428-162-12	8.5	A-1, A-1 H	A H	21.54
63	428-162-13	8.5	A-1 H	A H	2.55
64	428-162-14	8.5	A-1 H	A H	2.55
65	428-162-15	8.5	A-1 H	A H	2.55
66	428-162-16	8.5	A-1 H	A H	2.55
67	428-162-17	8.5	A-1, A-1 H	A H	4.88
68	428-162-18	8.5	A-1, A-1 H	A H	3.6
69	428-162-19	8.5	A-1	A	2.5
70	428-162-20	8.5	A-1	A	2.51
71	428-162-21	8.5	A-1	A	2.5
72	428-162-22	8.5	A-1, A-1 H	A H	2.51
73	428-162-23	8.5	A-1, A-1 H	A H	7.35
74	428-162-24	8.5	A-1, A-1 H	A H	3.11
75	428-162-27	8.5	A-1 H	A H	20
76	428-171-01	8.5	A-1 H	A H	10
77	428-171-02	8.5	A-1 H	A H	10
78	428-171-03	8.5	A-1, A-1 H	A H	20
79	428-171-04	8.5	A-1, A-1 H	A H	15
80	428-171-05	8.5	A-1 H	A H	5
81	428-171-06	8.5	A-1 H	A H	2.5
82	428-171-07	8.5	A-1 H	A H	2.5
83	428-171-08	8.5	A-1 H	A H	2.5
84	428-171-10	8.5	A-1 H	A H	2.5
85	428-171-11	8.5	A-1 H	A H	2.5
86	428-171-12	8.5	A-1 H	A H	2.5
87	428-171-13	8.5	A-1 H	A H	2.5
88	428-171-14	8.5	A-1 H	A H	2.5
89	428-171-16	8.5	A-1	A	5
90	428-171-17	8.5	A-1	A	2.5
91	428-171-18	8.5	A-1, A-1 H	A H	2.5
92	428-171-19	8.5	A-1 H	A H	2.5
93	428-171-20	8.5	A-1 H	A H	2.5
94	428-171-21	8.5	A-1 H	A H	2.5
95	428-171-22	8.5	A-1 H	A H	2.5
96	428-171-23	8.5	A-1, A-1 H	A H	10
97	428-171-24	8.5	A-1	A	2.5
98	428-171-25	8.5	A-1	A	2.5
99	428-171-26	8.5	A-1	A	5
100	428-171-27	8.5	A-1	A	10
101	428-171-28	8.5	A-1	A	10
102	428-171-29	8.5	A-1	A	2.5
103	428-171-30	8.5	A-1	A	2.5
104	428-171-31	8.5	A-1, A-1 H	A H	2.5
105	428-171-32	8.5	A-1	A	2.5
106	428-171-33	8.5	A-1, A-1 H	A H	5
107	428-171-34	8.5	A-1 H	A H	2.5
108	428-171-35	8.5	A-1 H	A H	2.5
109	428-172-01	8.5	A-1, A-1 H	A H	20
110	428-172-02	8.5	A-1 H	A H	20
111	428-172-03	8.5	A-1 H	A H	20

Number	APN	Map Code Designation	Existing Zoning	Proposed Zoning	Acres
112	428-172-04	8.5	A-1 H	A H	5
113	428-172-05	8.5	A-1 H	A H	15
114	428-172-06	8.5	A-1 H	A H	20
115	428-172-07	8.5	A-1 H	A H	15
116	428-172-08	8.5	A-1 H	A H	5
117	428-172-10	8.5	A-1, A-1 H	A H	160
118	428-172-11	8.5	A-1 H	A H	20
119	428-172-12	8.5	A-1 H	A H	10
120	428-172-13	8.5	A-1 H	A H	10
121	428-173-01	8.5	A-1, A-1 H	A H	120
122	428-173-02	8.5	A-1	A	2.56
123	428-173-03	8.5	A-1	A	2.56
124	428-173-04	8.5	A-1	A	2.5
125	428-173-05	8.5	A-1	A	2.56
126	428-173-06	8.5	A-1	A	10
127	428-173-07	8.5	A-1	A	2.56
128	428-173-08	8.5	A-1	A	2.56
129	428-173-09	8.5	A-1	A	2.56
130	428-173-10	8.5	A-1	A	2.56
131	428-173-11	8.5	A-1	A	10
132	428-174-25	8.5	A-1	A	10
133	428-174-33	8.5	A-1	A	20
134	428-174-34	8.5	A-1	A	10
135	428-174-35	8.5	A-1	A	10
136	428-174-36	8.5	A-1	A	20
				Site 3 (Eastern) Acreage: 1,189.79	
			Temporary Laydown Yards		
150	150	150	150	150	150
151	151	151	151	151	151
152	152	152	152	152	152
153	153	153	153	153	153
				Temporary Laydown Yards Acreage: 10	
			Site 4 (Southern)		
137	235-132-13	8.5	A-1	A	157.27
138	244-234-02	8.5, 8.5/2.4	A-1	A	161.46
139	244-234-08	1.1, 8.5	A-1	A	160
140	244-234-17	8.5	A-1	A	10
141	244-234-18	8.5	A-1	A	10
142	244-234-28	8.5	A-1	A	5.05
143	244-234-29	8.5	A-1	A	5.05
144	244-234-30	8.5	A-1	A	10.02
145	244-234-32	8.5	A-1	A	20
146	244-234-33	8.5	A-1	A	20
147	244-234-35	8.5	A-1	A	10.02
148	244-234-10[a]	1.1	A-1	A	161.83
				Site 4 (Southern) Acreage: 730.70	
			Site 5 (Step-up Substation)		
149	237-031-04	8.4	A WE	A WE	23[b]

Key
APN = Assessor Parcel Number
[a] SCE transmission line APN
[b] Step-up substation site is on approximately 23 acres of a 640-acre parcel

This Draft Environmental Impact Report (EIR) has been prepared by Kern County as the Lead Agency under the California Environmental Quality Act (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 project applications as described above.

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.

Project Summary

The project would develop a solar PV generating facility. As shown in Chapter 3, *Project Description*, **Figure 3-1**, *Regional Vicinity*, and **Figure 3-2**, *Local Vicinity*, of this EIR, the project is located in an unincorporated area in southeastern Kern County, California, at the western edge of the Antelope Valley and south of the community of Mojave. The project would generate 600 MW of renewable electrical energy with up to 4,000 MWh of energy storage capacity (approximately 1,000 MW) on approximately 2,320 acres across five non-contiguous sites. The proposed associated infrastructure includes but is not limited to laydown yards, meteorological stations, and substations. PV panels, inverters, converters, batteries, foundations, and transformers will be installed onsite. The proposed project also includes preferred and optional generation-tie (gen-tie) routes to enter the Windhub Substation, only one of which would be constructed. See **Figure 3-3**, *Proposed Site Plan Overview*.

Discretionary Entitlements Required

To implement this project, depending upon site surveys and jurisdictional determinations, the following discretionary and ministerial permits/approvals may be required if applicable to the project, including but not limited to the following:

- **Federal**
  - U.S. Fish and Wildlife Service Incidental Take Permit and Habitat Conservation Plan (if required).
  - U.S. Army Corps of Engineers, Section 404 Permit (if required)
- **State**
  - California Public Utilities Commission
    - Approval under General Order 131-D (if required)
  - CDFW
    - Section 2081 Permit (State-listed endangered species) (if required)
    - Section 1600 et seq. (Lake and Streambed Alteration Agreement) (if required)
  - Lahontan Regional Water Quality Control Board

- Waste Discharge Requirements (if required)
- Regional Water Quality Certification (401 Permit) (if required)
- National Pollutant Discharge Elimination System Construction General Permit

  - California Department of Transportation (Caltrans)
    - Right-of-Way Encroachment Permit (if required)
    - Permit for Transport of Oversized Loads

- **Local**
  - Kern County
    - Consideration and Certification of Final Environmental Impact Report
    - Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
    - Adoption of Mitigation Monitoring and Reporting Program
    - Approval of Amendments to the Kern County General and Specific Plans (land use designations and circulation system)
    - Approval of Changes in Zone Classifications
    - Approval of Conditional Use Permits for the project sites
    - Approval of Non-Summary Vacations of Public Access Easements
    - Approval of Kern County Grading and Building Permits
    - Approval of Kern County Encroachment Permits
    - Approval of Fire Safety Plan
  - EKAPCD
    - Approval of Fugitive Dust Control Plan
    - Authority to Construct
    - Permit to Operate

Relationship of the Project to Other Solar Projects

The proposed project is being developed independently of other approved or proposed solar projects in the County. If approved, the project facilities would be subject to their own use permits, conditions of approval, interconnection agreements, and power purchase agreements. Kern County understands that the 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.

1.2 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 project. The Kern County Planning Commission and 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. The final decision is made by the Kern County Board of Supervisors, who 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*.

1.3 Project Overview

Regional Setting

The project is located in an unincorporated area in southeastern Kern County, California, at the western edge of the Antelope Valley and south of the community of Mojave, as shown in **Figure 3-1,** *Regional Vicinity*. Portions of the project site are adjacent to State Route (SR)-58 and SR-14. The project site is directly south of the unincorporated community of Mojave, 9.5 miles southwest of the unincorporated community of California City, 10 miles north of the unincorporated community of Rosamond, and 16 miles southeast of the City of Tehachapi. The project is located within Sanborn, Mojave, and Bissell U.S. Geological Survey 7.5-minute quadrangles within Section 6 of Township 10 North, Range 11 West, Sections 20-26, 28, and 36 of Township 11 North, Range 12 West, and Sections 30 and 32 of Township 11

North, Range 11 West, with the interconnection facilities located in Section 17 and 20 of Township 11 North, Range 13 West. In addition, interconnection facilities are located within Sections 17 and 20 of Township 11 North, Range 13 West. **Figure 3-2**- *Local Vicinity*, shows the project in context of the region.

The project contains approximately 648 acres (approximately 28 percent of the project site) within the Kern County General Plan, approximately 1,231 acres (approximately 53 percent of the project site) within the Mojave Specific Plan (MSP), approximately 322 acres (approximately 14 percent of the project site) within the West Edwards Road Settlement Specific Plan (WERSSP), and approximately 115 acres (approximately 5 percent of the project site) within the Soledad Mountain Elephant Butte Specific Plan.

Surrounding Land Uses and Project Site Conditions

Areas surrounding the project site include undeveloped lands, rural residential, active and fallow agricultural lands, access roadways, high-voltage transmission line corridors, and solar and wind development uses to the north, south, east and west of the project site. The project consists of 149 total parcels, plus 4 parcels that would be used for temporary construction laydown.

There are several proposed, existing, and permitted solar energy and transmission projects in the region where the project site is located. The Sanborn Solar project is located between Sites 1 (Northern), 2 (Western), and 3 (Eastern) and to the west and south of Site 4 (Southern). The Edwards Solar project is located approximately 1 mile south of Site 4 (Southern). The RE Camelot Solar project, RE Columbia Two Solar project, RE Columbia Three Solar project, and RE Rio Grande Solar project are operational and adjacent to Site 2 (Western). The Windhub Solar project and the SEPV Solar project, approximately 5 miles to the west, are currently operational, as are the Rosamond One, Rosamond Two, and Catalina Solar projects to the southwest. Additional land uses in the vicinity of the project site consist of a mix of agricultural grazing, undeveloped land, and scattered single-family rural residences.

Table 1-2, *Existing Project Site and Surrounding Properties, Existing Land Use, Existing General Plan Map Code Designations, and Existing Zoning*, presents the existing land uses, designations, and zoning classification for the project site and surrounding area.

TABLE 1-2: EXISTING PROJECT SITE AND SURROUNDING PROPERTIES, EXISTING LAND USE, EXISTING GENERAL PLAN MAP CODE DESIGNATIONS, AND EXISTING ZONING

Count	APN	Zone Map	General/Specific Plan	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	Acres
Site 1 (Northern)								
1	428-140-09	196	Mojave SP	8.5	8.5	A-1	A	17.49
2	428-140-10	196	Mojave SP	8.5	8.5	A-1	A	3.07
3	428-140-11	196	Mojave SP	8.5	8.5	A-1	A	3.45
4	428-140-12	196	Mojave SP	8.5	8.5	A-1	A	2.55
5	428-140-13	196	Mojave SP	8.5	8.5	A-1	A	7.66
6	428-140-15	196	Mojave SP	8.5	8.5	A-1	A	15.93
7	428-140-16	196	Mojave SP	8.5	8.5	A-1	A	15.15
8	428-152-01	196	Mojave SP	8.5	8.5	A-1	A	14.06
9	428-152-02	196	Mojave SP	8.5	8.5	A-1	A	13.58
							Site 1 (Northern) Acreage: 92.94	
Site 2 (Western)								
10	427-020-27	196	Mojave SP	6.3	6.3	CH PD	A	7.12

Count	APN	Zone Map	General/Specific Plan	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	Acres
11	427-030-07	196	Soledad Mtn – Elephant Butte SP	LDR	LDR	A-1	A	1.59
12	427-030-35	196	Soledad Mtn – Elephant Butte SP	LDR	LDR	A-1	A	75.59
13	427-030-36	196	Soledad Mtn – Elephant Butte SP	LDR	LDR	A-1	A	37.35
14	427-100-22	196-20	Mojave SP	3.1, 3.1/2.5, 5.2, 5.2/2.5, 5.3, 6.2, 6.2/2.5, 6.3, 6.3/2.5	8.5 and 2.5	R-2 PD, C-2 PD FPS, OS FPS,OS, R-2 PD FPS, CH PD FPS, CO PD	A PD FPS	51.35
15	427-100-23	196-20	Mojave SP	3.1, 5.2, 5.3, 5.4	8.5	R-1	A	34.7
16	427-100-24	196-20	Mojave SP	5.3, 5.4, 6.3/2.5	8.5 and 2.5	R-1, E (1/4), R-2 PD, R-2 PD FPS, R-1 FPS	A PD FPS	71.28
							Site 2 (Western) Acreage:	**278.98**
				Site 3 (Eastern)				
17	235-202-02	195	KCGP	8.5	8.5	A-1	A	40
18	235-202-07	195	KCGP	8.5	8.5	A-1	A	10
19	235-202-08	195	KCGP	8.5	8.5	A-1	A	10
20	235-202-09	195	KCGP	8.5	8.5	A-1	A	10
21	235-202-10	195	KCGP	8.5	8.5	A-1	A	10
22	235-202-11	195	KCGP	8.5	8.5	A-1	A	10
23	235-202-12	195	KCGP	8.5	8.5	A-1	A	10
24	235-202-13	195	KCGP	8.5	8.5	A-1	A	10
25	235-202-14	195	KCGP	8.5	8.5	A-1	A	10
26	235-204-01	195	KCGP	8.5	8.5	A-1	A	10.14
27	235-204-07	195	KCGP	8.5	8.5	A-1	A	5.07
28	235-204-08	195	KCGP	8.5	8.5	A-1	A	5.07
29	235-204-09	195	KCGP	8.5	8.5	A-1	A	5.07
30	235-204-10	195	KCGP	8.5	8.5	A-1	A	5.07
31	235-204-17	195	KCGP	8.5	8.5	A-1	A	2.61
32	235-204-18	195	KCGP	8.5	8.5	A-1	A	2.61
33	235-204-19	195	KCGP	8.5	8.5	A-1	A	2.61
34	235-204-20	195	KCGP	8.5	8.5	A-1	A	10.15
35	235-204-21	195	KCGP	8.5	8.5	A-1	A	2.61
36	235-204-31	195	KCGP	8.5	8.5	A-1	A	2.61
37	235-204-32	195	KCGP	8.5	8.5	A-1	A	2.61
38	235-204-33	195	KCGP	8.5	8.5	A-1	A	5.08
39	235-204-34	195	KCGP	8.5	8.5	A-1	A	5.08
40	235-204-35	195	KCGP	8.5	8.5	A-1	A	2.54
41	235-204-36	195	KCGP	8.5	8.5	A-1	A	2.54
42	235-204-37	195	KCGP	8.5	8.5	A-1	A	2.54

Count	APN	Zone Map	General/Specific Plan	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	Acres
43	235-204-38	195	KCGP	8.5	8.5	A-1	A	2.53
44	235-204-39	195	KCGP	8.5	8.5	A-1	A	5
45	235-204-40	195	KCGP	8.5	8.5	A-1	A	2.5
46	235-204-41	195	KCGP	8.5	8.5	A-1	A	2.5
47	235-204-42	195	KCGP	8.5	8.5	A-1	A	10
48	428-030-06 (portion of)	196	Mojave SP	8.5	8.5	A	A	40
49	428-161-01	196	Mojave SP	8.5	8.5	A-1 H	A H	40
50	428-161-02	196	Mojave SP	8.5	8.5	A-1 H	A H	20
51	428-161-03	196	Mojave SP	8.5	8.5	A-1 H	A H	19.76
52	428-161-04	196	Mojave SP	8.5	8.5	A-1 H	A H	9.06
53	428-161-07	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
54	428-161-08	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
55	428-161-09	196	Mojave SP	8.5	8.5	A-1 H	A H	4.4
56	428-161-10	196	Mojave SP	8.5	8.5	A-1 H	A H	7.89
57	428-161-11	196	Mojave SP	8.5	8.5	A-1 H	A H	17.42
58	428-161-14	196	Mojave SP	8.5	8.5	A-1 H	A H	5.2
59	428-161-16	196	Mojave SP	8.5	8.5	A-1 H	A H	3.26
60	428-161-20	196	Mojave SP	8.5	8.5	A-1 H	A H	5.1
61	428-162-11	196	Mojave SP	8.5	8.5	A-1	A H	5.04
62	428-162-12	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	21.54
63	428-162-13	196	Mojave SP	8.5	8.5	A-1 H	A H	2.55
64	428-162-14	196	Mojave SP	8.5	8.5	A-1 H	A H	2.55
65	428-162-15	196	Mojave SP	8.5	8.5	A-1 H	A H	2.55
66	428-162-16	196	Mojave SP	8.5	8.5	A-1 H	A H	2.55
67	428-162-17	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	4.88
68	428-162-18	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	3.6
69	428-162-19	196	Mojave SP	8.5	8.5	A-1	A	2.5
70	428-162-20	196	Mojave SP	8.5	8.5	A-1	A	2.51
71	428-162-21	196	Mojave SP	8.5	8.5	A-1	A	2.5
72	428-162-22	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	2.51
73	428-162-23	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	7.35
74	428-162-24	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	3.11
75	428-162-27	196	Mojave SP	8.5	8.5	A-1 H	A H	20
76	428-171-01	196	Mojave SP	8.5	8.5	A-1 H	A H	10
77	428-171-02	196	Mojave SP	8.5	8.5	A-1 H	A H	10
78	428-171-03	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	20
79	428-171-04	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	15
80	428-171-05	196	Mojave SP	8.5	8.5	A-1 H	A H	5
81	428-171-06	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
82	428-171-07	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
83	428-171-08	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
84	428-171-10	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
85	428-171-11	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
86	428-171-12	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
87	428-171-13	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
88	428-171-14	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
89	428-171-16	196	Mojave SP	8.5	8.5	A-1	A	5
90	428-171-17	196	Mojave SP	8.5	8.5	A-1	A	2.5
91	428-171-18	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	2.5
92	428-171-19	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
93	428-171-20	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
94	428-171-21	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5

Count	APN	Zone Map	General/Specific Plan	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	Acres
95	428-171-22	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
96	428-171-23	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	10
97	428-171-24	196	Mojave SP	8.5	8.5	A-1	A	2.5
98	428-171-25	196	Mojave SP	8.5	8.5	A-1	A	2.5
99	428-171-26	196	Mojave SP	8.5	8.5	A-1	A	5
100	428-171-27	196	Mojave SP	8.5	8.5	A-1	A	10
101	428-171-28	196	Mojave SP	8.5	8.5	A-1	A	10
102	428-171-29	196	Mojave SP	8.5	8.5	A-1	A	2.5
103	428-171-30	196	Mojave SP	8.5	8.5	A-1	A	2.5
104	428-171-31	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	2.5
105	428-171-32	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	2.5
106	428-171-33	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	5
107	428-171-34	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
108	428-171-35	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
109	428-172-01	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	20
110	428-172-02	196	Mojave SP	8.5	8.5	A-1 H	A H	20
111	428-172-03	196	Mojave SP	8.5	8.5	A-1 H	A H	20
112	428-172-04	196	Mojave SP	8.5	8.5	A-1 H	A H	5
113	428-172-05	196	Mojave SP	8.5	8.5	A-1 H	A H	15
114	428-172-06	196	Mojave SP	8.5	8.5	A-1 H	A H	20
115	428-172-07	196	Mojave SP	8.5	8.5	A-1 H	A H	15
116	428-172-08	196	Mojave SP	8.5	8.5	A-1 H	A H	5
117	428-172-10	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	160
118	428-172-11	196	Mojave SP	8.5	8.5	A-1 H	A H	20
119	428-172-12	196	Mojave SP	8.5	8.5	A-1 H	A H	10
120	428-172-13	196	Mojave SP	8.5	8.5	A-1 H	A H	10
121	428-173-01	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	120
122	428-173-02	196	Mojave SP	8.5	8.5	A-1	A	2.56
123	428-173-03	196	Mojave SP	8.5	8.5	A-1	A	2.56
124	428-173-04	196	Mojave SP	8.5	8.5	A-1	A	2.5
125	428-173-05	196	Mojave SP	8.5	8.5	A-1	A	2.56
126	428-173-06	196	Mojave SP	8.5	8.5	A-1	A	10
127	428-173-07	196	Mojave SP	8.5	8.5	A-1	A	2.56
128	428-173-08	196	Mojave SP	8.5	8.5	A-1	A	2.56
129	428-173-09	196	Mojave SP	8.5	8.5	A-1	A	2.56
130	428-173-10	196	Mojave SP	8.5	8.5	A-1	A	2.56
131	428-173-11	196	Mojave SP	8.5	8.5	A-1	A	10
132	428-174-25	196	Mojave SP	8.5	8.5	A-1	A	10
133	428-174-33	196	Mojave SP	8.5	8.5	A-1	A	20
134	428-174-34	196	Mojave SP	8.5	8.5	A-1	A	10
135	428-174-35	196	Mojave SP	8.5	8.5	A-1	A	10
136	428-174-36	196	Mojave SP	8.5	8.5	A-1	A	20
							Site 3 (Eastern) Acreage: 1,189.79	
				Temporary Laydown Yards				
137	428-191-23	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
138	428-191-25	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
139	428-191-26	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
140	428-191-27	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
							Temporary Laydown Yards Acreage: 10	
				Site 4 (Southern)				
141	235-132-13	195	KCGP	8.5	8.5	A-1	A	157.27
142	244-234-02	212	KCGP	8.5, 2.4	8.5, 2.4	A-1	A	161.46

Count	APN	Zone Map	General/Specific Plan	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	Acres
143	244-234-08	212	KCGP/Western Edwards Road Settlement SP	1.1, 8.5	8.5	A-1	A	160
144	244-234-17	212	KCGP	8.5	8.5	A-1	A	10
145	244-234-18	212	KCGP	8.5	8.5	A-1	A	10
146	244-234-28	212	KCGP	8.5	8.5	A-1	A	5.05
147	244-234-29	212	KCGP	8.5	8.5	A-1	A	5.05
148	244-234-30	212	KCGP	8.5	8.5	A-1	A	10.02
149	244-234-32	212	KCGP	8.5	8.5	A-1	A	20
150	244-234-33	212	KCGP	8.5	8.5	A-1	A	20
151	244-234-35	212	KCGP	8.5	8.5	A-1	A	10.02
152	244-234-10*	212	KCGP/Western Edwards Road Settlement SP	1.1	8.5	A-1	A	161.83
							Site 4 (Southern) Acreage: 730.7	
			Site 5 (Step-up Substation)					
153	237-031-04	197	KCGP	8.4	8.4	A WE	A WE	23
							Site 5 (Step-up Substation) Acreage: 23	

Key:
APN = Assessor's Parcel Number; KCGP = Kern County General Plan; SP = Specific Plan
* SCE transmission line APN

Kern County General Plan (KCGP) and Specific Plan (SP)Map Code Designation:
1.1 (State and Federal Land)
2.4 (Steep Slope)
2.5 (Flood Hazard)
3.1 (Parks and Recreation Areas)
5.2 (Residential - Maximum 16 Units/Net Acre)
5.3 (Residential - Maximum 10 Units/Net Acre)
6.2 (General Commercial)
6.3 (Highway Commercial)
8.4 (Mineral and Petroleum, Min 5 Acre Parcel Size)
8.5 (Resource Management, Min. 20 Acre Parcel Size)

Soledad Mtn. – Elephant Butte Specific Plan Designation:
LDR = Low Density Residential

Kern County Zoning District:
A (Exclusive Agriculture); A-1 (Limited Agriculture); A-1 H (Limited Agriculture, Airport Approach Height Combining); A H (Exclusive Agriculture, Airport Approach Height Combining); A-1 FPS (Limited Agriculture, Floodplain Secondary); C-2 PD FPS (General Commercial, Precise Development Combining, Floodplain Secondary Combining); CH PD (Highway Commercial, Precise Development Combining);CH PD FPS (Highway Commercial, Precise Development Combining, Floodplain Secondary Combining); CO PD (Commercial Office, Precise Development Combining); OS (Open Space); OS FPS (Open Space, Floodplain Secondary Combining); R-1 (Low-Density Residential District); R-2 PD (Medium-Density Residential District, Precise Development Combining); R-2 PD FPS (Medium-Density Residential District, Precise Development Combining, Floodplain Secondary Combining); E(1/4) (Estate District, Min. one-quarter acre); and, R-1 FPS (Low-Density Residential District, Floodplain Secondary Combining).

Project Objectives

Section 15124(b) of the CEQA *Guidelines* requires a project description to include a statement of the objectives sought by the proposed project. The following objectives have been identified for the proposed project:

- Provide the County and the State of California with a renewable energy source that would assist the state in complying with the Renewables Portfolio Standard under Senate Bill (SB) 100, approved in 2018, which requires that 100 percent of all electricity sold in the state shall be generated from renewable energy sources by 2045 (CPUC, 2020).
- Establish solar PV power-generation with battery energy storage facilities of sufficient size and configuration to produce reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different California utility companies.
- Expand the reach of renewable energy development through the development of battery energy storage systems (BESS), making solar more valuable by storing energy after sunset and placing it on the grid.
- Utilize vacant land that has limited water availability for a renewable energy project.
- Assist the County in promoting its role as the State's leading producer of renewable energy.
- Provide green jobs to Kern County residents and the state of California.
- Site and design the project in an environmentally responsible manner, which includes:
    - Locating generation facilities in areas which receive intense solar radiation;
    - Using existing electrical transmission facilities, rights-of-way, roads, and other existing infrastructure where practical;
    - Minimizing water use; and
    - Reducing greenhouse gas emissions.
- Support California's efforts to reduce greenhouse gas emissions consistent with California Assembly Bill 32, the Global Warming Solutions Act of 2006, and SB 32, to at least 40 percent below the statewide greenhouse gas emissions limit by 2030.

Project Characteristics

The project would use PV solar technology designed in a collection of subarrays to convert solar energy directly to electrical power. The project is intended to operate year-round and would generate electricity during daylight hours to deliver renewable energy into the electric grid, and/or store the generated energy in on-site batteries and discharge it into the grid at various times when electricity demand is at its peak. The power generated on the project site would assist the state in complying with the Renewables Portfolio Standard under SB 350 (2015), which requires 50 percent of all electricity sold in the state shall be generated from renewable energy sources by December 31, 2030, and SB 100, approved in 2018, which requires that 100 percent of all electricity sold in the state shall be generated from renewable energy sources by 2045 (CPUC, 2020). The power generated on the project site would be sold to California investor-owned utilities, municipalities, community choice aggregators, or other purchasers in furtherance of the goals of the

California Renewables Portfolio Standard. At the end of the project's operational term, the project applicant/proponent would determine whether the project site should be decommissioned and deconstructed, or if it would seek an extension of its CUP. If any portion of the project site is decommissioned, it would be converted to other uses in accordance with the applicable land use regulations in effect at that time.

Project facilities would include the following components, which are described in more detail in the following subsections:

- Installation of up to 600 MW alternating current (AC) of solar PV modules, mounted either on a galvanized metal fixed-tilt or single-axis racking system. The mounting systems for the modules would be mounted on steel support posts that would be pile-driven into the ground;
- Installation of energy storage facilities and accessory infrastructure that would provide energy storage capacity of up to 4,000 MWh for the electrical grid (approximately 1,000 MW);
- One to three collector substations, including circuit breakers, disconnect switches, metering protection equipment, and main step-up transformer(s);
- One 230-kV to 500-kV step-up substation;
- Potential upgrades to the existing SCE Windhub Substation and installation of new circuits, lines, switches, utility poles, etc.;
- Relocation of approximately 1 mile of existing 66-kV Coram-Goldtown transmission line by SCE to avoid interrupting the project solar array (the project will not physically interconnect into this line);
- Overhead and underground collection systems both on-site and off-site (the collection systems would be aggregated at multiple circuit breakers or medium-voltage switchgear positions within the project facilities, leading to the collector substation);
- Telecommunication equipment, including underground and overhead fiberoptics, and meteorological data collection systems or supervisory control and data acquisition (SCADA);
- On-site access roads; and
- Perimeter security fencing and nighttime directional lighting.

Solar PV Generating Facilities and Solar Modules

The proposed project would use PV solar technology designed in a collection of subarrays to convert solar energy directly to electrical power for export to the electrical grid. It would include the installation of PV modules that would be mounted on steel support posts that would be pile-driven into the ground and connected to inverters. The modules would be made of a thin film material or crystalline 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 off-site location and transported to the site.

Solar modules for the proposed project would be provided on either a fixed-mount array system or a single-axis tracker system. Depending on the type of technology (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 7 to 12 feet. The length of each row of panels would be 350 to 400 feet and would be

oriented in the east-west direction in the case of a fixed-mount array being used, and oriented in the north-south direction in the case of single-axis trackers being used.

Spacing between each row would be approximately 8 to 22 feet to allow access and reduce shading between rows. 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 with a range of up to 120 degrees. The motors would be installed after the horizontal cross-members are in place. In the morning, the panels would face east. The panels would slowly move to the upright position at noon and on to the west at sundown. The panels would stow horizontally overnight and as operational conditions dictate. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise.

Energy Storage System

The proposed energy storage system(s) would use direct current (DC)-coupled and/or AC-coupled battery storage. The DC energy storage system would be distributed and located throughout the solar arrays. The AC energy storage system could be either centralized and located close to the collector substation(s) or distributed throughout the solar arrays. The energy storage batteries within both proposed systems would be housed in a structure or within Conex boxes. If a structure is constructed, the maximum height (including any screening for heating, ventilation, and air conditioning [HVAC]) is anticipated to be approximately 35 feet. The batteries under this configuration would be housed in open-air-style racking (similar to computer racking) approximately 10 to 12 feet high. The associated inverters, transformers, and switchgear would be located adjacent to the structure on concrete pads or driven pier foundations.

The energy storage structure would also have a fire rating in conformance with County standards and specialized fire suppression systems installed for the battery rooms. All non-battery rooms would have County approved fire suppression systems. The structure would also have HVAC cooling in the battery room to maintain energy efficiency. Power to the HVAC, lighting, and other systems would be provided via a connection to the on-site collector substation service transformer with connection lines installed above ground and/or below ground. The energy storage system would be unstaffed, with remote operational control and periodic inspections and maintenance performed, as necessary.

Emergency backup generators for project substations or the battery energy storage systems may be required by the Authority Having Jurisdiction. If required, the generators would use diesel fuel and would need to be intermittently run for maintenance and testing purposes. The generators would operate in accordance with applicable Eastern Kern Air Pollution Control District (EKAPCD) regulations and appropriate air permits will be obtained from EKAPCD.

Electrical Collection System and Inverters

The solar panels would be electrically connected to each other via above- and underground wiring. Underground electrical cables (underground collection system) would be installed from groups of PV arrays that would be arranged into power blocks. The cables would convey DC electricity to inverters, which convert the DC electricity to AC. Electrical inverters and transformers would be dispersed among the arrays and installed on prefabricated metal skids that would sit on steel pier foundations or concrete foundations, depending on the design. The inverter pad transformers would step up the voltage of the array output, which would be collected at the on-site circuit breakers or switchgear positions. From the circuit breakers or switchgear positions, the medium-voltage collector lines would be routed underground or aboveground to on-site step-up collector substations.

Collector Substations

The on-site collector substation is the termination point of the collection system of 34.5-kV AC electricity. The output of the entire field is passed through an interconnection step-up transformer to convert it to the grid-tie voltage at 230 kV. A minimum of two on-site collector substations will be needed for this project pending final engineering. The proposed substations would host the grid intertie safety equipment and switches required to interconnect to the high-voltage transmission system. The open-air collector substations would likely be constructed on Site 3 (Eastern) at the corner of the general alignment of Purdy Avenue and 10th Street and on Site 2 (Western) north of Purdy Avenue just west of Highway 14. The proposed location of the collector stations is shown within the site plan. The footprint, approximately 375 feet by 350 feet, would be sized to accommodate all required equipment with safety related setbacks and would consist of components up to 75 feet in height.

High-Voltage Step-up Substation

The project includes a new high-voltage step-up substation located north of the SCE-owned Windhub Substation off Oak Creek Road. At this step-up substation (Site 5), the 230-kV transmission will be stepped up to 500 kV for interconnection with Windhub's 500-kV transmission banks. This step-up substation will be on private land and will be owned and operated by the project applicant/proponent. A new 500-kV transmission line will be built from the 230-kV to 500-kV substation into Windhub for ultimate grid connection. The 500-kV transmission line will: 1) be constructed on either the east and south sides of Windhub, where it will transition into Windhub's 500-kV transmission banks; or 2) transition directly into the Windhub Substation from the north, depending on final high-voltage engineering.

Grid Interconnection

From the 230-kV project collector substation in Site 3 (Eastern), the energy generated would interconnect via a new double-circuit gen-tie line to be installed within the previously approved Sanborn Solar project (2020) then run west within the same gen-tie corridor as the approved and constructed Sanborn Solar gen-tie line. The collector substation in Site 2 (Western) would interconnect via a direct tap or other high-voltage connection into the line. The final design, layout, and required interconnection components would be determined at the detailed engineering stage. The 230-kV generation will get stepped up to 500 kV at a new substation (owned and operated by the project owner) to be built north of the SCE-owned Windhub Substation. New 500-kV gen-tie lines (owned and maintained by the project owner) would then connect from the step-up substation into Windhub.

Telecommunication Facilities

The SCADA system is critical to the California Independent System Operator and SCE utility interconnection, and for the proper operation and maintenance of the proposed project, which uses proprietary software; a fiberoptic transmission system; and a telephone, radio, and other means of communication, such as radio links and phase loop communication systems. The SCADA system functions as a remote start, stop, reset, and tag out for the facility, and provides site diagnostic information from the energy generating facility. The SCADA system would also control the collector substation, allowing for fully centralized operation of the proposed project to meet all California Independent System Operator and utility interconnection requirements.

The proposed project would use local exchange carrier services for telecommunication to support remote monitoring requirements. It would connect to telecommunication fiberoptic lines owned and managed by AT&T or an alternative provider. The cabinet holding the connection equipment would have a base of approximately 4 feet by 2 feet and would be approximately 5 feet in height. From the point of demarcation, an underground fiberoptic cable would be installed within the footprint of the proposed project to connect the cabinet to the SCADA equipment within the solar collector substations.

Site Access and Security

The site can be accessed from various separate roadways. Interstate 5 is the largest highway that would provide regional access to the site from the north and the south, along with SR-14, SR-58, and SR-138. The solar facility can be accessed via Purdy Avenue, Camelot Boulevard, Decatur Avenue, Sunset Avenue, and Silver Queen Road.

Although the existing roadways would be used to the greatest extent possible, new unpaved roads would be constructed to serve as access roads from the existing road network to the solar array blocks. Access roads would be up to 25 feet wide and would be cleared and compacted for travel and access to the solar blocks. These site access roads would remain in place for ongoing operations and maintenance activities after construction is completed. Cut slopes and other road construction activities would be constructed in a similar fashion. Dirt roads that are located within the boundaries of the proposed project and that are not the subject of a written easement would be closed to third-party use for vehicular or other access. Any such third parties that may currently use these dirt roads would be rerouted to the major public access routes, which would remain open.

Final service road alignments would depend on the final placement of the solar panels and on the results of field investigations, including topography and any other site-specific details to be incorporated into the final design. Should access roads be required to cross streambed areas under the jurisdiction of the California Department of Fish and Wildlife (CDFW), appropriate crossings would be installed to minimize impacts to these jurisdictional areas and comply with all California Fish and Game Code requirements, including authorization through a Streambed Alteration Agreement as appropriate.

All fence installation requirements would be evaluated, and the best-fit scenario would be incorporated in the site. The fences would be installed around the perimeter of each site, substation, switchyard, and other areas requiring controlled access for safety and security purposes. The fencing would remain for the life of the project. The proposed fencing locations are included in the preliminary plot plan.

Permanent motion-sensitive, directional security lights would be installed to provide adequate illumination around the substation areas and points of ingress/egress. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. All lighting would also conform to applicable County night-sky ordinance requirements. Lighting would be used from dusk to dawn once the facilities are operational. Motion-sensitive cameras may also be installed throughout each solar facility at the inverters for added security. The cameras would be mounted on poles approximately 20 feet in height.

SCE Transmission Line Relocation and Interconnection Work

SCE will complete relocation of the 66-kV transmission line to remove it from the project footprint and avoid interference with the project's solar panels. The relocated transmission structures will be wood or

metal ranging from 50 to 70 feet above ground and will accommodate the relocated 66 kV transmission line as well as a potential distribution circuit with polymer insulators. SCE will complete relocation of the transmission line by grading an approximate 20-foot-wide access road within SCE's right-of-way (ROW) to facilitate construction and future maintenance of the line. Construction will include using bladed equipment (scraper or bulldozer), backhoe, and other support vehicles. Placement of transmission structures will require an auger truck to bore the holes, a crane, manlifts/boom truck, and other support vehicles to place the structures. Stringing the 66-kV conductors will be completed using manlifts/boom trucks, hydraulic tensioning machines, wire reel stringing trailers, drum pulling machines, and other support vehicles. After the relocated transmission line is installed and energized, the old transmission line will be demolished using equipment used to install and tension the relocated transmission line. Other support vehicles will be used to remove the old conductors and poles which will be recycled offsite or disposed as appropriate. Final grading for the relocated transmission line will be performed during construction of the solar project as part of the final grading. SCE will prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) prior to land disturbance. It is anticipated that relocation of the transmission line will be completed in four months using up to 50 construction workers per week. The relocation of the transmission line will be performed prior to solar tracker installation. The construction will require approximately 0.5 acre-feet of construction water to be used for dust suppression.

SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. Final design and location of the interconnection facilities will be determined during SCE's engineering. It is anticipated that SCE's interconnection work will involve upgrades to the substation including relocating cap banks and installing breakers, disconnects and other equipment within the substation. The work may also involve relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. Should existing adjacent transmission poles require relocation it is anticipated the poles would be moved to the west approximately 400 feet. Equipment required to perform the work may include, but would not be limited to, cranes, blading equipment, backhoes, boring equipment, boom trucks, hydraulic tensioning machines, wire reel stringing trailers, drum pulling machines and other equipment. SCE's interconnection work will take between 3 and 8 months to complete using approximately 30 to 40 workers per week. The construction would require minimal water for dust suppression and for operations.

1.4 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 a notice of preparation/initial study (NOP/IS) 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 NOP/IS are located in Appendix A of this EIR. Specific issues found to have no impact or less-than-significant impacts during preparation of the NOP/IS do not need to be addressed further in this EIR. Based on the findings of the NOP/IS and the results of scoping, a determination was made that this EIR must contain a comprehensive analysis of all environmental issues identified in CEQA *Guidelines* Appendix G except population and housing and recreation.

Impacts Not Further Considered in this EIR

As discussed in the NOP/IS (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

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 1-7**, *Summary of Impacts, Mitigation Measures, and Levels of Significance*, located at the end of this chapter, and are discussed further below.

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;
- Traffic and Transportation;
- Tribal Cultural Resources;
- Utilities and Service Systems; and
- Wildfire.

Less-than-Significant Impacts

Table 1-3, *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 4.17 of this EIR present detailed analysis of these impacts and describe the means by which the mitigation measures listed in **Table 1-3**, *Summary of Project Impacts That Are Less than Significant or Less than Significant with Mitigation*, would reduce impacts to a less-than-significant level.

TABLE 1-3: SUMMARY OF PROJECT IMPACTS THAT ARE LESS THAN SIGNIFICANT OR LESS THAN SIGNIFICANT WITH MITIGATION

Impact	Mitigation Measures
Agriculture and Forestry Resources (Project and Cumulative)	No mitigation required
Biological Resources (Project)	MM 4.4-1 through MM 4.4-21
Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-6
Energy (Project and Cumulative)	No mitigation required
Geology and Soils (Project and Cumulative)	MM 4.7-1 through MM 4.7-5 and 4.10-1
Greenhouse Gas Emissions (Project and Cumulative)	No mitigation required
Hazards and Hazardous Materials (Project and Cumulative)	MM 4.9-1 through MM 4.9-4, MM 4.14-1, and MM 4.15-1
Hydrology and Water Quality (Project and Cumulative)	MM 4.9-1, MM 4.10-1 and MM 4.10-2
Land Use and Planning (Project and Cumulative)	MM 4.11-1 and MM 4.11-2
Mineral Resources (Project and Cumulative)	No mitigation required
Noise (Project and Cumulative)	MM 4.13-1 through MM 4.13-4
Public Services (Project and Cumulative)	MM 4.14-1 through MM 4.14-5
Transportation and Traffic (Project and Cumulative)	MM 4.15-1 and MM 4.15-2
Tribal Cultural Resources (Project and Cumulative)	MM 4.5-1 through MM 4.5-6
Utilities and Service Systems (Project and Cumulative)	MM 4.10-1 and MM 4.17-1
Wildfire (Project)	MM 4.10-1 and MM 4.14-1

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.

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 (Project and Cumulative)
- Air Quality (Project and Cumulative)
- Biological Resources (Cumulative)
- Wildfire (Cumulative)

Table 1-4, *Summary of Significant and Unavoidable Project-Level and Cumulative Impacts of the Project*, presents those impacts at the project level and cumulatively. Sections 4.1, 4.3, 4.4, and 4.18 of this EIR

present detailed analyses of these impacts and describe the means by which the mitigation measures listed in **Table 1-4,** *Summary of Significant and Unavoidable Project-Level and Cumulative Impacts of the Project*, would reduce the severity of impacts to the extent feasible.

TABLE 1-4: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE PROJECT-LEVEL AND CUMULATIVE IMPACTS OF THE PROJECT

Resources	Project Impacts	Cumulative Impacts
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. 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-4.1-7 would be incorporated to help reduce visual impacts associated with the proposed project by limiting vegetation removal, planting native vegetation, providing privacy fencing, reducing the visibility of project features, and ensuring that the site is kept free of debris and trash. Furthermore, application of approved color treatment of buildings would help these components to better blend in with the natural landscape. Nevertheless, even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-7, project level impacts to visual character and quality would remain **significant and unavoidable.**	While other projects in the region would also be required to implement various mitigation measures to reduce impacts, the conversion of approximately 2,320 of acres in a presently rural area to solar 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 4.1-7, the project's contribution to significant impacts associated with visual character in the Antelope Valley would be **cumulatively significant and unavoidable.**
Air Quality	It is anticipated that there would be times during the project's construction and decommissioning activities that would result in significant temporary $PM_{2.5}$ and PM_{10} emissions that would conflict with regulations or delay the attainment of applicable Eastern Kern Air Pollution Control District (EKAPCD) standards and expose sensitive receptors to substantial pollutant concentrations. Even with adherence to EKAPCD's Ozone Attainment Plan and implementation of Mitigation Measures 4.3-1 through MM 4.3-7, these temporary impacts would be considered **significant and unavoidable**.	Construction- and decommissioning-generated emissions along with other cumulative projects located within the project area would cumulatively exceed EKAPCD's significance thresholds. Of particular concern with regard to regional air quality impacts are emissions of $PM_{2.5}$ and PM_{10}, for which the regional is designated nonattainment. For these reasons, and even with the implementation of Mitigation Measures MM 4.3-1 through MM 4.3-7, the project's contribution to regional air quality impacts associated with short-term construction and decommissioning activities would be considered **cumulatively significant and unavoidable**.
Biological Resources	There would be no significant and unavoidable project impacts.	Implementation of the project in addition to the other projects under way or proposed within Kern County would impact wildlife species. Given the number of present and reasonably foreseeable future development projects in the Antelope Valley, the 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

Resources	Project Impacts	Cumulative Impacts
		impacts with the implementation of Mitigation Measures MM 4.4-1 through MM 4.4-19, when combined with related projects, the project would contribute to impacts that would be **cumulatively significant and unavoidable**.
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 project's location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to wildfire and, thus, would result in a **significant and unavoidable** cumulative impact.

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 would be six permanent employees during operations. It is anticipated that the construction workforce would commute to the project site each day from local and regional 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 and regional labor pool would stay in any of the local hotels in 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.

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, the Mojave Specific Plan, the West Edwards Road Settlement Specific Plan, and the Soledad Mountain Elephant Butte Specific Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan ensures that any irreversible environmental changes associated with those commitments will be minimized.

1.5 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 project, the aforementioned objectives established for the 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.

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 only), and wildfire (cumulative only). 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

The Wind Energy Project Alternative would involve the use of wind energy as an alternative to the development of a solar project. Similar to solar power, energy production 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, after installation, including carbon dioxide and other greenhouse gases (GHGs).
- 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 connecting 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. In addition, in order for wind turbines to produce an equivalent 600 MW of power that the project would produce, the alternative would require more space than what the project site currently accommodates. Consequently, the project site would need to be expanded to facilitate the number of turbines needed to match the output of the proposed project.

As noted above, some of the project's objectives are to assist California in meeting its GHG emission reduction goals through establishing solar PV power-generating facilities to produce reliable electricity in an economically feasible and commercially financeable manner while minimizing environmental impacts and using proven and established PV technology that is efficient, requires low maintenance and is recyclable. In accordance with the CEQA *Guidelines* (Section 15126.6[c]) 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, require Federal Aviation Administration (FAA) lighting and are more visible from many viewpoints.
- It may conflict with the Mojave Air and Space Port, Kern County Airport Land Use Compatibility Plan, and the Edwards Air Force Base due to the heights of the turbines.
- It may result in additional/greater biological resources impacts to avian species than the project.
- It may generate long-term noise impacts to nearby sensitive receptors from rotating turbine blades.
- It would not reduce temporary and cumulatively significant air quality impacts due to similar construction requirements.

Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 600 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 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 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) aesthetics and the local visual setting of the project area; (2) air quality and GHG emissions; (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 project's objectives are to assist California in meeting its GHG emission reduction goals through establishing solar PV power-generating facilities to produce reliable electricity in an economically feasible and commercially financeable manner while minimizing environmental impacts and using proven and established PV technology that is efficient, requires low maintenance and is recyclable. In accordance with the CEQA *Guidelines* (Section 15126.6[c]) 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 project including aesthetics, air quality, GHG emissions, land use and planning, noise, transportation, and public utilities, including water use and disposal.
- Depending on siting, it may also result in greater biological resources impacts than the project.
- It may conflict with the Mojave Air and Space Port, Kern County Airport Land Use Compatibility Plan, and potentially the Edwards Air Force Base due to the heights of the cooling towers and smoke stacks.
- It would not contribute to the statewide renewable energy and GHG emission reduction objectives as this alternative would use non-renewable energy to produce electricity.

Alternative Site

This alternative would involve the development of the 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 western Antelope Valley, similar to the proposed project. This alternative is assumed to involve construction of a 600 MW PV solar facility with up to 4,000 MWh of energy storage on a site totaling 2,320 acres. CEQA *Guidelines* 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 project.

Western Antelope 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 of similar size, configuration, and use history may exist in western Antelope 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, air quality, biological resources, and wildfire. This is based on the known general conditions in the area and the magnitude of the 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 significant project impacts. The potential amount of available similar sites is further reduced because unlike the project, alternative sites may not be within close proximity to transmission infrastructure. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the project.

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 6, *Alternatives*, of this EIR:

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

Table 1-5, *Summary of Development Alternatives*, on the following page, provides a summary of the relative impacts and feasibility of each alternative and **Table 1-6**, *Comparison of Alternatives*, provides a summary and side-by-side comparison of the potential impacts of the alternatives and the project. A complete discussion of each alternative is provided below. Please note that in Alternatives 1 through 4 in **Table 1-6,** *Comparison of Alternatives*, 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 1-5: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility and associated infrastructure necessary to generate up to 600 MW of renewable electrical energy and up to 4,000 MWh of energy storage capacity on	N/A

Alternative	Description	Basis for Selection and Summary of Analysis
	approximately 2,320 acres. The power would be delivered via 230 kV circuits to a grid interconnection point at the SCE Windhub Substation. Approval of zones changes and CUPs for construction and operation of commercial solar electrical generating facilities, and an Amendment to the Mojave Specific Plan, the West Edwards Settlement Specific Plan, and the Kern County General Plan would be required, in addition to Non-summary Street Vacations.	
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	• Required by CEQA. • Avoids need for CUPs, zone changes, specific and general plan amendments, and requests to vacate public access easements. • Avoids all significant and unavoidable impacts. • Would not offset GHG emissions from nonrenewable energy generation, thus greater impacts on GHG emissions. • No impact 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 existing Mojave Specific Plan, West Edwards Road Settlement Specific Plan, Soledad Mountain Elephant Butte Specific Plan, and the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions.	• Avoids need for CUPs, zone changes, specific and general plan amendments, and requests to vacate public access easements. • Similar impacts to biological resources, geology and soils, hazards and hazardous materials, land use and planning, mineral resources, and noise. • Reduces impacts to aesthetics and agriculture and forestry, and wildfire resources. • Greater overall impacts in all remaining environmental issue areas • Does not meet any of the project objectives
Alternative 3: Reduced Acreage Alternative	Construction and operation of a solar facility on Site 1 (Northern), Site 2 (Western), Site 3 (Eastern), and Site 5 (Step-up Substation), a total of approximately 1,590 acres. This alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 400 MW, with up to 4,000 MWh of energy storage. The	• Reduces, but similar impacts to hazards and hazardous materials, land use and planning, mineral resources, noise, public services, and wildfires. • Reduces benefit of offsetting GHG emissions from nonrenewable energy generation, thus greater GHG emission impact.

Alternative	Description	Basis for Selection and Summary of Analysis
	project site would require zone changes, CUP approvals, and amendments to the Mojave Specific Plan, and the Kern County General Plan and Non-summary Street Vacations.	• Reduces 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 600 MW of PV solar distributed on rooftops throughout western Antelope Valley. Electricity generated would be for onsite use only.	• Avoids need for zone change, specific plan and general plan amendments, requests to vacate public access easements, and CUPs at the project site, but may require other entitlements (such as a CUP or variance) on other sites. • Avoids significant and unavoidable impacts associated with aesthetics biological resources, and wildfire. • Reduces benefit of offsetting GHG emissions from nonrenewable energy generation by utility purveyors, thus greater GHG impact. • No impacts on land use and planning or mineral resources. • Similar impacts to air quality, energy and noise • Reduces impacts in all remaining environmental issue areas. • Does not meet all project objectives nor does this alternative account for the energy storage component of the project.

TABLE 1-6: COMPARISON OF ALTERNATIVES

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

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

NOTES: NI = No Impact; LTS = Less Than significant; SU = Significant and Unavoidable

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 project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of the 600 MW solar PV facility with up to 4,000 MWh of energy storage on the approximately 2,320-acre site would not occur. The No Project Alternative would not require CUPs for construction and operation of the proposed solar and energy storage project. Amendments to the Mojave Specific Plan, West Edwards Road Settlement Specific Plan, and the Kern County General Plan would not be required. Non-summary Street Vacations would not be required. The No Project Alternative would maintain the current zoning, land use classifications, and existing land uses, which consist mostly of undeveloped desert vegetation. No physical changes would be made to the project site.

Alternative 2: Specific Plan and Zoning Build-Out Alternative

Alternative 2, the General Plan/Specific Plan and Zoning Build-Out Alternative, assumes the project site would be developed to the maximum extent possible in accordance with the existing Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, and Soledad Mountain Elephant Butte Specific Plan in which the project is located. The existing General and Specific Plan designations are described in Chapter 3, *Project Description* and shown in **Figure 3-8a,** *Site 1 (Northern) Existing General and Specific Plan Designations,* **Figure 3-8b,** *Site 2 (Western) Existing General and Specific Plan Designations,* **Figure 3-8c,** *Site 3 (Eastern) Existing General and Specific Plan Designations,* **Figure 3-8d,** *Site 4 (Southern) Existing General and Specific Plan Designations,* **Figure 3-**

8e, *Site 5 (Step-Up Substation) Existing General and Specific Plan Designations,* and listed in **Table 3-3,** *Project Assessor Parcel Numbers, Existing and Proposed Land Uses, and Acreages*.
No project-related solar facilities would be developed under this alternative and, therefore, no zone changes for solar facility construction and operation would be required.

Alternative 3: Reduced Acreage Alternative

Under Alternative 3, the Reduced Acreage Alternative, Site 1 (Northern), Site 2 (Western), Site 3 (Eastern), and Site 5 (Step-up Substation) would be developed with a solar facility and associated infrastructure necessary to generate up to 400 MW of renewable electric energy with 4,000 MWh of battery energy storage. Under this alternative, Site 4 (Southern) would not be developed for solar energy production and would remain undeveloped. The gen-tie interconnection would remain unchanged. Eliminating development of Site 4 (Southern) from the project would reduce the project's total generation capacity from 600 MW to 400 MW and reduce the developed area from approximately 2,320 acres to approximately 1,500 acres. This would result in the corresponding reduction in renewable energy output from the project by approximately 33 percent. Similar to the project, this alternative would require zone changes and CUPs for construction and operation of a commercial solar electrical generating facility, as well as amendments to the Mojave Specific Plan, and the Kern County General Plan, and Non-summary Street Vacations.

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 - Distributed Commercial and Industrial Rooftop Solar Only Alternative, would involve the development of a number of geographically distributed small to medium solar PV systems (100 kilowatt hours to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout western Antelope 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 2,320 acres of total rooftop area) may be required to attain project's capacity of 600 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 600 MW of electricity, but likely for onsite use only, and it would not include 4,000 MWh of battery storage capacity. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the proposed project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed onsite by the commercial or industrial facility without requiring the construction of new electrical substation or transmission facilities. Under this alternative no CUPs, zone changes, or Non-summary Street Vacations would be required.

Environmentally Superior Alternative

As presented in the comparative analysis above, and as shown in **Table 1-6,** *Comparison of Alternatives*, 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 - Distributed Commercial and Industrial Rooftop Solar Only Alternative. This alternative would avoid significant and unavoidable impacts to aesthetics, biological resources, and wildfire. However, impacts related to GHG emissions would be greater under this alternative due to the potential for significant truck trips associated with panel delivery and the lower efficiency of the distributed systems. The alternative also would not include up to 4,000 MWh of energy storage. This alternative could potentially result in greater impacts to land use due to the numerous power lines that would be required to harness the distributed solar panel energy. The potential for increase conflicts or fire are considered small as solar is commonly and safety added to structures, and all building codes would be conformed to under this alternative. This alternative would result in less impact to aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, public services, 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 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 - Distributed Commercial and Industrial Rooftop Solar Only Alternative within the same timeframe and/or with the same efficiency as the project because the project proponent lacks control and access to the sites required to develop 600 MW of distributed solar generated electricity; additionally, doing so would be economically infeasible. 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 General Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative - Distributed Commercial and Industrial Rooftop Solar Only Alternative is considered the Environmentally Superior Alternative.

1.6 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, *Environmental Setting, Impacts, and Mitigation Measures*:

- Impacts related to air quality

- Impacts related to biological resources
- Impacts to cultural resources
- Impacts to hydrology and water quality resources
- Impacts to transportation resources

1.7 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.

1.8 Summary of Environmental Impacts and Mitigation Measures

Table 1-7, *Summary of Impacts, Mitigation Measures, and Level of Significance*, 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 1-7: 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, would the project conflict with applicable zoning and other regulations governing scenic quality.	Potentially Significant	**MM 4.1-1:** Prior to issuance of a grading or building permit, a Maintenance, Trash Abatement, and Pest Management Program shall be submitted for review and approval 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 twice 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, operation, and decommissioning 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.	Significant and unavoidable

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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:** Prior to the issuance of the building permit for the solar facility, the project proponent/operator shall submit a proposed color scheme and treatment plan, for review and approval by the Kern County Panning and Natural Resources Department, that will ensure all project facilities including operations and maintenance buildings, gen-tie poles, array facilities, etc. blend in with the colors found in the natural landscape. All color treatments shall result in matte or nonglossy/non-reflective finishes. **MM 4.1-3:** Wherever possible, within the proposed project boundary, the native vegetation shall remain undisturbed unless mowing is necessary for placement of the project components. All native vegetation adjacent to the proposed project boundary shall remain in place as permitted by Fire Code. 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. a. 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. b. 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. c. 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	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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). d. Vegetation/ground cover shall be continuously maintained on the site by the project operator. e. 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 achieves native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible. **MM 4.1-4:** The project proponent/operator shall install metal fence slats or similar view-screening materials, as approved by the Kern County Planning and Natural Resources Department, on 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. **MM 4.1-5:** For portions of the project that abut residentially zoned parcels, an additional aesthetics setback of 100 feet shall be required from the project property boundary line, which includes the centerline of any public roadway. If a public roadway does not exist between the project site and the residentially zoned property, the 100 foot setback shall be measured from the edge of the shared property line. The project proponent shall be responsible for continued dust control and weed maintenance within this additional setback area. No solar panels, substations or operating equipment shall be located in or stored in the identified setback area.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.1-4: The project would create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.	Potentially significant	Implement **MM 4.1-2**, above. **MM 4.1-6:** Prior to issuance of building permits, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff, through the submittal of a lighting plan, 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 properties and roadways. Lenses and bulbs shall not be exposed or extend below the shields. **MM 4.1-7:** 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.	Less than significant
Impact 4.1: Cumulative Impacts	Potentially Significant	Implementation of Mitigation Measures **MM 4.1-1** through **MM 4.1-7** is required.	Significant and unavoidable (Visual Character) Less than significant (Scenic Resource; Light and Glare)
4.2 Agriculture and Forestry Resources			
Impact 4.2-1: The project would Convert Prime Farmland, Unique Farmland, or Farmland	No impact	No mitigation measures are required.	No impact

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.			
Impact 4.2-2: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.2-3: The project would conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined in Public Resources Code Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g).	No impact	No mitigation measures are required.	No impact
Impact 4.2-4: The project would result in the loss of forestland or	No impact	No mitigation measures are required.	No impact

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
conversion of forest land to non-forest use.			
Impact 4.2-5: The project would involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.2-6: The project would 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 (Section 15206(b)(3) Public Resources Code.	No impact	No mitigation measures are required.	No impact
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	Potentially Significant	**MM 4.3-1:** The project shall continuously comply with applicable rules and regulations set forth by the East Kern Air Pollution Control District. **MM 4.3-2:** Prior to issuance of any grading permit, the project proponent shall submit a Site-Specific Dust Control Plan for review and approval by the Kern County Planning and Natural	Less than significant (Construction)

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
applicable air quality plan.		Resources Department. The Site-Specific Dust Control Plan shall serve to minimize fugitive dust emissions during project construction. The Site-Specific Dust Control Plan shall take into consideration grading and construction schedule, seasonal winds, site-specific wind patterns and soil conditions to ensure adequate measures are implemented to manage fugitive dust. The Site-Specific Dust Control Plan shall: a. Identify a comprehensive grading schedule for the entire project site. When feasible, grading activities shall be phased and minimized to those areas necessary for project access and installation of solar panels and other areas of infrastructure associated with the solar facility. b. The Site-Specific Dust Control Plan shall identify, in addition to those measures required by the air district, all measures being undertaken during construction activities and operational activities to ensure fugitive dust being blown off site is minimized. Measures may include, but are not limited to: 1. Use of water trucks as required for the expected level of winds in the area. 2. Use of dust suppressant (i.e., soil binders or mulch). 3. Pre-seeding and irrigating prior to construction to create vegetation with useful root structures. 4. Construction of dust screening in appropriate locations around the project site (i.e., fence slats or mesh screening). 5. A copy of the approved Site-Specific Dust Control Plan shall be kept at the on-site construction office and all measures included in the Site-Specific Dust Control Plan shall be included on all Grading Plans issued for the project by the Kern County Public Works Department **MM 4.3-3:** The project proponent and/or its contractors shall continuously implement the following measures during construction and operation of the project to control emissions from the on-site equipment: a. All equipment shall be maintained in accordance with the manufacture's specifications. b. All equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for extended periods of time. Engine idling of all equipment shall be minimized. c. Construction equipment shall not operate longer than eight cumulative hours per day. d. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOX emissions.	Less than significant (Operation)

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		e. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines. f. All on-site off-road equipment and on-road vehicles shall meet the recent California Air Resources Board engine emission standards or alternatively fueled equipment, such as compressed natural gas, liquefied natural gas, or electric, as appropriate. **MM 4.3-4**: Prior to commencement of any onsite construction activities (i.e., fence construction, mobilization of construction equipment, initial grading), including decommissioning, the project proponent shall provide written notice to the public through mailing a notice to all parcels within 1,000 feet of the project site, no sooner than 15 days prior to construction activities. The notices shall include the construction schedule, a telephone number and email address where complaints and questions can be registered. Additionally, a minimum of one sign, legible at a distance of 50 feet, shall also be posted at the construction sites or adjacent to the nearest public access to the main construction entrances throughout construction activities which include the construction schedule (updated as needed) and a telephone number where complaints can be registered. 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. **MM 4.3-5:** 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.	
Impact 4.3-2: The project would expose sensitive receptors to	Potentially Significant	Implement Mitigation Measures **MM 4.3-1** through **MM 4.3-5**, as described above.	Significant and unavoidable

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
substantial pollutant concentrations.		**MM 4.3-6:** To minimize personnel and public exposure to potential Valley Fever–containing dust on and off site, the following control measures shall be implemented during project construction: a. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved off site to other work locations. b. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground. c. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area. d. In the event that a water truck runs out of water before dust is sufficiently dampened, ground workers being exposed to dust shall leave the area until a truck can resume water spraying. e. To the greatest extent feasible, heavy-duty earth-moving vehicles shall be closed- cab and equipped with a HEP-filtered air system. f. Workers shall receive training in procedures to minimize activities that may result in the release of airborne *Coccidioides immitis* (CI) spores, to recognize the symptoms of Valley Fever, and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Kern County Planning and Natural Resources Department. g. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department. h. On-site personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to on-site personnel, upon request. When exposure to dust is unavoidable, provide appropriate National Institute for Occupational Safety & Health-approved respiratory protection to affected workers, if necessary. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in accordance with California Division of Occupational Safety and Health's Respiratory Protection standard (8 CCR 5144). **MM 4.3-7:** 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.	(Criteria Air Pollutants for Construction) Less than significant (Operation)

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.3-3: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people)	Less than significant	No mitigation required.	Less than significant
Cumulative Impact: 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.	Potentially Significant	Implementation Mitigation Measures **MM 4.3-1** through **MM 4.3-7** is required.	Significant and unavoidable (Construction and Decommissioning) Less than significant (Operation)
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 special status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Potentially Significant	Implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3, MM 4.1-6, and MM 4.1-7, as described above. **MM 4.4-1:** Prior to the issuance of grading or building permits, and prior to decommissioning, the project operator shall retain a Lead 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, operation, and decommissioning of the project. The contact information for the Lead Biologist(s) shall be provided in writing to the Planning and Natural Resources Department. The following measures pertain to the Lead Biologist(s): a. The Lead Biologist(s), or their designee, shall be on the project site during all construction activities which include, but are not limited to, installation of perimeter fencing, clearing of vegetation, grading activities, site buildout, and decommissioning. b. The Lead Biologist(s) or their designee shall have the right to halt all activities that are in violation of the special-status species protection measures, as well as any regulatory permits	Less than Significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		from the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife, if applicable. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk. **MM 4.4-2:** Prior to the issuance of grading or building permits, or decommissioning of the site, the Lead Biologist shall develop a Worker Environmental Awareness Training Program containing life history and identification information of special-status wildlife and plant species with potential to occur on site. The Worker Environmental Awareness Training Program shall review responsibilities for all on-site personnel including trash control, checking under and around vehicles and heavy equipment before starting, scanning for wildlife resources, contacting the Lead Biologist in the unanticipated instance of encountering special status wildlife species, and prohibition of pets and firearms. All on-site personnel shall be required to attend a worker environmental training. A sticker shall be placed on hard hats, indicating that the worker has completed the Worker Environmental Awareness Training. Copies of all prepared materials including, but not limited to, PowerPoint presentations, videos, information handouts and signed acknowledgement from each worker who has attended the required training shall be provided to the Planning and Natural Resources Department. **MM 4.4-3:** During construction and decommissioning of the project site, the project proponent and/or contractor(s) shall implement the following general avoidance and protective measures: a. Immediately prior to conducting vegetation clearing or similar activities, the Lead Biologist or their designee shall perform a pre-construction visual survey of the area to ensure that no special-status species are present. Daily reports of these inspections shall be retained by the Lead Biologist and provided to the Kern County Planning and Natural Resources Department, U.S. Fish and Wildlife Service, or California Department Fish and Wildlife upon request. b. Within the vicinity of any construction activities, sensitive biological resources (i.e., special-status species, jurisdictional drainages, nesting birds, etc.) shall be delineated with stakes and/or flagging. c. Access roads that are planned for use during construction activities shall not extend beyond the planned impact area, which area includes all previously disturbed lands and any location within the project fenceline not delineated for avoidance of sensitive biological resources. Where new access routes are required, the route will be clearly marked prior to construction.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		d. The project proponent/operator shall minimize 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. Any spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Spoils that have been stockpiled and inactive for more than 24 hours shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing. f. To prevent inadvertent entrapment of desert kit foxes, American badgers, or other animals during construction, all excavated steep-walled holes or trenches more than two (2) feet deep shall be covered with plywood or similar materials at the close of each working day. If holes or trenches cannot be covered, one or more escape ramps constructed of earthen fill or wooden planks, no less than 12 inches wide and secured at the top, shall be 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 at the beginning and end of each working day. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by trained Staff approved by the Lead Biologist. If non-listed trapped animals are observed, escape ramps or structures shall be installed immediately to allow for their escape. If a listed species is trapped, escape ramps or structures shall be installed immediately to allow for their escape and the Lead Biologist shall immediately confer with the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife. g. All construction pipes, culverts, or similar structures with a diameter of four (4) inches or greater that are stored at the site for more than 24 hours and without endcaps shall be thoroughly inspected by a qualified biologist prior to being moved or capped. If a listed wildlife species 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 in conformance with appropriate wildlife agency guidelines. h. 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 listed wildlife species. If present, the animal shall be left to move on its own. i. A speed limit of 15 miles per hour shall be enforced within the limits of the project site. If night work occurs on the project site, the speed limit will be 10 miles per hour.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		j. Fueling of equipment shall take place within existing roads or disturbed areas. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. k. Trash and food items shall be contained in closed containers to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs. l. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife. m. Intentional killing or collection of any listed plant or wildlife species shall be prohibited. n. Herbicides that may be used as vegetation control measures in project areas shall be restricted. All uses of such herbicidal compounds shall observe label and other restrictions mandated by the U.S Protection Agency, California Department of Food and Agriculture, and state/federal legislation as well as additional project related restrictions deemed necessary by the U.S. Fish and Wildlife Service or California Department of Fish and Wildlife. No rodenticides shall be used on the project site. **MM 4.4-4:** During construction, operation and maintenance, and decommissioning, project work crews shall be directed to use industry accepted and standard construction best management practices (BMPs) consistent with the County zoning ordinances and with guidelines provided in the California Stormwater Quality Association's Construction Best Management Practice Handbook, where applicable, to avoid, minimize, and/or reduce potential construction-related impacts on biological resources. BMPs shall be monitored and repaired throughout the life of the project. The project proponent/operator and/or contractor(s) shall implement the general measures described below: a. BMPs shall be employed to prevent erosion in accordance with the Project's approved Stormwater Pollution Prevention Plan (SWPPP). Detected erosion shall be remedied as described in the *Erosion Control Plan* of the Stormwater Pollution Prevention Plan. b. Fueling of equipment shall take place within existing roads. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. c. Any material/spoils generated from project activities shall be located away from jurisdictional areas and environmentally sensitive areas that are not slated for impacts. d. Jurisdictional areas and environmentally sensitive areas shall be 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.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		e. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank of any jurisdictional areas and environmentally sensitive areas. f. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed of. For all spills, the project foreman or designated environmental representative will be notified. **MM 4.4-5:** Prior to the issuance of grading or building permits, the project proponent will conduct pre-construction botanical surveys to verify the location of alkali mariposa lily in the vicinity of the location where the species was potentially identified during botanical surveys and in potentially affected areas within 200 feet of that location. a. If no alkali mariposa lilies are observed during the survey, project activities may begin, and no further mitigation shall be required. b. If alkali mariposa lilies are observed during the survey, the areas shall be mapped and photographed, and appropriate measures shall be implemented to avoid impacts on the species to the extent feasible. The areas shall be clearly marked in the field with temporary high visibility ESA fencing or other appropriate markers. ESA fencing/markers shall remain in place throughout the duration of project construction and will be regularly inspected and maintained. c. All alkali mariposa lilies that cannot feasibly be avoided in final project design shall have bulbs collected prior to construction. Additionally, an Alkali Lily Transplantation Plan will be submitted to and approved by the Kern County Planning and Natural Resources Department, prior to ground disturbance and bulb collection. The plan will include the following: i. Identify an area of occupied habitat either on-site or off-site to be preserved and where transplantation of bulbs will occur and methods for preservation, restoration, enhancement, and/or translocation. ii. Indicate a replacement ratio and success standard of 1:1 for impacted individuals. iii. Establish a monitoring program to ensure mitigation success. iv. Create adaptive management and remedial measures in the event that performance standards are not achieved. v. Ensure financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		vi. Temporary ground disturbance associated with the transmission lines shall be recontoured to natural grade (if the grade was modified during the temporary disturbance activity) and revegetated with an application of a native seed mix prior to or during seasonal rains to promote passive restoration of the area to pre-project conditions. However, if invasive, non-native plant species were present, these species would not be restored. An area subjected to temporary ground disturbance means any area that is disturbed but will not be subjected to further disturbance as part of the project. This does not include areas already designated as urban/developed. Prior to seeding temporary ground disturbance areas, the qualified biologist will review the seeding palette to ensure that no seeding of invasive plant species, as identified in the most recent version of the California Invasive Plant Inventory for the region, will occur. **MM 4.4-6:** To protect special-status wildlife species from disturbance during construction, the actions described below shall occur. Within a maximum of 14 days of the start of ground-disturbing activities, such as geotechnical drilling, vegetation clearing, and/or grading, the qualified biologist(s) shall conduct preconstruction surveys for special-status species within the Project site, as well as within a minimum of 500 feet (152 meters) from the Project site to account for any inadvertent impacts on adjacent areas. Methodology for preconstruction surveys shall be conducted as appropriate for desert tortoise, burrowing owl, desert kit fox, Swainson's hawk, loggerhead shrike, Le Conte's thrasher, and migratory birds, and shall follow USFWS and/or the CDFW survey protocol 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 would 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. Following the completion of the pre-construction desert tortoise surveys, the qualified biologist will prepare and submit to the USFWS, CDFW, and the Kern County Planning and Natural Resources Department a letter/memo summarizing the results of the surveys. **MM 4.4-7:** The project site shall be fenced to keep terrestrial wildlife species from entering the project site during construction, but will provide openings post-construction to enable wildlife to move freely through the project site during operation (e.g., create 4- to 7-inch portals or openings in the fence raising the fence 7 inches above the ground and knuckling the bottom of the fence [i.e., wrapping the fencing material back to form a smooth edge] to protect wildlife passing underneath).	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		A desert tortoise exclusion fence is not required unless desert tortoises are found on site during the preconstruction surveys. This 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 a qualified biologist at a regular interval 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. Outside temporarily fenced exclusion areas, the project 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. **MM 4.4-8:** To mitigate for potential impacts on nesting birds, special-status birds, and birds protected under the MBTA and California Fish and Game Code during construction and decommissioning activities, the following measures shall be implemented: 1. During the avian nesting season (February 1–August 31), a qualified biologist shall conduct a preconstruction avian nesting survey no more than 14 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 14 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 qualified biologist be allowed to handle the nest or its eggs. The survey shall cover all reasonably potential nesting locations on and within 500 feet (152 meters) of the Project site, including ground nesting species, such as horned lark, nests in shrubs that could support nests, and suitable raptor nest sites such as nearby trees, windrows, and power poles. 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. 2. 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. If active nests are found, a 100-foot (30-meter) no-disturbance buffer shall be created around non-listed avian species' nests unless adjusted by the qualified biologist based on the needs and sensitivities of individual species, and a 300-foot (91-meter) no-disturbance buffer shall be created around non-listed raptor species' nests (or a suitable distance otherwise determined in	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation

consultation with a qualified biologist). Any nest of a federally or state listed bird species shall require consultation with the appropriate agency (USFWS or the CDFW) to determine the appropriate buffer distance surrounding the nest to provide adequate nest protection. These buffers shall remain in effect until a qualified biologist has determined that the birds have fledged or the 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 4.4-9: A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct preconstruction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no less than 14 days and no more than 30 days prior to ground-disturbing activities (i.e., vegetation clearance, grading, tilling). 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 any potential burrows with fresh burrowing owl sign or presence of burrowing owls. Surveys may be conducted concurrently with desert tortoise preconstruction surveys. As each burrow is investigated, surveying biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California Department of Fish and Wildlife and the Kern County Planning and Natural Resources Department.

As part of the preconstruction surveys a pre-construction survey with a 500-foot buffer to the extent property access is authorized should be conducted by a qualified biologist knowledgeable in the identification of burrowing owl, American badger, and desert kit fox. If dens and/or burrows that could support any of these species are discovered during the pre-construction surveys, the avoidance buffers outlined below should be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

Burrowing Owl (active burrows):

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting Sites	4/1-8/15	200m	500m	500m
Nesting Sites	8/16-10/15	200m	200m	500m
Nesting Sites	10/16-3/31	50m	100m	500m

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		American Badger/desert Kit Fox: • Potential or Atypical den – 50 feet • Known den – 100 feet • Natal or pupping den – 500 feet, unless otherwise specified by CDFW. Burrowing Owl and American Badger If burrowing owl or American badger are found within these recommended buffers and avoidance is not possible, burrow and/or den exclusion would be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow and/or den is confirmed empty through non-invasive methods, such as surveillance. Replacement of occupied burrows with artificial dens and/or burrows shall occur at a ratio of one burrow collapsed to one artificial den and/or burrow constructed (1:1) to mitigate for evicting burrowing and the loss of dens and/or burrows. Species may attempt to colonize or re-colonize an area that will be impacted; thus, ongoing surveillance shall occur at excluded burrows and/or dens at a rate that is sufficient to detect species if they return. Burrowing owls should not be excluded from burrows during the breeding season. During the non-breeding season burrowing owls shall not be excluded from burrows unless or until a Burrowing Owl Exclusion Plan is developed by a qualified biologist consistent with the recommendations of CDFW's 2012 Staff Report on Burrowing Owl Mitigation and submitted to the Kern County Planning and Natural Resources Department. If a qualified CDFW approved biologist has determined that a pair of owls is no longer actively nesting (e.g., the young have been taken by predators, or perished for some other reason), or where the juveniles are foraging independently and capable of independent survival, during the breeding season (February 1 through August 31), CDFW can be consulted about the use of passive relocation. The plan shall include, at a minimum: a. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping; b. Type of scope to be used and appropriate timing of scoping to avoid impacts; c. Occupancy factors to look for and what shall guide determination of vacancy and excavation timing (one-way doors should be left in place 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).	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		d. How the burrow(s) shall 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 no owls reside inside the burrow); e. Removal of other potential owl burrow surrogates or refugia onsite; f. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency. **MM 4.4-10:** To determine the presence and activity of any known or new nests of Swainson's hawk, a qualified biologist shall conduct nest surveys for Swainson's hawk prior to commencement of construction activities. The surveying biologist must be approved by CDFW and Kern County and be qualified to determine the status and stage of nesting by Swainson's hawk. An initial nesting season survey must be performed no more than 1 year prior to the commencement of construction activities. The surveys shall be conducted during the nesting season for Swainson's hawk (March 1 through September 15) within both the construction footprint and within all accessible areas within a 5-mile buffer around the proposed construction areas. Areas within the 5-mile buffer that are not accessible shall be surveyed by binocular and spotting scope. The surveys can be phased with project build-out. The nesting season surveys shall follow the protocols set out in the CEC and CDFW Guidance (2010). If construction activities are scheduled to be initiated during the nesting season, a qualified biologist shall conduct a pre-construction survey of all accessible areas within 0.5 mile of the construction site to determine the presence and activity of known or new Swainson's hawk nests. Inaccessible areas shall be surveyed by binocular and spotting scope. The preconstruction survey shall occur within 30 days prior to the start of construction. Depending on project timing, the pre-construction survey may not be necessary if the initial nesting season surveys overlap with the pre-construction survey timing or if construction activities will start outside of the Swainson's hawk nesting season (September 16 to February 28). The pre-construction nest survey shall follow the protocols set out in the CEC and CDFW Guidance (2010). To the extent feasible, the project applicant shall design the project site to allow sufficient foraging and fledging area to maintain active Swainson's hawk nests located adjacent to the project site. The solar panels and infrastructure would be set back from Swainson's hawk nests at a distance determined after consultation with Kern County and CDFW. Avoided habitat would not count toward impacts used in determining compensatory mitigation requirements described	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		below and may be used to satisfy mitigation requirements if protected by a conservation easement. During the nesting season (March 1 through September 15), ensure no new ground disturbances, habitat conversions, or other project-related activities that may cause nest abandonment or forced fledging shall occur within 0.5 mile of an active nest. Buffer zones may be adjusted in consultation with CDFW and with the County. If active Swainson's hawk nests are found within a 0.5-mile radius of the project site during the preconstruction surveys, the project proponent/operator shall mitigate the loss of any moderate quality Swainson's hawk foraging habitat for any portion of the project site within 5-miles of an active nest at a 0.5:1 ratio. Mitigation lands may be nested with other compensatory lands provided it meets the necessary biological requirements and as determined by appropriate wildlife agency. **MM 4.4-11:** Preconstruction surveys for small mammals including Mohave ground squirrel and southern grasshopper mouse shall be conducted within all suitable habitat 14 days prior to initial ground-disturbing activities. If a Mohave ground squirrel is found on the construction site, work shall be halted and redirected to areas not supporting this species, and consultation with Kern County and CDFW shall occur. A written report shall be sent to CDFW within 5 calendar days of the sighting. The report shall include the date, time of the finding or incident (if known), and location of the animal. If a dead Mohave ground squirrel is encountered, the remains shall be collected, frozen as soon as possible, and CDFW shall be contacted to determine where the remains would be sent. If Mohave ground squirrels are detected during any Project surveys, the applicant shall prepare a Mohave Ground Squirrel Avoidance and Monitoring Plan. If it is determined from surveys that Mohave ground squirrels are not present, no further action is required. The Mohave Ground Squirrel Avoidance and Monitoring Plan shall include, at a minimum: • Specifications for designation of qualified Project biologists for conducting surveys and monitoring • Methods for excluding Mohave ground squirrels from the work area, such as fencing • Measures and procedures related to monitoring of construction for presence of Mohave ground squirrels • A requirement to cease work if a Mohave ground squirrel is encountered in a work area	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Requirements for the worker environmental awareness training and education program training as it pertains to Mohave ground squirrels reporting requirements. **MM 4.4-12:** The Project proponent/operator shall implement the following measures to ensure potential impacts on American badger and desert kit foxes resulting from Project construction, operation and maintenance, and decommissioning activities would be avoided and minimized to a less-than-significant level: 1. A qualified biologist shall be onsite during all initial grading and construction, preconstruction ground-disturbing activities, and decommissioning activities. 2. A qualified biologist (that is, a biologist with the ability to identify the species and possessing previous mammal survey and avoidance and minimization protection experience) shall conduct preconstruction surveys of all areas that would be permanently or temporary impacted, plus a 500-foot (152-meter) buffer, to locate unoccupied and occupied dens. Unoccupied potential dens for desert kit fox or American badger shall have a minimum 30-foot (9-meter) avoidance buffer established. 1. An occupied den outside of the pup-rearing season shall be flagged and ground-disturbing activities avoided within 100 feet (30 meters) of the occupied den. An occupied den during the pup-rearing season, also known as a maternity den, should not be disturbed and a minimum 500-foot (152-meter) avoidance buffer established. 2. Desert kit fox pup-rearing season: February 1–August 1. 3. American badger pup-rearing season: March 15–July 31. 4. If outside the pup-rearing season an occupied den cannot be avoided, a passive relocation program can occur. The program shall consist of determining status of the den (confirming it is a nonmaternity den through remote camera monitoring), excluding American badger or desert kit fox from the occupied nonmaternity den by installation of one-way doors at burrow entrances, monitoring of the den for 7 days to confirm usage has been discontinued, and excavation and collapse of the den. Passive relocation occurs by slowly excavating the burrow (either by hand or by mechanized equipment) under the direct supervision of a qualified biologist and removing no more than 4 inches (10 centimeters) of soil at a time. Passive relocation cannot occur during the pup-rearing season unless remote camera monitoring has documented the den as a non-maternity den. A written report documenting the passive relocation shall be provided to the Kern County Planning and Natural Resources Department within 30 days of relocation.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		5. Dens or burrows that are determined to be inactive as determined by a qualified biologist within the Project site, shall be collapsed by a qualified biologist to prevent occupation of the den between the time of the preconstruction survey and construction activities. **MM 4.4-13:** Prior to the issuance of a grading permit, the project proponent/operator shall develop a Joshua Tree Preservation Plan. The Plan shall be prepared by a qualified biologist pre-approved by Kern County and shall be approved by the appropriate agencies, including Kern County, prior to implementation. At a minimum, the plan shall identify the methods utilized, as applicable, that the project is taking to comply with any CDFW CESA and Western Joshua Tree Conservation Act take requirements and compensatory mitigation related to the protection or mitigation of impacted Joshua Trees and documentation of any such CDFW take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department. **MM 4.4-14:** Prior to the issuance of grading or building permits, a raven management plan shall be developed for the Project site in consultation with the USFWS and CDFW. This plan shall include but is not limited to: 1. Identification of all raven nests observed within the Project site during construction. 2. Weekly inspection under all nests in the Project site for evidence of raven predation on local wildlife (bones, carcasses, and the like), and, if evidence of predation is noted, submit a report to CDFW, USFWS, and the Kern County Planning and Natural Resources Department within 5 calendar days. 3. Provisions for the management of trash and water that could attract common ravens during the construction and operation phases of the Project. a. The Project proponent/operator shall be required to participate in the regional comprehensive raven management plan to address biological resources; the Project proponent/operator shall be subject to compensation through the payment of a one-time fee not to exceed $150 and no less than $105 per disturbed acre, as established by the Desert Managers Group. Payment shall be made prior to starting construction activities. Evidence of the USFWS and/or CDFW determination and payment of any required fees shall be submitted to the Kern County Planning and Natural Resources Department. b. The project proponent/operator shall be required to participate in the regional comprehensive raven management plan to address biological resources; the project proponent/operator shall be subject to compensation through the payment of a one-time fee not to exceed $150 and no less than $105 per disturbed acre, as established by the	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Desert Managers Group. Payment shall be made prior to starting construction activities. Evidence of the USFWS and/or CDFW determination and payment of any required fees shall be submitted to the Kern County Planning and Natural Resources Department. **MM 4.4-15:** The project proponent/operator shall install power lines in conformance with Avian Power Line Interaction Committee (APLIC) standards for electrocution-reducing techniques as outlined in Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC, 2006), and the collision-reducing techniques outlined in Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC, 2012), or any superseding document issued by APLIC. **MM 4.4-16:** During the operation and maintenance phase of the project, an *Avian Mortality Monitoring Program* shall be developed and implemented to systematically and periodically determine the extent of mortality occurring because of collisions with solar arrays. The measures listed below would apply to the program: a. The Avian Mortality Monitoring Program shall be developed following the Mortality Monitoring Design for Utility-Scale Solar Power Facilities and include methods 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 bird (or any other wildlife) species including species, condition of the carcass, approximate age, presence of feathers, and the like. 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 of 1-year period following the commencement of the operation and maintenance phase of the project. e. If, after 1 year of mortality monitoring, project impacts to any 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. 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, on site habitat management or	

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Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		control measures consistent with applicable legal requirements, or modification to support structures to exclude nesting birds. **MM 4.4-17**: a. Pre-construction surveys for Crotch's bumble bee and nests shall be conducted within all suitable habitat prior to initial ground-disturbing activities. Surveys shall follow the survey methodologies set out in the CDFW Survey Considerations for CESA Candidate Bumble Bee (CDFW, 2023g). The surveys can be phased with project build-out. The purpose of this survey will be to identify active nest colonies inside of permanent and temporary impact areas. i. If active Crotch's bumble bee nests are present within the project footprint or a 50-foot buffer surrounding the project footprint, an appropriate no disturbance buffer zone should be established around the nest to reduce the risk of disturbance or accidental take. The buffer will provide at least 50 feet of clearance around nest entrances. ii. If establishment of a no-work buffer is feasible, construction activities will not occur within the no-work buffer until a qualified biologist determines that the colony is no longer active (i.e., no Crotch's bumble bees are seen flying in or out of the nest for three consecutive days indicating the colony has completed its nesting season and the next season's queens have dispersed from the colony). Once the nest has been determined inactive, construction activities within the no-work buffer(s) will be allowed to resume. iii. If avoidance of the nest is not feasible, the project proponent/operator shall consult with the CDFW regarding potential for project activities to result in take of the Crotch's bumble bee and shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any ITP issued for the project by CDFW authorizing take of the species. b. Mowing shall be minimized as much as feasible. In areas where mowing is needed, the following measures to minimize potential take of Crotch's bumble bee will be followed: 1) mow outside of the blooming season, if feasible; 2) mow at the highest cutting height possible to avoid disturbing nests or overwintering queens; 3) avoid mowing from noon into the afternoon, the time of day when pollinators are most active; and 4) mow at speeds less than 8 mph.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		c. During construction, operations, and decommissioning, vehicles onsite will not exceed a speed of 15 mph. This requirement will be posted with signage noted throughout the site. d. All on-site personnel shall be required to attend the Worker Environmental Awareness Training Program that includes education program as it pertains to Crotch's bumble bee.	
Impact 4.4-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Potentially significant	**MM 4.4-18:** Prior to issuance of any grading or building permit, the project proponent/operator shall submit to Kern County a jurisdictional delineation report detailing all identified ephemeral drainages within the project boundary. The report shall include information as shown below as a plan if necessary and shall outline compliance with the following: a. Clearly identify jurisdictional features identified in the jurisdictional delineation that cannot feasibly be avoided. This may be shown in plan form. b. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat 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. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank. d. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified. **MM 4.4-19:** 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 the California Department of Fish and Wildlife on the need for a streambed alteration agreement. Copies of the final report 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 jurisdictional streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, as approved by the Regional	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Water Quality Control Board or California Department of Fish and Wildlife 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. 1. 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). 2. The Habitat Mitigation and Monitoring Plan shall include remedial measures in the event that performance criteria are not met. 3. If mitigation is implemented offsite, mitigation lands shall be comprised of similar or higher quality and preferably located in Kern County. 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. Alternatively, the applicant may purchase credits from an approved mitigation bank. 4. 4. 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 have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal,	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
filling, hydrological interruption, or other means.			
Impact 4.4-4: The project would interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.4-5: The proposed project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Potentially significant	Implementation of Mitigation Measures **MM 4.4-1** through **MM 4.1-19** is required.	Less than significant
Impact 4.4-6: The project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.4: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures **MM 4.1-5** and **MM 4.4-1** through **MM 4.4-19** 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 CEQA *Guidelines* Section 15064.5.	Potentially significant	**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 unique 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 onsite. 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 Native American monitor(s), shall prepare Cultural Resources Sensitivity Training materials, including a Cultural Resources Sensitivity Training Guide, to be used in an orientation program given to all personnel working on the project. The training guide may be presented in video form. A copy of the proposed training materials shall be provided to the Planning and Natural Resources Department prior to the issuance of any grading or building permit. b. The project proponent/operator shall ensure all new employees or onsite workers who have not participated in earlier Cultural Resources Sensitivity Trainings shall meet provisions specified above. c. 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. d. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept onsite and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before they work onsite. e. During implementation of the project, the services of Native American Monitors, as identified through consultation with appropriate Native American tribes, working under the	Less than significant

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Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		supervision of the Lead Archaeologist, shall be retained by the project to monitor project-related ground-disturbing activities as identified in Mitigation Measure MM 4.5-2 **MM 4.5-2:** Prior to the issuance of any grading or building permit, the project proponent shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Treatment Plan. The plan shall: a. Require that prior to conducting initial ground disturbance in the vicinity of prehistoric archaeological sites, and in coordination with the Lead Archaeologist and Native American Monitor(s), exclusion areas (i.e., the recorded boundaries of the archaeological sites and all areas within 50 feet thereof) shall be temporarily marked with exclusion markers or protective fencing as determined by the Lead Archaeologist in consultation with the Native American Monitor. b. Require that the construction zone shall be narrowed or otherwise altered to avoid any exclusion areas. c. Provide an overview of best management practices to be utilized during ground-disturbing construction activities to ensure protection of cultural resources. d. Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities. e. Provide a Data Recovery Plan, if required, prepared by the Lead Archeologist in consultation with the Native American Monitor(s), for the recovery of known and unanticipated cultural discoveries that cannot be avoided or preserved in place. **MM 4.5-3:** During implementation of the project, in the event that 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 the discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area, and all entrance into the area shall be avoided until the discovery is assessed by the Lead Archaeologist and Native American Monitor. The Lead Archaeologist, in consultation with any Native American Monitor, 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 (CEQA) Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Consistent with CEQA *Guidelines* Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist, in consultation with any Native American Monitor, shall develop additional treatment measures in consultation with the County of Kern (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. Diagnostic archaeological materials with research potential 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. **MM 4.5-4:** Prior to conducting initial ground disturbance in the vicinity of historical resources P-15-000472, P-15-13840 and WH-S-01, and in coordination with the Lead Archaeologist and the Native American monitor, an exclusion area, consisting of the archaeological site boundaries plus an additional 50-foot buffer, shall be temporarily marked with exclusion markers or protective fencing as determined by the Lead Archaeologist in consultation with the Native American monitor. For HAP SITE 6.13.1, which is located outside of the development footprint, protective fencing will be installed along the edge of the project property boundary adjacent to HAP SITE 6.13.1 so that it protects HAP SITE 6.13.1 from potential impacts from project construction. Signs shall be posted that establish these as Environmentally Sensitive Areas (ESA). ESA fencing will be installed by the project proponent under the direction of an archaeological monitor and Native American monitor, working under the supervision of the Lead Archaeologist. ESA fences will be maintained by the project proponent for the duration of construction. In the event that the fencing is damaged, the project proponent will immediately notify the Lead Archaeologist, who will assess the damage and make the appropriate notifications to the County of Kern and other stakeholders, as appropriate. The project proponent shall repair any damage to the fences and take additional measures, such additional training or increase signage, to ensure that additional damage is avoided.	
Impact 4.5-2: The project would cause a substantial adverse change in the significance of an archaeological resource	Potentially significant	Implementation of Mitigation Measures **MM 4.5-1** through **MM 4.5-3** is required. **MM 4.5-5:** During implementation of the project, the services of both an Archaeological and Native American Monitor, working under the supervision of the Lead Archaeologist as identified through consultation with appropriate Native American tribes, shall be retained by the project	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
as defined in CEQA *Guidelines* Section 15064.5.		proponent/operator to monitor, on a full-time basis, during ground-disturbing activities associated with project-related construction activities, as follows: a. All initial ground-disturbing activities within 50 feet of prehistoric archaeological sites within the Enterprise Solar Site shall be monitored by Native American Monitor(s) and Archaeological Monitor(s). b. During implementation of the project, Archaeological and Native American monitoring shall be conducted for all initial excavation or ground-disturbing activities. If no archaeological discoveries are made during the course of this monitoring, no additional monitoring will be required. If the Lead Archaeologist can demonstrate that the level of monitoring should be reduced or discontinued, or a need for continuing monitoring, the Lead Archaeologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances as warranted. c. All ground disturbing activities within 100 feet of a grave site shall be monitored by Native American Monitor(s) and Archeological Monitor(s). d. The Lead Archaeologist and Native American Monitor(s) shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. Should the services of any additional individuals be retained (as the Lead Archaeologist, Archaeological Monitor, or Native American Monitor) subsequent to commencement of ground disturbing activities, such individuals shall be provided all proposed project documentation related to cultural resources within the project area, prior to beginning work. 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. e. The Archaeological Monitor(s) shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department and Native American Monitor. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report that details monitoring results; assessment of inadvertent discoveries; communication with Tribal representatives; installation of, maintenance of, and guidance for environmentally sensitive areas; and general implementation of the required mitigation. The final monitoring report shall act as a record of compliance with guiding documents and mitigation, and shall be submitted to the Kern County Planning and Natural Resources Department and the Southern San Joaquin Valley Information Center at California State University, Bakersfield.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.5-3: The project would disturb any human remains, including those interred outside of formal cemeteries.	Potentially significant	**MM 4.5-6:** If human remains are uncovered during project construction, the project contractor 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 15064.5 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, and in accordance with generally accepted cultural or archeological standards or practices, the project proponent shall ensure that the immediate vicinity of the Native American human remains is not damaged or disturbed by further development activity until the project proponent 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
Impact 4.5-4: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures **MM 4.5-1** through **MM 4.5-6** 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 Measure **MM 4.3-3** would be required.	Less than significant
Impact 4.6-2: The project would conflict with or obstruct a state or local plan for	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
renewable energy or energy efficiency.			
Impact 4.6: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measure **MM 4.3-3** would be required.	Less than significant
4.7 Geology and Soils			
Impact 4.7-1: The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo earthquake fault zoning map issued by the state geologist for the area or based on other substantial evidence of a known fault.	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 in accordance with all applicable ordinances of the Kern County Building Code (Chapter 17.08) and the CBC 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. The project proponent shall determine the final siting of project facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards. The project proponent shall not locate project facilities on or immediately adjacent to an active fault trace. **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. 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.	Less than significant
Impact 4.7-2: The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, seismic-related ground failure,	Potentially significant	Implement Mitigation Measures MM 4.7-1 and MM 4.7-2, above.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
including liquefaction; or landslides.			
Impact 4.7-3: The project would result in substantial soil erosion or the loss of topsoil.	Potentially significant	Implement Mitigation Measures **MM 4.7-1** and **MM 4.7-2**, above and **MM 4.10-1** described below in *Hydrology and Water Quality***.**	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 on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Potentially significant	Implement Mitigation Measures **MM 4.7-1** and **MM 4.7-2**, above**.**	Less than significant
Impact 4.7-5: The project would 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.	Potentially significant	Implement Mitigation Measures **MM 4.7-1** and **MM 4.7-2**, above**.**	Less than significant
Impact 4.7-6: The project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not	No impact	No mitigation measures are required.	No impact

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
available for the disposal of wastewater.			
Impact 4.7-7: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in CEQA *Guidelines* Section 15064.	Potentially significant	**MM 4.7-3:** The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP, 2010), to carry out all mitigation measures related to paleontological resources: a. Prior to the start of any ground disturbing activities, the qualified paleontologist shall prepare 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 project operator shall ensure all new employees who have not participated in earlier Paleontological Resources Sensitivity Trainings shall meet the provisions specified above. e. The Paleontological Resources Awareness Training Guides shall be kept onsite and available for all personnel to review and be familiar with as necessary. **MM 4.7-4:** During construction, the qualified paleontologist or designated monitor shall monitor all ground-disturbing activities (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 15 feet or deeper below ground surface. Following completion of monitoring, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on site. **MM 4.7-5:** 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	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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.	
Impact 4.7: Cumulative Impacts	Less than significant	Implementation of Mitigation Measure **MM 4.7-1** through **MM 4.7-5**, as described above, and MM 4.10-1, described below, is required.	Less than significant
4.8 Greenhouse Gas Emissions			
Impact 4.8-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than significant	No mitigation measures are required.	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	Potentially significant	**MM 4.9-1:** During the life of the project, including decommissioning, the project proponent/operator shall prepare and maintain a Hazardous Materials Business Plan (HMBP), 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 (CERS) at	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
disposal of hazardous materials.		http://cers.calepa.ca.gov/ for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The HMBP shall: a. Delineate hazardous material and hazardous waste storage areas b. Describe proper handling, storage, transport, and disposal techniques c. Describe methods to be used to avoid spills and minimize impacts in the event of a spill d. Describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction and operation e. Establish public and agency notification procedures for spills and other emergencies including fires f. 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 HMBP as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted HMBP from CERS shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the projects permanent record.	
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	Implementation of Mitigation Measure **MM 4.9-1**, described above, is required. **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 for use in California and are appropriate for application adjacent to natural vegetation areas (i.e., non-agricultural use). 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 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.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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 annually 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 mile of an existing or proposed school.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.9-4: The project would 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, create a significant hazard to the public or the environment.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.9-5: The project would result in a safety hazard or excessive noise for people residing or working in the project area, for a project	Potentially significant	**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. b. Obtain a Federal Aviation Administration issued "Determination of No Hazard to Air Navigation." This documentation shall include written concurrence from the military	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
located within the vicinity of a private airstrip.		authority responsible for operations in the flight area depicted in the Kern County Zoning Ordinance Figure 19.08.160 that all project components in the flight area would create no significant military mission impacts. c. Provide documentation to the Kern County Planning and Natural Resources Department demonstrating that a copy of the final site plans have been provided to the operators of Mojave Air Space and Port. **MM 4.9-4:** Prior to issuance of building and grading permits, the project proponent/operator shall comply with the following: a. Submit the project plans to the Edwards AFB for review if any project components would exceed 100 feet in height. b. Obtain written concurrence that the height of the proposed project components would create no significant military mission impacts. c. Alternatively, in instances where the required written concurrence from the military is requested but not received within a reasonable period of time, the height exceedances may be considered for approval by the County Board of Supervisors upon a finding that the benefits of the requested height deviation outweigh the potential impacts on military flight operations.	
Impact 4.9-6: The project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan	Potentially significant	Implementation of Mitigation Measure **MM 4.15-1** is required.	Less than significant
Impact 4.9-7: 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	Potentially significant	Implementation of Mitigation Measure **MM 4.14-1** is required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
urbanized areas or where residences are intermixed with wildlands.			
Impact 4.9-8: The project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste? Specifically, would the proposed project exceed the following qualitative threshold: the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the proposed 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; or ii. Are associated with design, layout, and management of	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures		Level of Significance After Mitigation
proposed project operations; or iii. Disseminate widely from the property; or iv. Cause detrimental effects on the public health or well-being of the majority of the surrounding population.				
Impact 4.9: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures **MM 4.9-1**, **MM 4.9-2**, **MM 4.9-3**, **MM 4.9-4**, **MM 4.14-1**, and **MM 4.15-1**, 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 degrade water quality.	Potentially significant	Implementation of Mitigation Measure MM 4.9-1 would be required (see Section 4.9, *Hazards and Hazardous Materials*, for full mitigation measure text). **MM 4.10-1:** Prior to issuance of a grading permit, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department. The SWPPP shall be designed to minimize runoff and shall specify best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sediment or any other pollutants from moving offsite and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Recommended best management practices to be incorporated in the SWPPP may include the following: a. Minimization of vegetation removal; b. Implementing sediment controls, including silt fences a necessary; c. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas; d. Properly containing and disposing of hazardous materials used for construction onsite; e. Properly covering stockpiled soils to prevent wind erosion; f. Proper protections and containment for fueling and maintenance of equipment and vehicles; and		Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		g. Appropriate disposal of demolition debris, concrete and soil, and aggressively controlling litter. h. Cleanup of silt and mud on adjacent street due to construction activity. i. Checking all lined and unlined ditches after each rainfall. j. Restore all erosion control devices to working order to the satisfaction of the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department after each rainfall run-off. k. Install additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances which may arise. **MM 4.10-2:** 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. A numerical stormwater model for the project site that evaluates 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. 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. A specification that 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.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact 4.10-2: The project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	Less than significant	No mitigation measures are required.	Less than significant
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, in a manner than would result in substantial erosion and/or sedimentation on-site or off-site.	Potentially significant	Implementation of Mitigation Measures **MM 4.10-1** and **MM 4.10-2** 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, in a manner that	Potentially significant	Implementation of Mitigation Measure **MM 4.10-1** and **MM 4.10-2** is required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
would result in flooding onsite or offsite.			
Impact 4.10-5: The project would create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.	Potentially significant	Implementation of Mitigation Measure **MM 4.10-1** and **MM 4.10-2** is required.	Less than significant
Impact 4.10-6: The project would place within a 100-year flood hazard area structures that would impede or redirect flood flows.	Potentially significant	Implementation of Mitigation Measure **MM 4.10-1** and **MM 4.10-2** is required.	Less than significant
Impact 4.10-7: The project would result in a flood hazard, tsunami, or seiche zone, and risk release of pollutants due to project inundation.	Potentially significant	Implementation of Mitigation Measure **MM 4.10-1** and **MM 4.10-2** is required.	Less than significant
Impact 4.10-8: The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-7: 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	Potentially significant	Implementation of Mitigation Measures **MM 4.9-1**,**MM 4.10-1**, and **MM 4.10-2** is required.	Less than significant
4.11 Land Use			
Impact 4.11-1: The project would physically divide an established community.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.11-2: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.11: Cumulative Impacts	Potentially significant	**MM 4.11-1:** 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.	Less than significant

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 180 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 twelve 12 months that portion of the site shall be deemed abandoned and shall be removed within sixty (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 sixty (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 twelve (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 forty-eight (48) months from the date, the solar facility was first deemed abandoned.

MM 4.11-2: Prior to the operation of the solar facility, the operator shall consult with the Department of Defense and Mojave Air and Space Port to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military and facility operations.

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.12: Cumulative Impacts	Less than significant	No mitigation measures are required.	Less than significant
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	Potentially significant	**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. 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 9:00 p.m. to 6:00 a.m. on weekdays, and between 9:00 p.m. to 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. 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	Less than Significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
applicable standards of other agencies.		must occur after dark to ensure photovoltaic arrays are not energized, unanticipated emergencies requiring immediate attention, or security patrols. b. 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. c. 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. 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:** Prior to the issuance of grading permits, 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.), 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.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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. **MM 4.13-4:** Adequate noise shielding shall be provided to the project's onsite transformers and inverters such that the existing ambient noise level at offsite residential receptors would not exceed 65 L_{dn} and interior noise levels would not exceed 45 dB L_{dn}. For any portion of the project within five hundred (500) feet of property developed residentially and zoned for residential use (E, R-1, R-2, and R-3), except those portions within the M-3 District, adequate noise shielding shall be provided to the project's onsite transformers and inverters such that the equipment would not exceed an average 65 dB L_{dn} (24 hour median) between the hours of 7:00 a.m. and 10:00 p.m. and would not exceed 65 dB, or result in an increase of 5 dB or more from ambient sound levels, whichever is greater, between the hours of 10:00 p.m. and 7:00 a.m. The project proponent/operator shall submit photographic evidence of this technology and clearly demonstrate on a site plan where adequate noise shielding will be located, if necessary. No shielding shall be required if the noise levels would not exceed these standards.	
Impact 4.13-2: The project would expose persons to or generate 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

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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
4.14 Public Services			
Impact 4.14-1: The project would result in the 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	**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. g. Building plans shall be included for the energy storage system to verify adherence to County and California Building Code standards. **MM 4.14-2:** The following Cumulative Impact Charge (CIC) shall be implemented as an annual payment due every year for the life of the project, or as a lump sum payment for multiple years, until the project is decommissioned and the Conditional Use Permit is voided.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		a. Submittal of Building Permit 1. Any building permit submitted shall be accompanied by a map and legal description of the entire approved Conditional Use Permit area. 2. The map shall calculate the CIC net acreage as follows: A. Total gross acreage of the approved Conditional Use Permit. B. Total acres for Operations and Maintenance building and permanent accessory improvements. C. Total acres for Energy Storage structure and permanent accessory improvements, if full reassessed property taxes are paid. D. Total acres of recorded easements. 3. Formula is Net Acreage = 2.A minus the sum of [2.B + 2.C + 2.D]. 4. Temporary storage areas or non-permanent commercial coaches or cargo containers for construction or operations are not eligible for inclusion under 2.B or 2.C, above. 5. All areas of buildings, accessory improvements and easements used in the calculations shall be shown on the submitted Map. b. Calculation of Cumulative Impact Charge (CIC) and annual payment 1. A payment of $550 per net acre shall be paid annually for all acres in the approved Conditional Use Permit regardless of phased implementation of building permits, the total number of building permits, or type of building permit issued. 2. The first payment is due upon issuance of the first building permit. If it is not paid within 30 days after issuance of the first building permit, all such permits shall be suspended until the fee is paid in full. 3. Annual payments are due every year on the date of the first building permit issuance. 4. Payments shall be made to the Planning and Natural Resources Department for transfer directly to the County Administrative Office Fiscal Division (CAO) and labeled Cumulative Impact Charge (CIC) with the project name, location and APNs. 5. Any acres denoted for an operation and maintenance building or energy storage that is not built, cannot be used for solar panels unless payment is provided for the Cumulative Impact Charge (CIC). 6. An advance payment option for a lump sum of all payment years, or a reduction in each year's payment for 5 or more years, may be requested by submittal of a written request	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		to the Planning and Natural Resources Department with details of the offer no later than 60 days before the yearly payment is due. A 10% discount in the lump sum amount will be applied if the advance payment option is accepted by the County Administrative Office Fiscal Division (CAO) by written response. **MM 4.14-3:** 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 $3,000 per megawatt per year, then a Supplemental Cumulative Charge (SCIC) shall be paid for the difference annually up to $3,000 per megawatt. The SCIC payments shall be made annually directly to the County Administrative Office (CAO) Fiscal Division and labeled "Supplemental Cumulative Impact Charge (SCIC)" with the project name and phase number. **MM 4.14-4:** 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. **MM 4.14-5:** Prior to the issuance of any building permits on the property, the project operator shall submit a letter detailing the hiring efforts prior to commencement of construction, which encourages all contractors of the project site to hire at least 50 percent of their workers from local Kern County communities. The project operator shall provide the contractors a list of training programs that provide skilled workers and shall require the contractor to advertise locally for available jobs, notifying the training programs of job availability, all in conjunction with normal hiring practices of the contractor.	
Impact 4.14: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures **MM 4.14-1** through **MM 4.14-5** are required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.15 Traffic and Transportation			
Impact 4.15-1: The project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	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 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: 1. Timing of deliveries of heavy equipment and building materials during off-peak hours to the extent feasible; 2. Review of transport routes, such as the intersection at SR-14 and Purdy Avenue, to determine how turns on existing roads would be accomplished and identifying intersections at which use of a flag person would be required to assist large trucks in making unobstructed turns; 3. 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; 4. Establish procedures for coordinating with local emergency response agencies to ensure dissemination of information regarding emergency response vehicle routes affected by construction activities; 5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections; 6. Maintaining access to adjacent property; 7. Encourage carpooling among workers to reduce worker commute trips entering and exiting the study area; and 8. 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.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		b. Obtain all necessary encroachment permits for 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 and the Kern County Public Works Department-Development Review. 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 DVD format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any. **MM 4.15-2:** Prior to the issuance of construction or building permits, the project proponent/operator shall implement measures to reduce construction worker vehicle trips during the AM and PM peak hours. These measures may include, but are not limited to the following: a. The Construction Traffic Control Plan (see MM 4.15-1, above) shall outline the methods used to control the number of worker vehicles arriving and departing from the project site during peak AM and PM hours, and document all reasonable efforts made to avoid impacts to area intersections. b. The project proponent/operator shall limit construction worker vehicle trips to and from the site to the extent possible during the AM and PM peak periods (i.e., 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) by implementing such measures as: 1. Instituting incentives and providing options for construction workers to carpool and/or vanpool to and from the project site. 2. Scheduling construction worker shifts so that a majority of the workers arrive and depart the project site outside the AM and PM peak periods.	

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		3. Staggering construction worker shifts so that construction worker vehicle trips are distributed over a broader period (i.e., construction workers arrive in staggered shifts starting from 6:00 a.m. and depart in staggered shifts starting from 2:00 p.m.).	
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 4.15-3: The project would substantially increase hazards due to a geometric design feature (such as sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Potentially significant	Implementation of Mitigation Measure MM 4.15-1 is required.	Less than significant
Impact 4.15-4: The project would result in inadequate emergency access.	Potentially significant	Implementation of Mitigation Measure **MM 4.15-1** is required.	Less than significant
Impact 4.15: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measure **MM 4.15-1** is required.	Less than significant

TABLE 1-7: 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).	Potentially Significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 would be required (See section 4.5, *Cultural Resources*, for full mitigation measure text).	Unknown at this time
Impact 4.16-1b: The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public	Potentially Significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 would be required (See section 4.5, *Cultural Resources*, for full mitigation measure text).	Unknown at this time

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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.			
Impact 4.16: Cumulative Impacts	Less than significant	Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 would be required (See section 4.5, *Cultural Resources*, for full mitigation measure text).	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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 could cause significant environmental effects.	Potentially significant	Implementation of Mitigation Measure **MM 4.10-1**, as described above, is required.	Less than significant
Impact 4.17-2: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.	Less than significant	No mitigation measures are required.	Less than significant
Impact 4.17-3: 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	Less than significant	No mitigation measures are required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
demand in addition to the provider's existing commitments.			
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:** Prior to issuance of a grading or building permit, an onsite Waste Disposal and Recycling Coordinator shall be designated by the project proponent/operator to facilitate waste disposal and recycling as part of the Maintenance, Trash Abatement, and Pest Management Program. The provisions listed below shall apply to the project: a. The project proponent/operator shall provide a storage area for waste and recyclable materials within the fenced project area that is clearly identified for waste and recycling. This area shall be shown on a submitted site plan and maintained on the site during construction, operations and decommissioning. b. During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible. c. The Waste Disposal and Recycling Coordinator shall facilitate recycling of all construction and decommissioning waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. d. The Waste Disposal and Recycling Coordinator shall coordinate with Kern County Public Works Department – Solid Waste Division the acceptance for disposal or recycling of construction and decommissioning waste prior to being transported to any public disposal facility. e. The Waste Disposal and Recycling Coordinator shall ensure that materials transported to public disposal facilities for recycling shall be separated by material type so as not to be co-mingled or contaminated with waste material. f. The Waste Disposal and 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. g. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.	Less than significant
Impact 4.17-5: The project would comply with federal, State, and local management and reduction statutes and	Potentially significant	Implementation of Mitigation Measure **MM 4.17-1** is required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
regulations related to solid waste.			
Impact 4.17: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures **MM 4.10-1**, and **MM 4.17-1** is required.	Less than significant
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.	Potentially significant	Implementation of Mitigation Measure **MM 4.14-1**, as described above, is 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	Potentially significant	Implementation of Mitigation Measure **MM 4.14-1**, as described above, is required.	Less than significant

TABLE 1-7: SUMMARY OF IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE

Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
that may result in temporary or ongoing impacts to the environment.			
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 Measures **MM 4.10-1**, as described above, is required.	Less than significant
Impact 4.18: Cumulative Impacts	Potentially significant	Implementation of Mitigation Measures **MM 4.10-1**, and **MM 4.14-1**, as described above, is required.	Significant and Unavoidable

Chapter 2
Introduction

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 Enterprise Solar Storage Project (project). The project is located on approximately 2,320 acres that would generate up to 600 megawatts (MW) of electricity from a photovoltaic (PV) solar facility and up to 4 gigawatt-hours (GWh) of energy storage in unincorporated Kern County.

The proposed project consists of five non-contiguous site locations, including four solar facility sites plus land north of SCE's Windhub Substation for the 230 kilovolt (kV) to 500 kV step-up substation. Site 1 (Northern) is directly south of State Route (SR) 58, generally west of 10th Street and north of Purdy Avenue. Site 2 (Western) is directly west of SR-14, east of 25th Street West, south of Camelot Boulevard, and generally north of Purdy Avenue with one small portion extending south of Purdy Avenue and north of Sunset Avenue. Site 3 (Eastern) is east of 10th Street, south of SR-58, and north of Silver Queen Road. Site 4 (Southern) is south of the Burlington Northern Santa Fe (BNSF) Railway with a large portion of the site being located south of Silver Queen Road.

The project will interconnect to the Windhub Substation, which is owned and operated by Southern California Edison (SCE). The interconnect will be via a newly constructed generation-tie line (gen-tie) that will be co-located within a portion of the Sanborn Solar gen-tie corridor (which was reviewed for California Environmental Quality Act (CEQA) purposes by the County as part of the Sanborn Solar Conditional Use Permit in 2020 and was constructed in 2021) to the Windhub Substation. A new 230-kilovolt (kV) to 500-kV step-up substation, up to 10 acres in size, will be constructed north of the Windhub Substation on private land: Site 5 (Step-up Substation).

This EIR has been prepared pursuant to the following:

- The CEQA (Public Resources Code, Section 21000 et seq.)
- CEQA *Guidelines* (California Code of Regulations, Title 14, Division 6, Article 1, 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 potential significant 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 other 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 feasible 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.

Issues to Be Resolved

Section 15123(b) (3) of the CEQA *Guidelines* 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;
- Determine the 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 an IS/NOP for 30 days to responsible, trustee, and local agencies for review and comment beginning on May 8, 2023, and ending on June 6, 2023.
- **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 Section 15105 of the CEQA *Guidelines*, 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.

Initial Study/Notice of Preparation

Pursuant to Section 15082 of the CEQA *Guidelines*, 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 May 8, 2023, and ending on June 6, 2023. 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 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.

Scoping Meeting

Pursuant to Section 15082 (c)(1) of the CEQA *Guidelines*, 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 May 25, 2023 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

Verbal comments were received from William Roberts at the May 25, 2023, scoping meeting regarding potential effects of the project on access to his nearby property. 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.

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 Fish and Wildlife Service June 4, 2023	The commenter recommends surveys for desert tortoise and the results of the surveys included in the Draft EIR. An Incidental Take Permit (ITP) would be required if take of the species would occur. The commenter states that construction and operation of the project could locally increase the common raven population and that the common raven preys on desert tortoise, such that the Draft EIR should include raven management measures and that the applicant contribute to the regional management program for common ravens. The commenter states that listed birds, such as the endangered southwestern willow flycatcher, least Bell's vireo, and the western yellow-billed cuckoo migrate through this region. Consequently, they have the potential to collide with solar panels, the gen-tie line, and other features of the proposed facility, such that the Draft EIR should analyze the effect of such collisions on these species and consider measures to reduce the likelihood of collisions. The commenter also states that information USFWS has collected to date indicates that risk of collision at specific renewable energy projects and risk to individuals of listed migratory birds was unquantifiably low and therefore discountable when considered at a project level. Based on the information that is available to us at this time, USFWS does not recommend that the applicant apply for an incidental take permit for listed birds for the proposed action. The commenter recommends that the Draft EIR include the results of studies to assess migratory bird use of the project area and an analysis of the effects of the proposed action on migratory birds. These effects would include mortality of birds during construction, collisions with project features, and loss of habitat.
State Agencies	
California Department of Conservation, Geologic Energy Management Division (CalGEM) May 12, 2023	The commenter provides information that CalGEM records indicate there are no known oil or gas wells located within the project boundary as identified in the application.
California Native American Heritage Commission. May 12, 2023	The commenter provides information about the provisions of Senate Bill 18 and Assembly Bill 52, which each have tribal consultation requirements that would be applicable for the project. The commenter provides the Native American Heritage Commission's recommendations for cultural resource assessments.
California Department of Transportation (Caltrans), District 9 June 5, 2023	The commenter states that Caltrans requests a cumulative analysis on any transportation resources that have the potential to be significantly impacted by the project or that are in poor or declining health. Guidance from Caltrans on how to prepare a cumulative impact analysis is provided. The commenter states that Site 2 (Western) and Site 3 (Eastern) may be of interest to the Caltrans Permit Department and provides a link to the information about Caltrans Permits and contact information. The commenter states that the plans on the Kern County website are not legible when enlarged and that new or modified crossings of State Routes 14 or 58 may require Caltrans encroachment permits.

Commenter/Date	Summary of Comment
California Department of Fish and Wildlife, Central Region June 5, 2023	The commenter states the project site is within the geographic range of several special-status resources, and these resources should be surveyed for, evaluated, and addressed prior to any approvals that would allow ground-disturbing activities. The commenter includes recommendations for evaluating and addressing the following species in the Draft EIR: the State threatened Mohave ground squirrel (*Xerospermophilus mohavensis)* and Swainson's hawk (*Buteo swainsoni*); the State fully protected golden eagle (*Aquila chrysaetos*); the State and federally threatened desert tortoise (*Gopherus agassizii*); the State candidate for listing Crotch bumble bee (*Bombus crotchii*) and western Joshua tree; the State species of special concern American badger (*Taxidea taxus*), Tulare grasshopper mouse (*Onychomys torridus tularensis*), Tehachapi pocket mouse (*Perognathus alticola inexpectatus*), Townsend's big-eared bat (*Corynorhinus townsendii*), burrowing owl (*Athene cunicularia*), Le Conte's thrasher (*Toxostoma lecontei*), loggerhead shrike (*Lanius ludovicianus*), long-eared owl (*Asio otus*), coast horned lizard (*Phrynosoma blainvillii*), and northern California legless lizard (*Anniella pulchra*); the State watch list California horned lark (*Eremophila alpestris actia*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), and prairie falcon (*Falco mexicanus*); and the State protected furbearing mammal desert kit fox (*Vulpes macrotis arsipus*). The commenter recommends that the information and results obtained from the biological technical surveys, studies, and analyses conducted in support of the project's CEQA document be used to develop and modify the project's alternatives to avoid and minimize impacts to biological resources to the maximum extent possible. The commenter recommends that a cumulative impact analysis be conducted for all biological resources that will either be significantly or potentially significantly impacted by implementation of the project, including those whose impacts are determined to be less than significant with mitigation incorporated or for those resources that are rare or in poor or declining health and will be impacted by the project, even if those impacts are relatively small (i.e., less than significant). The commenter states that the project may be subject to CDFW's regulatory authority pursuant to Fish and Game Code section 1600 et seq. Fish and Game Code section 1602 requires any project proponent notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake; or (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. The commenter provides contact information for notification under Fish and Game Code 1602. The commenter recommends consulting with USFWS on potential impacts to federally listed species including desert tortoise. The commenter describes that take under the federal Endangered Species Act includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting.

Commenter/Date	Summary of Comment
California Department of Fish and Wildlife, Central Region October 30, 2023	The commenter corrects the letter sent on June 5, 2023 in which CDFW recommended surveys be conducted following the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC 2000) and mitigation be incorporated following the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (CDFG 1994). Within the Antelope Valley, CDFW should have recommended that SWHA surveys follow 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 (Antelope Valley Protocol) guidance.
Local	
Kern County Public Works – Floodplain Management May 12, 2023	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.
Mojave Air and Space Port May 16, 2023	The commenter states that at least one site listed, Site 3, would exist directly under the Mojave Air and Space Port primary runway (Runway 30) approach path, which potentially creates a glare hazard. The Airport requests a study of the potential for glare that may affect pilots operating on that runway per the Federal Aviation Administration's (FAA) Interim Policy adopted October 23, 2013. The commenter requests that the applicant complete an FAA Form 7460-1 for proposed construction near an airport.
Office of the Fire Marshal Kern County Fire Department (KCFD) Fire Prevention Unit May 16, 2023	The commenter states the applicant shall comply with KCFD's Solar Standards and that KCFD will conduct a more detailed review when the building permit is obtained, and plans are submitted to KCFD.
Antelope Valley – East Kern Water Agency (AVEK) May 19, 2023	The commenter states that all crossings of AVEK facilities and property will require an easement. Additionally, the commenter states that AVEK has pipelines and other facilities near Site 2 (Western) and Site 4 (Southern) and that stray current may damage their facilities, such that a corrosion assessment is requested for electrical facilities crossing or closely paralleling their pipelines. The commenter states that equipment and vehicle crossings should include measures to prevent loading damage to AVEK's pipelines.
SoCalGas Transmission Technical Services May 19, 2023	The commenter states that the Transmission Department does not operate facilities within the proposed project; however, the Distribution Department of SoCalGas may maintain and operate facilities within the project scope and suggested that department be contacted.
East Kern Air Pollution Control District (EKAPCD) May 25, 2023	The commenter states that EKAPCD recommends enhanced fugitive dust measures be included for the project to address hazards and visibility issues for nearby residents and motorists and itemizes the recommended measures to be included in a Fugitive Dust Control Plan submitted to EKAPCD prior to construction. The commenter states that an Authority to Construct permit is required from EKAPCD prior to construction and that stationary engines over 50 horsepower would require permits from EKAPCD prior to installation and operation.

Commenter/Date	Summary of Comment
Kern County Public Works Department June 1, 2023	The commenter states that prior to issuance of a building or grading permit all survey monuments should be recorded by a Licensed Land Surveyor and a corner record for each monument or record of survey should be submitted to the County Surveyor. The commenter states that any survey monuments destroyed during construction shall be re-set or have a suitable witness corner set and a post-construction corner record or record of survey submitted to the County Surveyor. Additionally, the commenter states that all survey monuments shall be made accessible by a Licensed Land Surveyor or their representatives.
Interested Parties	
Leon Cederlind June 3, 2023	The commenter states they are in favor of the proposed project.
Southwest Mountain States Regional Council of Carpenters Received after the NOP comment period November 6, 2023	The commenter that the County should require use of local workforce and also comments on health and safety issues.
Defenders of Wildlife (DOW) June 6, 2023	The commenter states that specifying that the project will be located on vacant land limits the alternatives analysis and excludes consideration of sites that contain existing infrastructure. DOW requests the limitation of "vacant land" within Kern County be removed from the project objectives. The commenter states that the Antelope Valley and the project site contain high-value biological resources and provide important habitat to numerous special-status wildlife species. The commenter also states that development has cumulatively affected nesting and foraging habitat of Swainson's hawk and requests the project identify an alternative site outside of the Antelope Valley and without Swainson's hawk nesting or foraging habitat. The commenter states that the Draft EIR should include avoidance, minimization and mitigation measures for burrowing owl based on CDFW recommendations. The commenter states that the project site provides suitable Crotch's bumble bee habitat, a candidate for listing under the California Endangered Species Act. The commenter recommends coordination with CDFW for the appropriate methodology for protocol-level Crotch bumble bee surveys and mitigation measures. The commenter states that if Swainson's hawks or potential Swainson's hawk nests are discovered on or near the proposed project site, mitigation must include providing Habitat Management lands as recommended within the guidelines including protection of nest trees and that the applicant must obtain an ITP if take of Swainson's hawk would occur. The commenter recommends protocol-level surveys for Mohave ground squirrel and mitigation measures developed in consultation with CDFW. The commenter states that the project and the draft EIR should look for ways to avoid and/or minimize impacts to desert tortoise, including avoidance of habitat, translocation, and an aggressive raven plan. The commenter recommends botanical surveys consistent with CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.* The commenter requests the Draft EIR comprehensively analyze the direct and indirect cumulative impacts of past, present and reasonably foreseeable activities that adversely impact biological resources within the Antelope Valley.

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 Section 15087 of the CEQA *Guidelines*. 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: http://www.co.kern.ca.us/planning/eirs.asp.

Additionally, this EIR is available at the following libraries:

Kern County Library/Beale
Local History Room
701 Truxtun Avenue
Bakersfield, CA 93301

Kern County Library
Mojave Branch
16916 ½ Highway 14, Space D2
Mojave, CA 93501

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 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;
- Traffic and Transportation;
- Tribal Cultural Resources;
- Utilities and Service Systems; and
- Wildfire.

With respect to the following resource areas, 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; and
- Recreation.

The IS/NOP determined that the proposed project would have up to six permanent employees. Maintenance personnel 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, it is expected that accommodations would be available in the nearby hotels in Rosamond, Mojave, Lancaster, or other local communities and 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.

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.
- "Project 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 Sections 15381 and 15386 of the CEQA *Guidelines*, 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:

Federal Agencies

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

State Agencies

- California Public Utilities Commission
- California Department of Fish and Wildlife (CDFW)
- Lahontan Regional Water Quality Control Board (RWQCB)
- California Department of Transportation (Caltrans)

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.

Kern County

- Planning and Natural Resources Department
- Public Works Department

- Public Health Services Department, Environmental Health Services Division
- Fire Department (KCFD)
- Sherriff's Department

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

2.7 Incorporation by Reference

In accordance with Section 15150 of the CEQA *Guidelines* 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.

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.

Mojave Specific Plan

The Mojave Specific Plan was drafted in 2003 for the unincorporated eastern Kern County community of Mojave. The plan includes the following elements: land use; conservation; open space; circulation; housing and community development; noise; and seismic and safety. Within each of these element categories, purpose, scope, and content, existing setting, planning issues, element goals, element objectives and policies and implementation strategies for those policies are provided.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan was certified on March 30, 1992, for the community of West Edwards Road Settlement in order to recognize existing development and prepare for projected community growth. The preparation of the plan was required by the Land Use, Open Space, and Conservation Element of the Kern County General Plan. The plan includes the following elements: land use, open space, and conservation; circulation; and safety. Within each of these element categories, an existing setting, assumptions, issues, policies and implementation strategies for those policies are provided.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan was certified on June 28, 1973 (then known as the South of Mojave Elephant Butte Specific Plan). The plan addresses issues of importance in the area by

stating recommendations, analysis, and implementation measures specific to the area. There are no goals or policies included in the plan.

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.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG) and was adopted on July 21, 2022. The 2022 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 2022 RTP is the Sustainable Communities Strategy (SCS), which is required by California's Sustainable Communities and Climate Protection Act, SB 375. The California Air Resources Board (CARB) set targets for Kern's GHG emissions reductions from passenger vehicles and light-duty trucks at 9 percent per capita by 2020 and 15 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 is a federally designated Metropolitan Planning Organization and a state designated Regional Transportation Planning Agency (RTPA). 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.

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 zones as A, B1, B2, C, D, E1, and E2, ranging from the most restrictive (A – airport property-runway protection zone) to the least restrictive (D – disclosure to property owners only), while the E zone is intended to address special land use development. According to the ALUCP, portions of the project are within the sphere of influence of the Mojave Air and Space Port. Site 1 (Northern) is located within Compatibility Zones B1 and C, Site 2 (Western) is located within Compatibility Zones D and E1, and Site 3 (Eastern) is located within Compatibility Zones B2 and C. The eastern portion of the proposed 230 kV gen-tie line spans across Compatibility Zones B2, C, D, and E1. Site 4 (Southern) and Site 5 (Step-up Substation) are not located in any Compatibility Zones.

Zones B1 and B2 prohibit schools, daycare centers, libraries, hospitals, nursing homes, highly noise sensitive uses (e.g. amphitheaters), storage of highly flammable materials, and hazards to flights such as glare, sources of dust, steam or smoke which may impair pilot 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. An avigation easement is required in Zone B1 and Zone B2. Zone C prohibits schools, hospitals, nursing homes, and hazards to flights. Zone D prohibits hazards to flights. Zone E1 encourages implementation of best management practices to abate bird attraction and prohibits development reaching 100 feet in height above ground level. However, private and public gen-tie lines, collector lines, and transmission lines are subject to review on a case-by-case basis and could be exempt from requirements.

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/.

Chapter 3
Project Description

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 the construction and operation of the Enterprise Solar Storage Project (project) proposed by Enterprise Solar Storage, LLC (project applicant/proponent). The project proposes to develop a photovoltaic (PV) solar facility and associated infrastructure necessary to generate 600 megawatts (MW) of renewable electrical energy with up to 4,000 megawatt-hours (MWh) of energy storage capacity (approximately 1,000 MW) on approximately 2,320 acres across five non-contiguous sites. The proposed associated infrastructure includes laydown yards, a meteorological station, and a substation. PV panels, inverters, converters, foundations, and transformers will be installed onsite. The proposed project also includes preferred and optional generation-tie (gen-tie) routes to enter the Windhub Substation, only one of which would be constructed.

3.2 Project Location

The project is located in an unincorporated area in southeastern Kern County, California, at the western edge of the Antelope Valley and south of the community of Mojave, as shown in **Figure 3-1,** *Regional Vicinity*. Portions of the project site are adjacent to State Route (SR)-58 and SR-14. The project site is directly south of the unincorporated community of Mojave, approximately 2 miles southwest of California City, 8 miles north of the unincorporated community of Rosamond, approximately 8 miles northwest of Edwards Air Force Base, and 16 miles southeast of the City of Tehachapi.

As shown in **Figure 3-2**, *Local Vicinity,* the project consists of five non-contiguous site locations identified by their relative geographic location: Site 1 (Northern), Site 2 (Western), Site 3 (Eastern), Site 4 (Southern), and Site 5 (Step-up Substation). Site 1 (Northern) is directly south of State Route 58 (SR-58), generally west of 10th Street and north of Purdy Avenue and is approximately 93 acres. Site 2 (Western) is directly west of SR-14, east of 25th Street West, south of Camelot Boulevard, and generally north of Purdy Avenue with one small portion extending south of Purdy Avenue and north of Sunset Avenue and is approximately 279 acres. Site 3 (Eastern) is east of 10th Street, south of SR-58, and north of Silver Queen Road and is approximately 1,190 acres. Site 4 (Southern) is south of the Burlington Northern Santa Fe (BNSF) Railway, with a large portion of the site located south of Silver Queen Road, and is approximately 731 acres. Site 5 (Step-up Substation) is located north of Oak Creek Road, north of the existing Windhub Substation and is on an approximately 23-acre portion of one parcel.

Figure 3-3, *Proposed Site Plan Overview,* **Figure 3-4a**, *Proposed Site Plan 1 (Northern)*, **Figure 3-4b**, *Proposed Site Plan 2 (Western)*, **Figure 3-4c**, *Proposed Site Plan 3 (Eastern)*, **Figure 3-4d**, *Proposed Site Plan 4 (Southern)*, and **Figure 3-4e,** *Proposed Site Plan 5 (Step-up Substation)*, display the site plans for each solar site and the step-up substation site, respectively. As shown on Figures 3-4a through 3-4e, the proposed project consists of solar and energy storage facilities. An additional 10 acres on four parcels are proposed for temporary construction laydown. A second temporary construction laydown yard is proposed;

however, its location is within the boundary of the adjacent previously approved Sanborn Solar project. The project would interconnect via gen-tie facilities to the Windhub Substation as shown on Figure 3-2.

The project is located within Sanborn, Mojave, and Bissell U.S. Geological Survey 7.5-minute quadrangles within Section 6 of Township 10 North, Range 11 West, Sections 20-26, 28, and 36 of Township 11 North, Range 12 West, and Sections 30 and 32 of Township 11 North, Range 11 West, with the interconnection facilities located in Section 17 and 20 of Township 11 North, Range 13 West. In addition, interconnection facilities are located within Sections 17 and 20 of Township 11 North, Range 13 West of the San Bernadino Base Meridian (SBBM).

The project consists of 149 total parcels that have been purchased, leased, or are in the process of purchase or lease acquisition by the project proponent, plus 4 parcels that would be used for temporary construction laydown. The Assessor Parcel Numbers (APN) are summarized in **Table 3-1A**, *Project Assessor Parcel Numbers (APNs),* and additional parcel details are included in **Table 3-1B**, *Project Assessor Parcel Numbers, Corresponding Map Codes, Existing and Proposed Zoning, and Acreage*. The project site is subject to provisions of the adopted Mojave Specific Plan, West Edwards Road Settlement Specific Plan, Soledad Mountain-Elephant Butte Specific Plan, and the Kern County General Plan. The proposed project is also subject to the provisions of the Kern County Zoning Ordinance and spans across Zone Maps 195, 196 (including, Section Detail 196-20), 197, and 212. As shown in **Table 3-1B,** *Project Assessor Parcel Numbers, Corresponding Map Codes, Existing and Proposed Zoning, and Acreage,* a majority of the parcels within the proposed project boundary are zoned A (Exclusive Agriculture) and A-1 (Limited Agriculture) with many also having a Floodplain Secondary Combining, Precise Development Combining, and/or Airport Approach Height Combining District Overlay. Additional zoning of the proposed project includes Commercial (General, Highway, and Office), Estate 0.25 acre, Residential (Low-Density and Medium-Density), and Open Space Districts.

TABLE 3-1A: PROJECT ASSESSOR PARCEL NUMBERS (APNS)

Site 1 (Northern)			
428-140-09	428-140-10	428-140-11	428-140-12
428-140-13	428-140-15	428-140-16	428-152-01
428-152-02			
Site 2 (Western)			
427-020-27	427-100-22		
427-030-07	427-100-23		
427-030-35	427-100-24		
427-030-36			
Site 3 (Eastern)			
235-202-02	428-030-06	428-171-05	428-172-03
235-202-07	428-161-01	428-171-06	428-172-04
235-202-08	428-161-02	428-171-07	428-172-05
235-202-09	428-161-03	428-171-08	428-172-06
235-202-10	428-161-04	428-171-10	428-172-07
235-202-11	428-161-07	428-171-11	428-172-08
235-202-12	428-161-08	428-171-12	428-172-10
235-202-13	428-161-09	428-171-13	428-172-11
235-202-14	428-161-10	428-171-14	428-172-12
235-204-01	428-161-11	428-171-16	428-172-13
235-204-07	428-161-14	428-171-17	428-173-01
235-204-08	428-161-16	428-171-18	428-173-02
235-204-09	428-161-20	428-171-19	428-173-03
235-204-10	428-162-11	428-171-20	428-173-04

235-204-17	428-162-12	428-171-21	428-173-05
Site 3 (Eastern)			
235-204-18	428-162-13	428-171-22	428-173-06
235-204-19	428-162-14	428-171-23	428-173-07
235-204-20	428-162-15	428-171-24	428-173-08
235-204-21	428-162-16	428-171-25	428-173-09
235-204-31	428-162-17	428-171-26	428-173-10
235-204-32	428-162-18	428-171-27	428-173-11
235-204-33	428-162-19	428-171-28	428-174-25
235-204-34	428-162-20	428-171-29	428-174-33
235-204-35	428-162-21	428-171-30	428-174-34
235-204-36	428-162-22	428-171-31	428-174-35
235-204-37	428-162-23	428-171-32	428-174-36
235-204-38	428-162-24	428-171-33	
235-204-39	428-162-27	428-171-34	
235-204-40	428-171-01	428-171-35	
235-204-41	428-171-03	428-172-01	
235-204-42	428-171-04	428-172-02	
Site 4 (Southern)			
235-132-13	244-234-17	244-234-29	244-234-33
244-234-02	244-234-18	244-234-30	244-234-35
244-234-08	244-234-28	244-234-32	244-234-10[a]
Site 5 (Step-Up Substation)			
237-031-04			

Key
APN = Assessor Parcel Number
[a] SCE transmission line APN

TABLE 3-1B: PROJECT ASSESSOR PARCEL NUMBERS (APNS) CORRESPONDING MAP CODES, EXISTING AND PROPOSED ZONING, AND ACREAGE

Number	APN	Map Code Designation	Existing Zoning	Proposed Zoning	Acres
Site 1 (Northern)					
1	428-140-09	8.5	A-1	A	17.49
2	428-140-10	8.5	A-1	A	3.07
3	428-140-11	8.5	A-1	A	3.45
4	428-140-12	8.5	A-1	A	2.55
5	428-140-13	8.5	A-1	A	7.66
6	428-140-15	8.5	A-1	A	15.93
7	428-140-16	8.5	A-1	A	15.15
8	428-152-01	8.5	A-1	A	14.06
9	428-152-02	8.5	A-1	A	13.58
				Site 1 (Northern) Acreage	**92.94**
Site 2 (Western)					
10	427-020-27	6.3, 6.3/2.5	CH PD	A	7.12
11	427-030-07	Low Den. Res.	A-1	A	1.59
12	427-030-35	Low Den. Res.	A-1	A	75.59
13	427-030-36	Low Den. Res.	A-1	A	37.35
14	427-100-22	3.1, 5.2, 5.3, 6.2, 6.3, 3.1/2.5, 5.2/2.5, 5.3/2.5, 6.2/2.5, 6.3/2.5	C-2 PD, C-2 PD FPS, CH PD, CH PD FPS, CO PD, OS, OS FPS, R-1, R-2 PD, R-2 PD FPS	A PD FPS	51.35
15	427-100-23	3.1, 5.2, 5.3, 5.4	R-1	A	34.7

Number	APN	Map Code Designation	Existing Zoning	Proposed Zoning	Acres
16	427-100-24	5.3, 5.4, 6.3, 5.3/2.5, 6.3/2.5	CH PD FPS, E(1/4), R-1, R-1 FPS, R-2 PD, R-2 PD FPS	A PD FPS	71.28
				Site 2 (Western) Acreage	**278.98**
		Site 3 (Eastern)			
17	235-202-02	8.5	A-1	A	40
18	235-202-07	8.5	A-1	A	10
19	235-202-08	8.5	A-1	A	10
20	235-202-09	8.5	A-1	A	10
21	235-202-10	8.5	A-1	A	10
22	235-202-11	8.5	A-1	A	10
23	235-202-12	8.5	A-1	A	10
24	235-202-13	8.5	A-1	A	10
25	235-202-14	8.5	A-1	A	10
26	235-204-01	8.5	A-1	A	10.14
27	235-204-07	8.5	A-1	A	5.07
28	235-204-08	8.5	A-1	A	5.07
29	235-204-09	8.5	A-1	A	5.07
30	235-204-10	8.5	A-1	A	5.07
31	235-204-17	8.5	A-1	A	2.61
32	235-204-18	8.5	A-1	A	2.61
33	235-204-19	8.5	A-1	A	2.61
34	235-204-20	8.5	A-1	A	10.15
35	235-204-21	8.5	A-1	A	2.61
36	235-204-31	8.5	A-1	A	2.61
37	235-204-32	8.5	A-1	A	2.61
38	235-204-33	8.5	A-1	A	5.08
39	235-204-34	8.5	A-1	A	5.08
40	235-204-35	8.5	A-1	A	2.54
41	235-204-36	8.5	A-1	A	2.54
42	235-204-37	8.5	A-1	A	2.54
43	235-204-38	8.5	A-1	A	2.53
44	235-204-39	8.5	A-1	A	5
45	235-204-40	8.5	A-1	A	2.5
46	235-204-41	8.5	A-1	A	2.5
47	235-204-42	8.5	A-1	A	10
48	428-030-06	8.5	A	A	40
49	428-161-01	8.5	A-1 H	A H	40
50	428-161-02	8.5	A-1 H	A H	20
51	428-161-03	8.5	A-1 H	A H	19.76
52	428-161-04	8.5	A-1 H	A H	9.06
53	428-161-07	8.5	A-1 H	A H	2.5
54	428-161-08	8.5	A-1 H	A H	2.5
55	428-161-09	8.5	A-1 H	A H	4.4
56	428-161-10	8.5	A-1 H	A H	7.89
57	428-161-11	8.5	A-1 H	A H	17.42
58	428-161-14	8.5	A-1 H	A H	5.2
59	428-161-16	8.5	A-1 H	A H	3.26
60	428-161-20	8.5	A-1 H	A H	5.1
61	428-162-11	8.5	A-1	A	5.04
62	428-162-12	8.5	A-1, A-1 H	A H	21.54
63	428-162-13	8.5	A-1 H	A H	2.55
64	428-162-14	8.5	A-1 H	A H	2.55
65	428-162-15	8.5	A-1 H	A H	2.55

Number	APN	Map Code Designation	Existing Zoning	Proposed Zoning	Acres
66	428-162-16	8.5	A-1 H	A H	2.55
67	428-162-17	8.5	A-1, A-1 H	A H	4.88
68	428-162-18	8.5	A-1, A-1 H	A H	3.6
69	428-162-19	8.5	A-1	A	2.5
70	428-162-20	8.5	A-1	A	2.51
71	428-162-21	8.5	A-1	A	2.5
72	428-162-22	8.5	A-1, A-1 H	A H	2.51
73	428-162-23	8.5	A-1, A-1 H	A H	7.35
74	428-162-24	8.5	A-1, A-1 H	A H	3.11
75	428-162-27	8.5	A-1 H	A H	20
76	428-171-01	8.5	A-1 H	A H	10
77	428-171-02	8.5	A-1 H	A H	10
78	428-171-03	8.5	A-1, A-1 H	A H	20
79	428-171-04	8.5	A-1, A-1 H	A H	15
80	428-171-05	8.5	A-1 H	A H	5
81	428-171-06	8.5	A-1 H	A H	2.5
82	428-171-07	8.5	A-1 H	A H	2.5
83	428-171-08	8.5	A-1 H	A H	2.5
84	428-171-10	8.5	A-1 H	A H	2.5
85	428-171-11	8.5	A-1 H	A H	2.5
86	428-171-12	8.5	A-1 H	A H	2.5
87	428-171-13	8.5	A-1 H	A H	2.5
88	428-171-14	8.5	A-1 H	A H	2.5
89	428-171-16	8.5	A-1	A	5
90	428-171-17	8.5	A-1	A	2.5
91	428-171-18	8.5	A-1, A-1 H	A H	2.5
92	428-171-19	8.5	A-1 H	A H	2.5
93	428-171-20	8.5	A-1 H	A H	2.5
94	428-171-21	8.5	A-1 H	A H	2.5
95	428-171-22	8.5	A-1 H	A H	2.5
96	428-171-23	8.5	A-1, A-1 H	A H	10
97	428-171-24	8.5	A-1	A	2.5
98	428-171-25	8.5	A-1	A	2.5
99	428-171-26	8.5	A-1	A	5
100	428-171-27	8.5	A-1	A	10
101	428-171-28	8.5	A-1	A	10
102	428-171-29	8.5	A-1	A	2.5
103	428-171-30	8.5	A-1	A	2.5
104	428-171-31	8.5	A-1, A-1 H	A H	2.5
105	428-171-32	8.5	A-1	A	2.5
106	428-171-33	8.5	A-1, A-1 H	A H	5
107	428-171-34	8.5	A-1 H	A H	2.5
108	428-171-35	8.5	A-1 H	A H	2.5
109	428-172-01	8.5	A-1, A-1 H	A H	20
110	428-172-02	8.5	A-1 H	A H	20
111	428-172-03	8.5	A-1 H	A H	20
112	428-172-04	8.5	A-1 H	A H	5
113	428-172-05	8.5	A-1 H	A H	15
114	428-172-06	8.5	A-1 H	A H	20
115	428-172-07	8.5	A-1 H	A H	15
116	428-172-08	8.5	A-1 H	A H	5
117	428-172-10	8.5	A-1, A-1 H	A H	160
118	428-172-11	8.5	A-1 H	A H	20

Number	APN	Map Code Designation	Existing Zoning	Proposed Zoning	Acres
119	428-172-12	8.5	A-1 H	A H	10
120	428-172-13	8.5	A-1 H	A H	10
121	428-173-01	8.5	A-1, A-1 H	A H	120
122	428-173-02	8.5	A-1	A	2.56
123	428-173-03	8.5	A-1	A	2.56
124	428-173-04	8.5	A-1	A	2.5
125	428-173-05	8.5	A-1	A	2.56
126	428-173-06	8.5	A-1	A	10
127	428-173-07	8.5	A-1	A	2.56
128	428-173-08	8.5	A-1	A	2.56
129	428-173-09	8.5	A-1	A	2.56
130	428-173-10	8.5	A-1	A	2.56
131	428-173-11	8.5	A-1	A	10
132	428-174-25	8.5	A-1	A	10
133	428-174-33	8.5	A-1	A	20
134	428-174-34	8.5	A-1	A	10
135	428-174-35	8.5	A-1	A	10
136	428-174-36	8.5	A-1	A	20
					Site 3 (Eastern) Acreage: 1,189.79
			Temporary Laydown Yards		
150	150	150	150	150	150
151	151	151	151	151	151
152	152	152	152	152	152
153	153	153	153	153	153
					Temporary Laydown Yards Acreage: 10
			Site 4 (Southern)		
137	235-132-13	8.5	A-1	A	157.27
138	244-234-02	8.5, 8.5/2.4	A-1	A	161.46
139	244-234-08	1.1, 8.5	A-1	A	160
140	244-234-17	8.5	A-1	A	10
141	244-234-18	8.5	A-1	A	10
142	244-234-28	8.5	A-1	A	5.05
143	244-234-29	8.5	A-1	A	5.05
144	244-234-30	8.5	A-1	A	10.02
145	244-234-32	8.5	A-1	A	20
146	244-234-33	8.5	A-1	A	20
147	244-234-35	8.5	A-1	A	10.02
148	244-234-10[a]	1.1	A-1	A	161.83
					Site 4 (Southern) Acreage: 730.70
			Site 5 (Step-up Substation)		
149	237-031-04	8.4	A WE	A WE	23[b]

Key
APN = Assessor Parcel Number
[a] SCE transmission line APN
[b] Step-up substation site is on approximately 23 acres of a 640-acre parcel

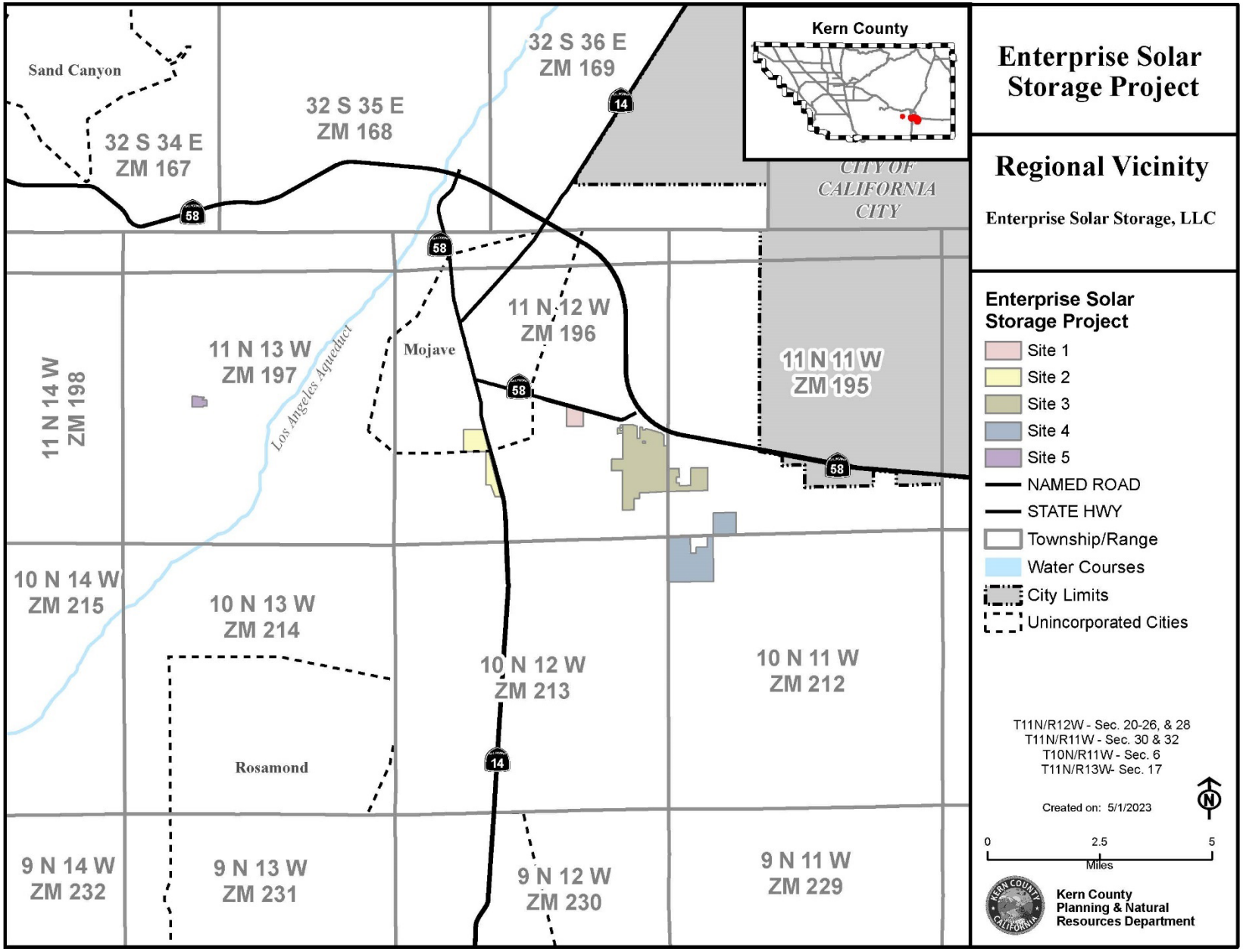
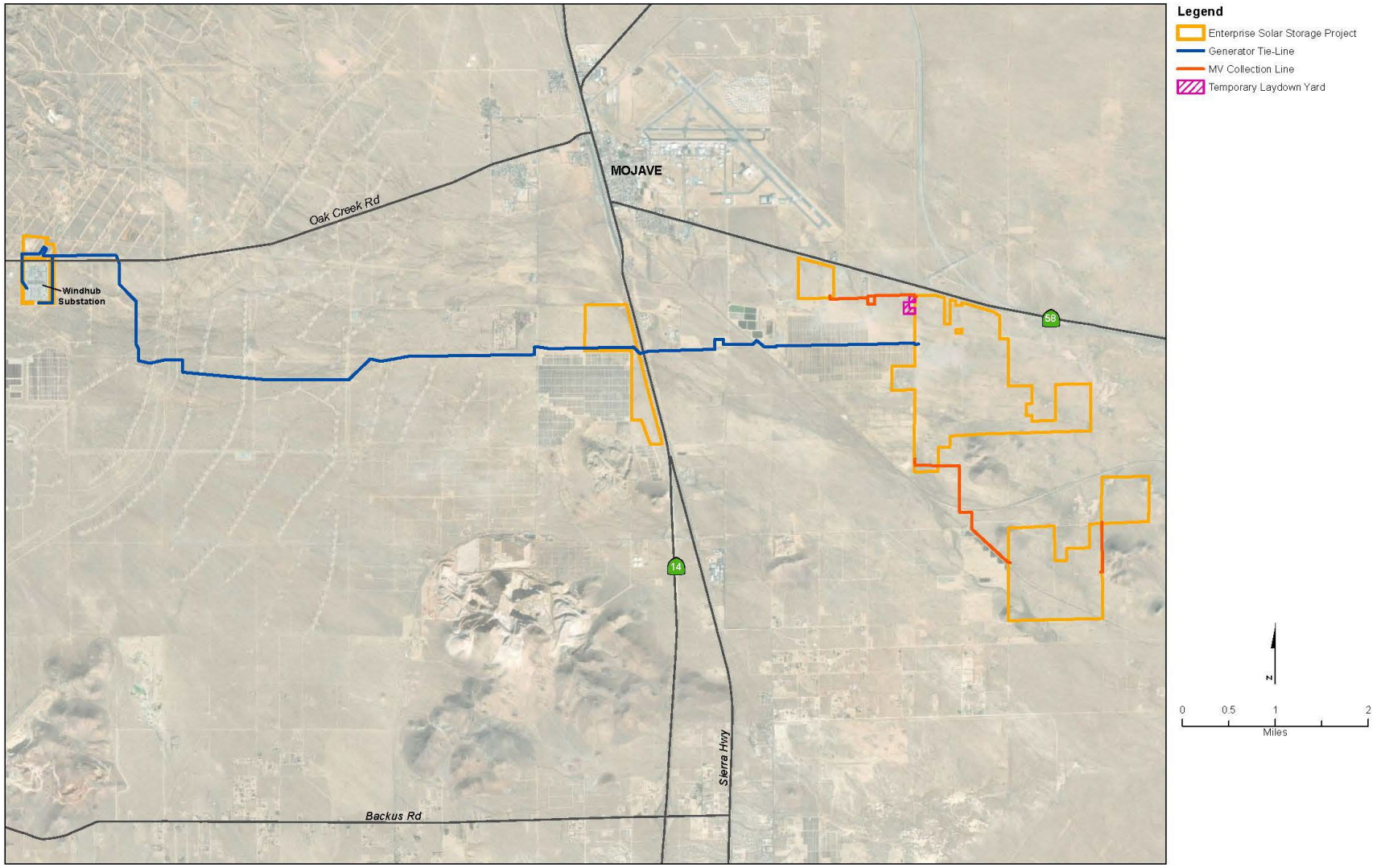


Figure 3-1 Regional Vicinity



Basemap Source: Esri World Imagery

Figure 3-2 Local Vicinity

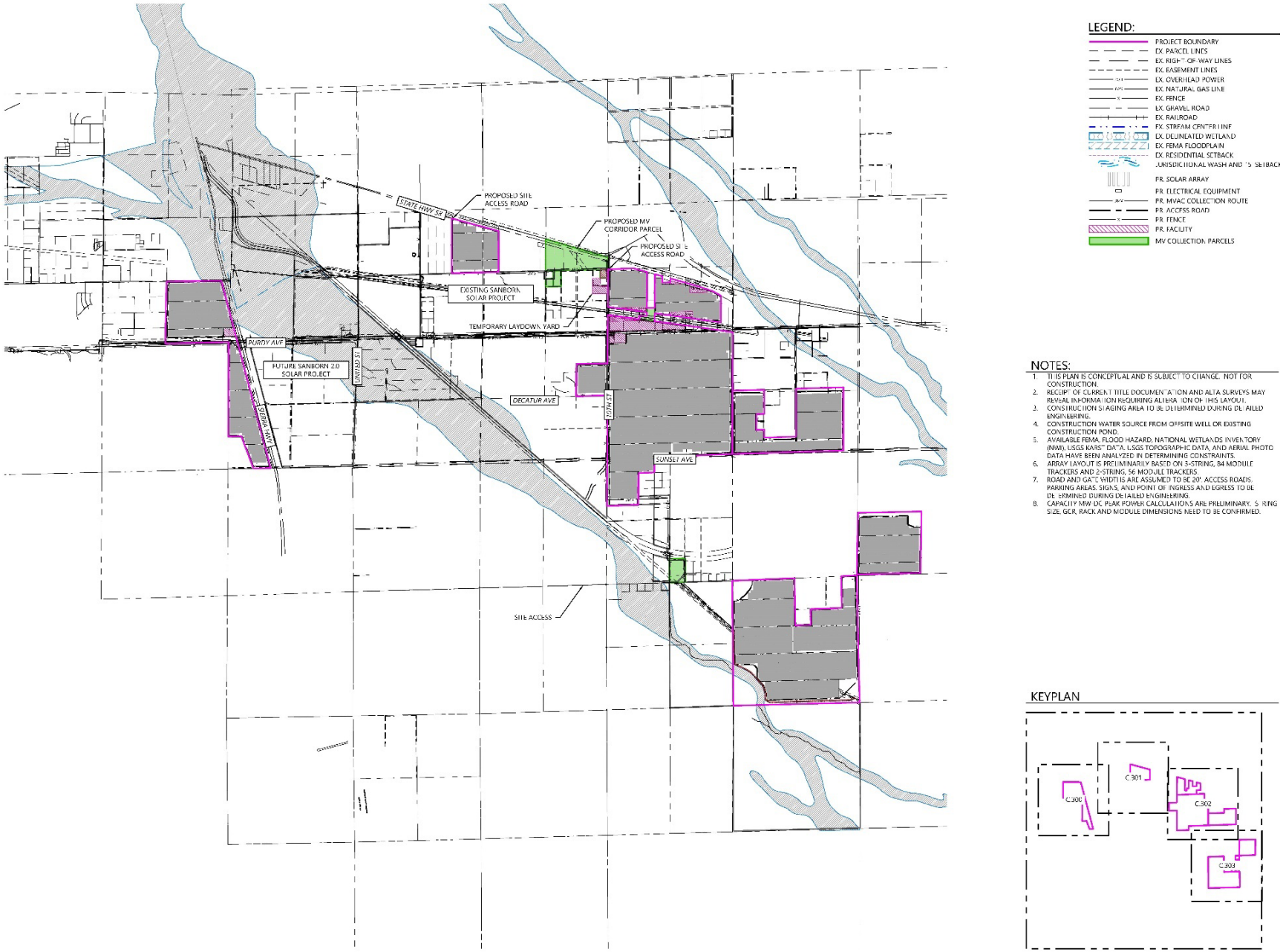


Figure 3-3 Proposed Site Plan Overview



Figure 3-4a Proposed Site Plan 1 (Northern)

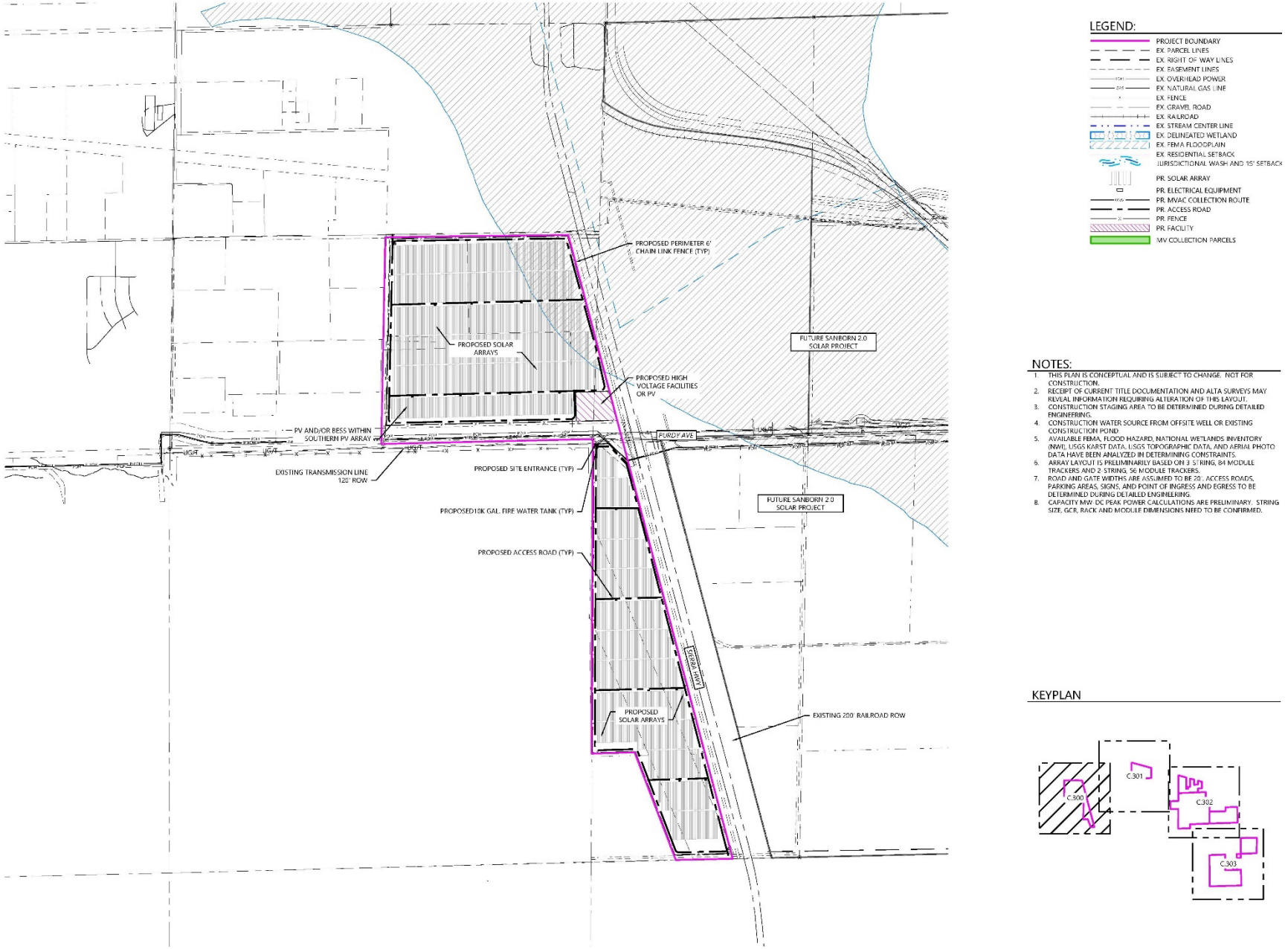


Figure 3-4b Proposed Site Plan 2 (Western)

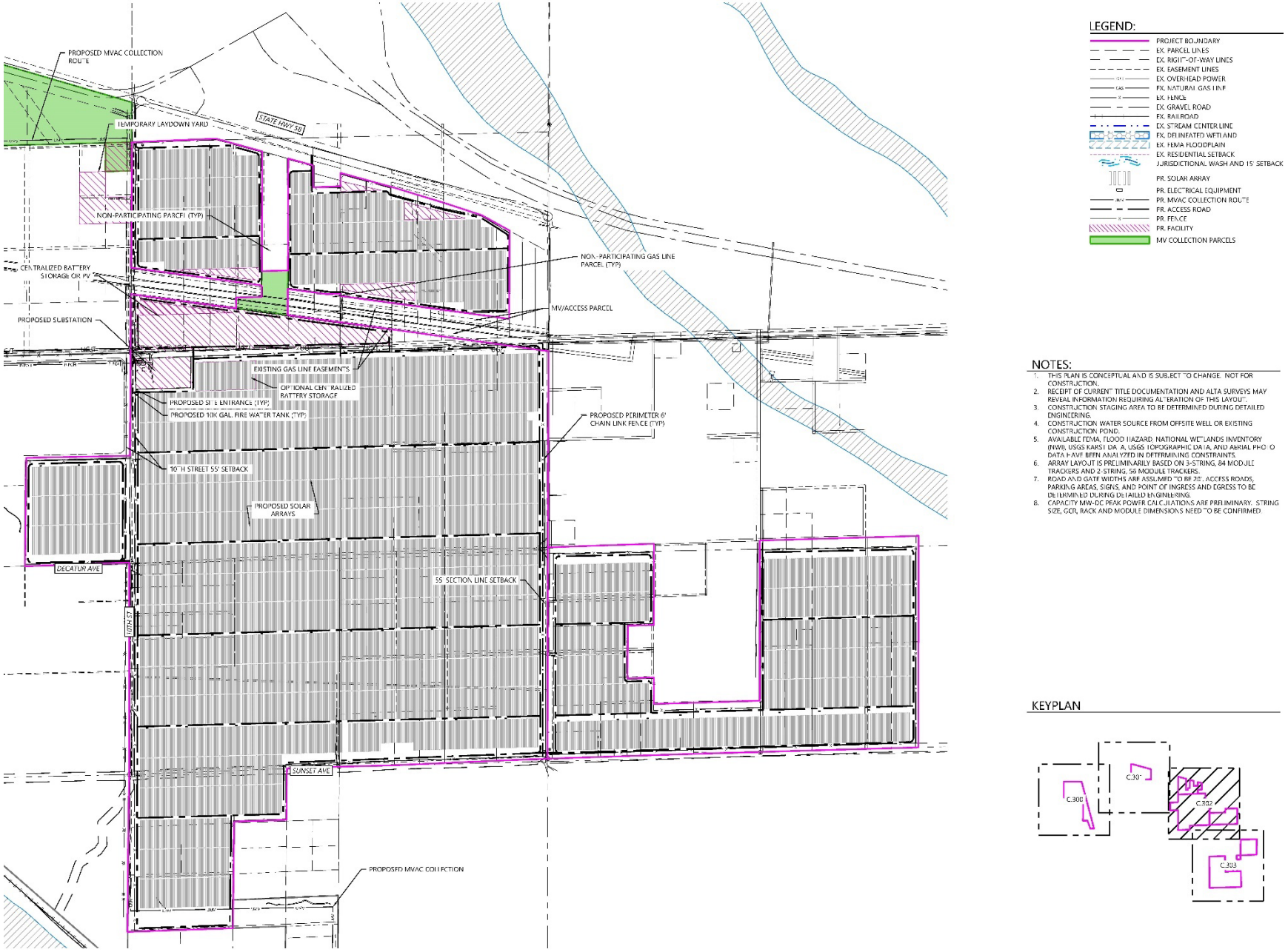


Figure 3-4c Proposed Site Plan 3 (Eastern)

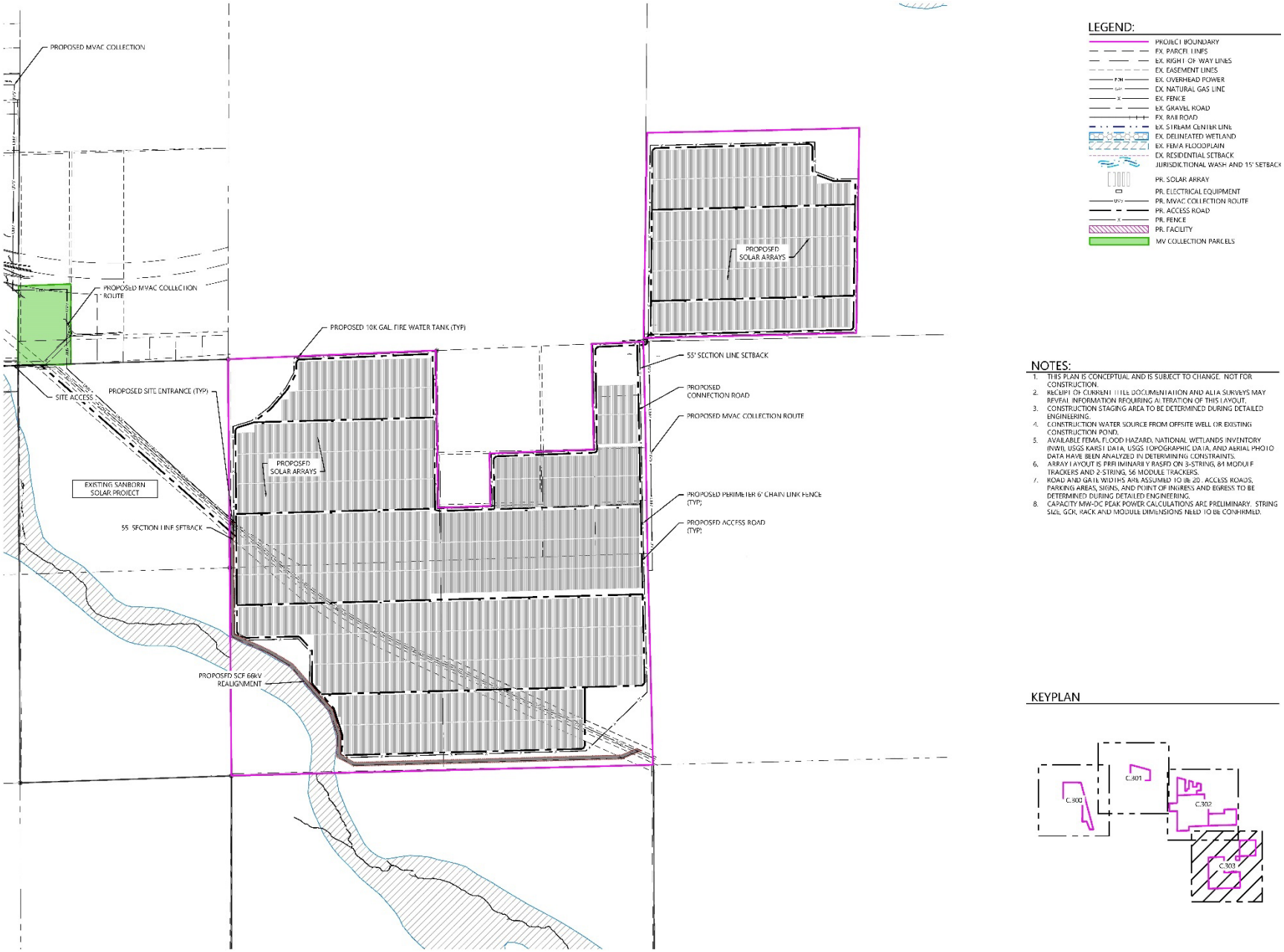


Figure 3-4d Proposed Site Plan 4 (Southern)

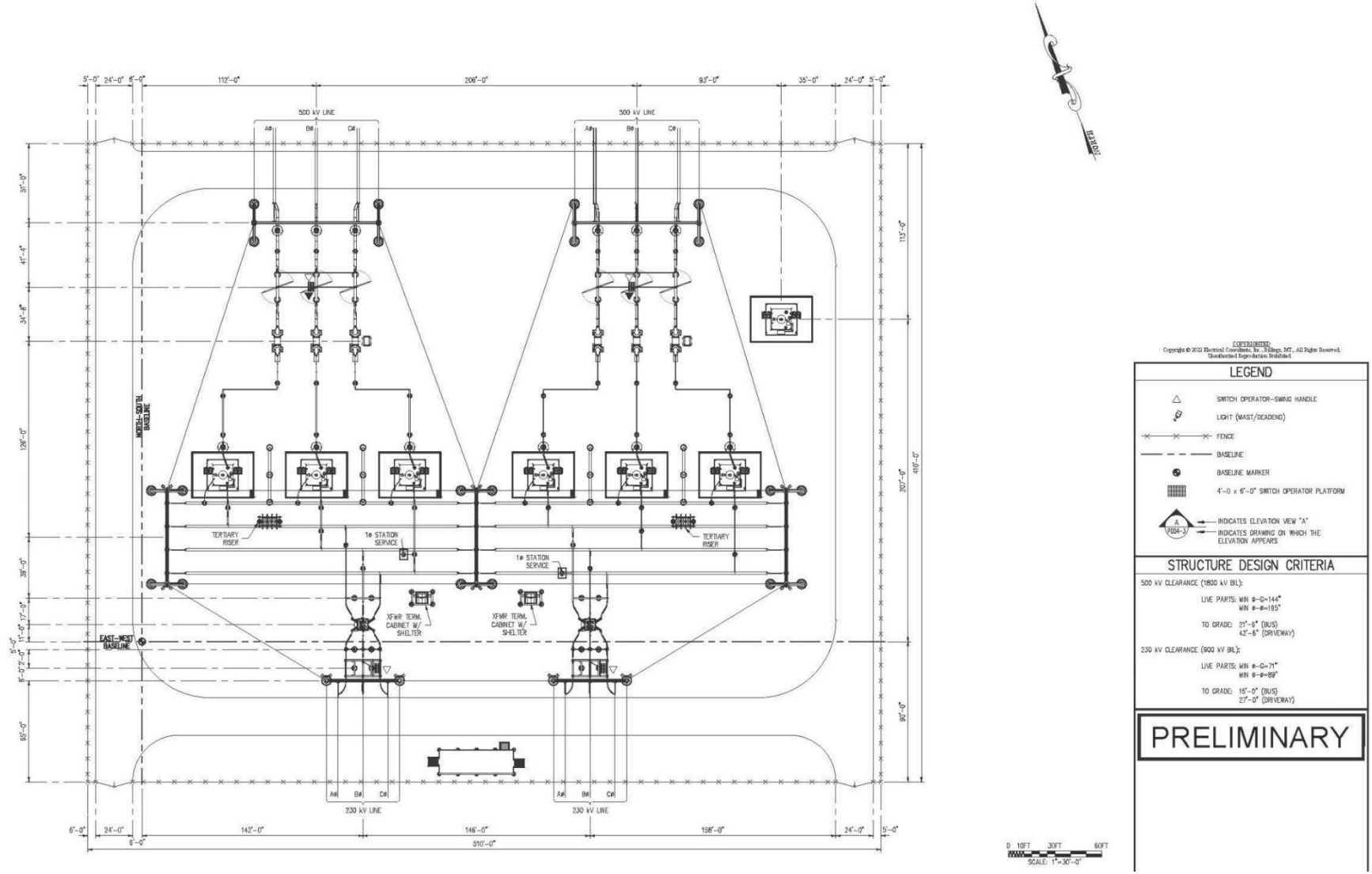


Figure 3-4e Proposed Site Plan 5 (Step-Up Substation)

3.3 Project Objectives

Section 15124(b) of the CEQA *Guidelines* requires a project description to include a statement of the objectives sought by the proposed project. The following objectives have been identified for the proposed project:

- Provide the County and the State of California with a renewable energy source that would assist the state in complying with the Renewables Portfolio Standard under Senate Bill (SB) 100, approved in 2018, which requires that 100 percent of all electricity sold in the state shall be generated from renewable energy sources by 2045 (CPUC, 2020).
- Establish solar PV power-generation with battery energy storage facilities of sufficient size and configuration to produce reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different California utility companies.
- Expand the reach of renewable energy development through the development of battery energy storage systems (BESS), making solar more valuable by storing energy after sunset and placing it on the grid.
- Utilize vacant land that has limited water availability for a renewable energy project.
- Assist the County in promoting its role as the State's leading producer of renewable energy.
- Provide green jobs to Kern County residents and the state of California.
- Site and design the project in an environmentally responsible manner, which includes:
    - Locating generation facilities in areas which receive intense solar radiation;
    - Using existing electrical transmission facilities, rights-of-way, roads, and other existing infrastructure where practical;
    - Minimizing water use; and
    - Reducing greenhouse gas emissions.
- Support California's efforts to reduce greenhouse gas emissions consistent with California Assembly Bill 32, the Global Warming Solutions Act of 2006, and SB 32, to at least 40 percent below the statewide greenhouse gas emissions limit by 2030.

3.4 Environmental Setting

The project is situated in the southeastern corner of the desert region in unincorporated Kern County. The project site is generally undeveloped land in the Mojave Desert within the Antelope Valley in southern Kern County, California. The project site is in an area of low population density southeast of the Tehachapi Mountains and is traversed by a network of dirt roads. This portion of Kern County is recognized by the National Renewable Energy Laboratory as having solar and wind resources that are suitable for renewable energy development.

Areas surrounding the project site include undeveloped lands, rural residential, active and fallow agricultural lands, access roadways, high-voltage transmission line corridors, and solar and wind development uses to the north, south, east and west of the project site.

The closest sensitive receptor to the project site is a residence approximately 1,860 feet from the boundary of Site 1 (Northern), on APN 315-230-07, in Section 6, T9N 13W, Zone Map 231. The closest school to the site is the Tropico Middle School, located approximately 11 miles southwest of the project site.

As shown on **Figure 3-6**, *Flood Hazard*, most of the project site is designated as Zone "X" on the Flood Insurance Rate Map (FIRM) as issued by the Federal Emergency Management Agency (FEMA), which indicates the site is not in an area of flood hazard. However, five parcels within the proposed project boundaries (427-100-22, 427-100-24, 427-100-27, 429-030-02, and 244-234-10) are in Zone A of the FEMA FIRM, which indicates a Special Flood Hazard Area. The project area has a relatively flat terrain with site elevations ranging between 2,520 and 2,750 feet above mean sea level

The proposed project would be served by the Kern County Sheriff's Office (KCSO) for law enforcement and public safety, Kern County Fire Department (KCFD) for fire protection, and Kern County Medical Emergency Service for emergency medical and rescue services. The nearest KCSO substation and KCFD fire station (Station No. 14) that would serve the project are both located in the community of Mojave. The nearest hospital is the Adventist Health Tehachapi Valley Hospital at 1100 Magellan Drive in the city of Tehachapi, which is approximately 25 miles northwest of the project site. The nearest school is approximately 1.7 miles north of Site 1 (Northern), which is Mojave Junior/Senior High at 15732 O Street.

The Kern County Airport Land Use Compatibility Plan (ALUCP) establishes procedures and criteria by which the County can address compatibility issues when making planning decisions concerning airports and military aviation operations. Portions of the proposed project are located within the Mojave Airport Sphere of Influence, which is operated by the East Kern Airport District (EKAD), and within the vicinity of Edwards AFB, which is a military aviation installation. **Figure 3-7***, Existing ALUCP,* shows the project site and its vicinity, with respect to ALUCP zones and **Table 3-2**, *ALUCP Zones,* identifies the location and impact elements for those zones.

TABLE 3-2: ALUCP ZONES

Zone	Location	Impact Elements
B1	Approach/Departure Zone and adjacent to Runway	Substantial risk – aircraft commonly below 400 feet above ground level (AGL) or within 1,000 feet of runway. Substantial noise.
B2	Extended Approach/Departure Zone	Significant risk – aircraft commonly below 800 feet AGL. Significant noise.
C	Common Traffic Pattern	Limited risk – aircraft at or below 1,000 feet AGL. Frequent noise intrusion
D	Other Airport Environs	Negligible risk. Potential for annoyance from overflights.
E	Special Land Use	Compatibility issues.

The project site is not designated by the California Department of Conservation (DOC) as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Additionally, none of the proposed project's parcels are subjected to a Williamson Act Land Use contract or within an Agriculture Preserve boundary.

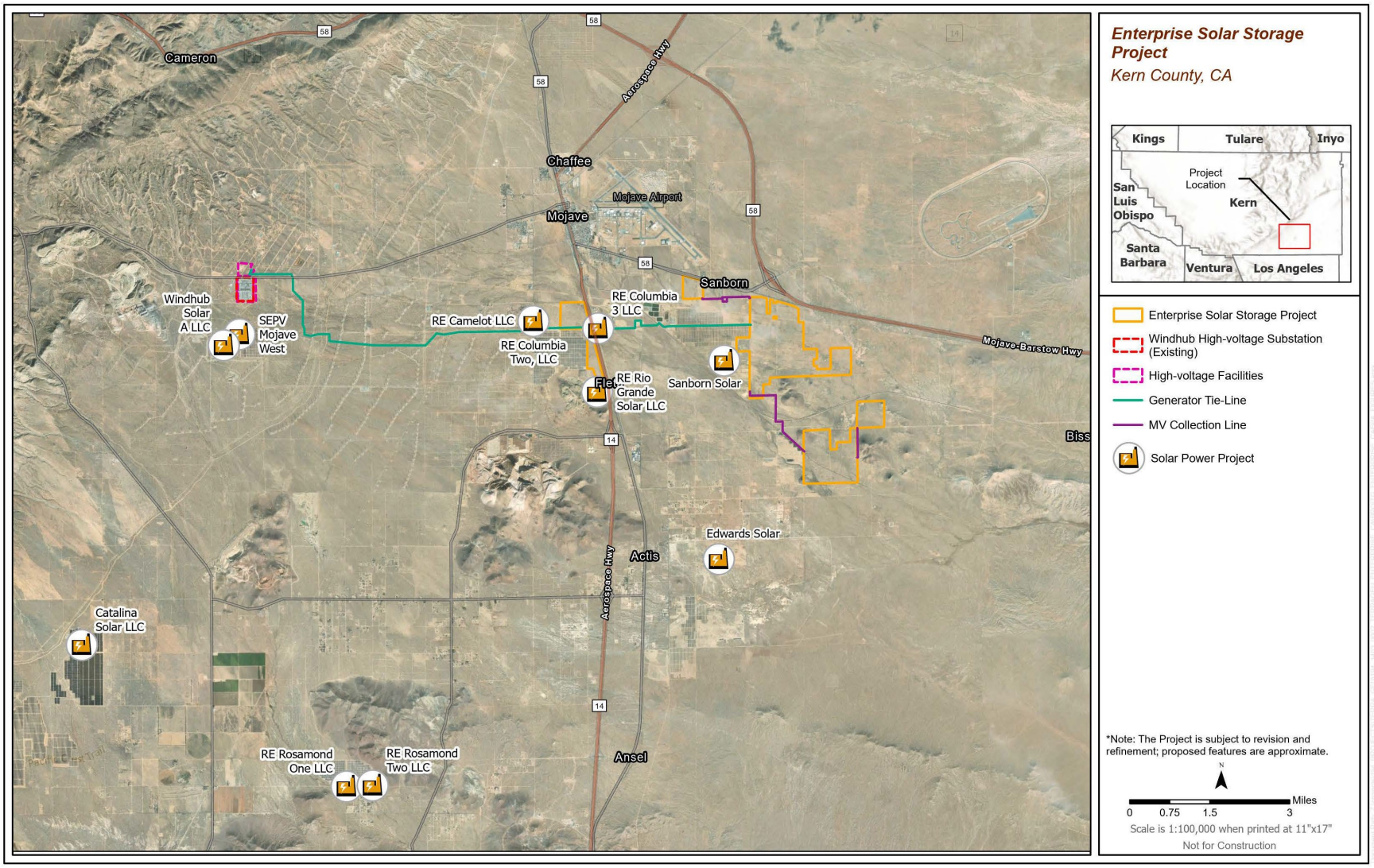


Figure 3-5 Surrounding Solar Projects

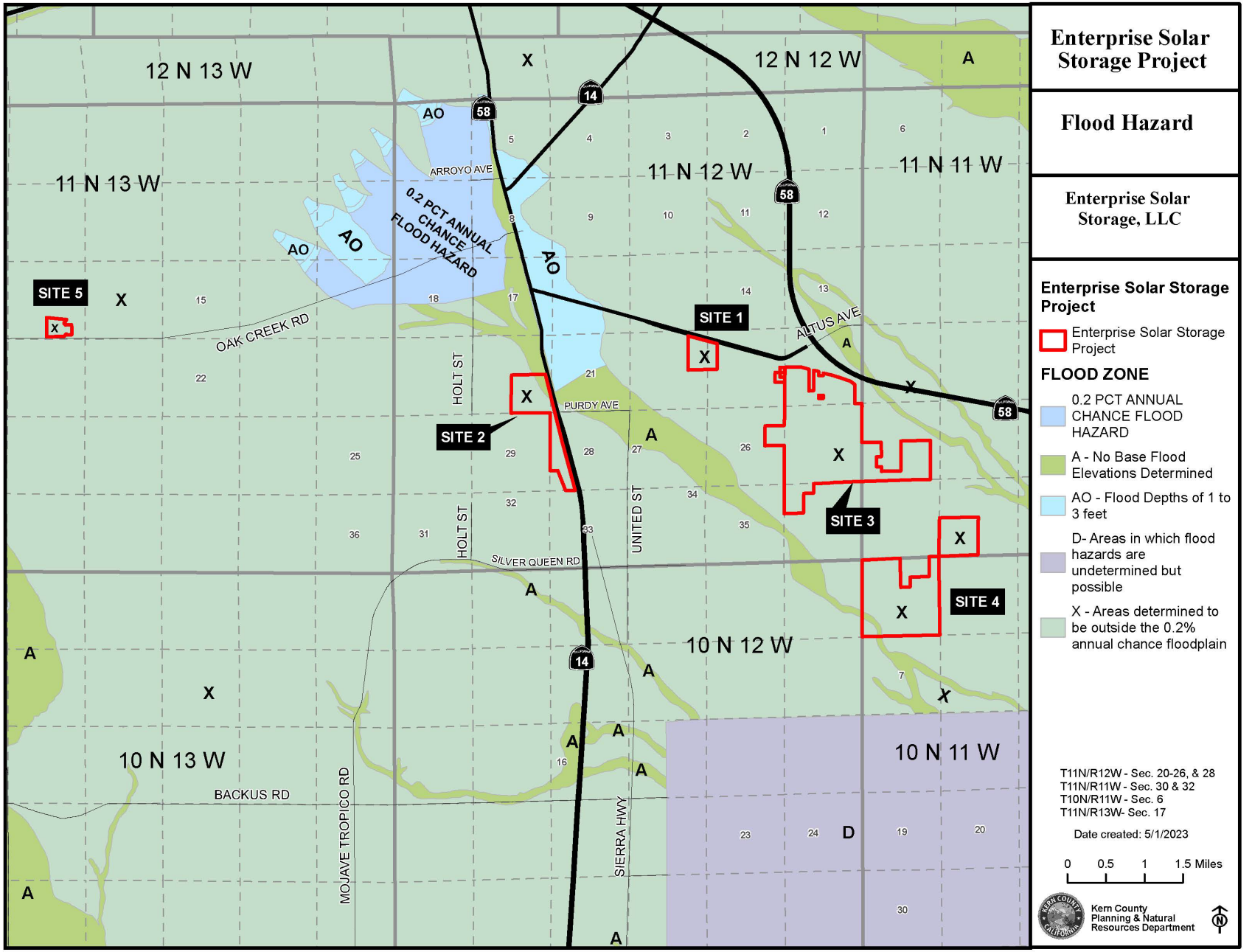


Figure 3-6 Flood Hazard

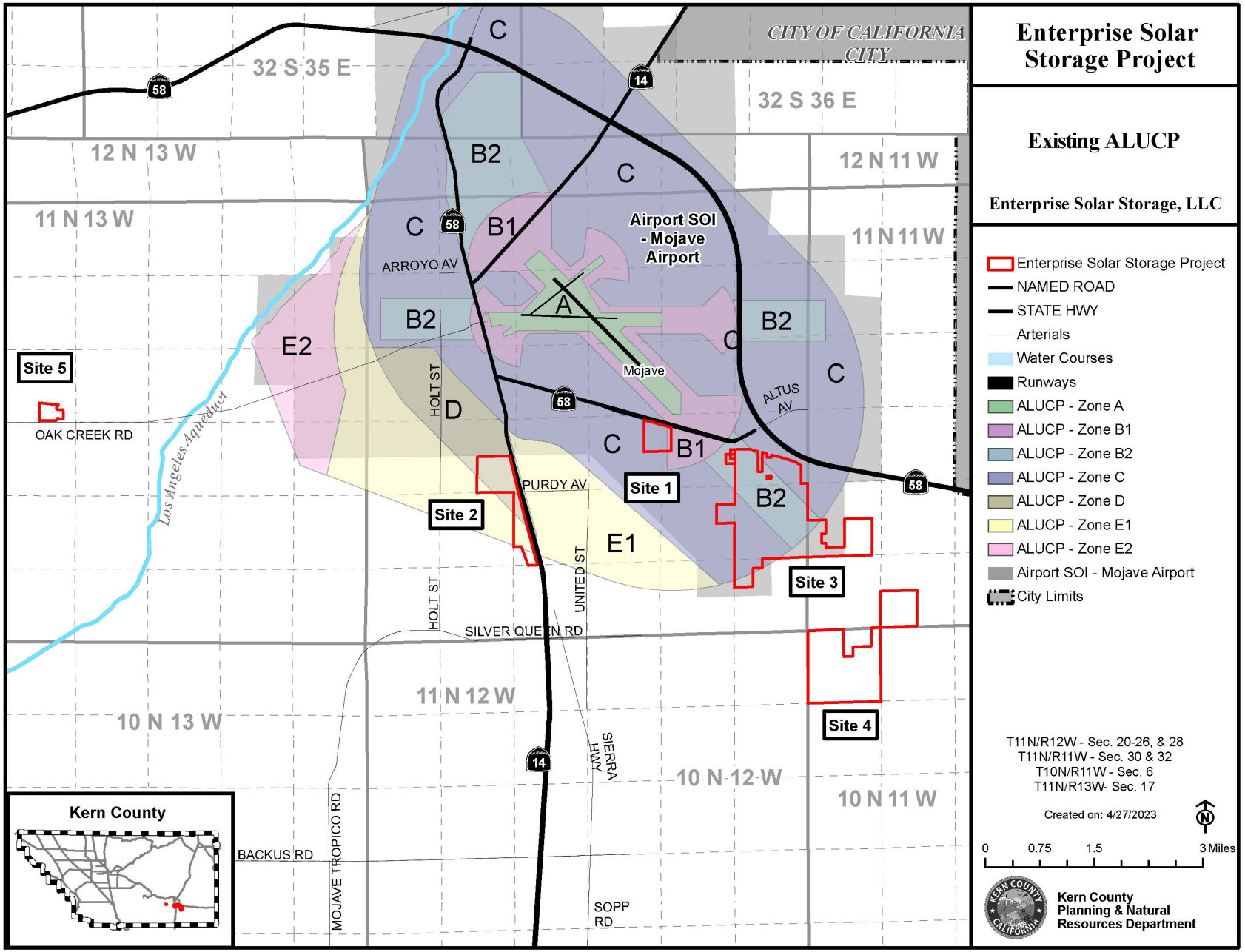


Figure 3-7 Existing ALUCP

3.5 Land Use and Zoning

The proposed Enterprise Solar Storage Project contains approximately 648 acres (approximately 28 percent of the project site) within the Kern County General Plan, approximately 1,231 acres (approximately 53 percent of the project site) within the Mojave Specific Plan (MSP), approximately 322 acres (approximately 14 percent of the project site) within the West Edwards Road Settlement Specific Plan (WERSSP), and approximately 115 acres (approximately 5 percent of the project site) within the Soledad Mountain Elephant Butte Specific Plan. The entire project is subject to the provisions of the Kern County Zoning ordinance. **Table 3-3***, Existing Project Site and Surrounding Properties, Existing Land Use, Existing General Plan Map Code Designations, and Existing Zoning*, identifies the existing land use, the existing general plan land use designation, and the existing zoning for the project site and surrounding areas.

3.5.1 Kern County General Plan, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, and Soledad Mountain Elephant Butte Specific Plan

The project site is located within unincorporated Kern County and the administrative boundaries of the Kern County General Plan, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, and Soledad Mountain Elephant Butte Specific Plan. The existing General and Specific Plan designations are shown in **Figure 3-8a**, *Site 1 (Northern) Existing General and Specific Plan Designations,* **Figure 3-8b**, *Site 2 (Western) Existing General and Specific Plan Designations,* **Figure 3-8c**, *Site 3 (Eastern) Existing General and Specific Plan Designations,* **Figure 3-8d**, *Site 4 (Southern) Existing General and Specific Plan Designations,* **Figure 3-8e**, *Site 5 (Step-Up Substation) Existing General and Specific Plan Designations,* and listed in **Table 3-3,** *Existing Project Site and Surrounding Properties, Existing Land Use, Existing General Plan Map Code Designations, and Existing Zoning*.

TABLE 3-3: EXISTING PROJECT SITE AND SURROUNDING PROPERTIES, EXISTING LAND USE, EXISTING GENERAL PLAN MAP CODE DESIGNATIONS, AND EXISTING ZONING

Count	APN	Zone Map	General/Specific Plan	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	Acres
Site 1 (Northern)								
1	428-140-09	196	Mojave SP	8.5	8.5	A-1	A	17.49
2	428-140-10	196	Mojave SP	8.5	8.5	A-1	A	3.07
3	428-140-11	196	Mojave SP	8.5	8.5	A-1	A	3.45
4	428-140-12	196	Mojave SP	8.5	8.5	A-1	A	2.55
5	428-140-13	196	Mojave SP	8.5	8.5	A-1	A	7.66
6	428-140-15	196	Mojave SP	8.5	8.5	A-1	A	15.93
7	428-140-16	196	Mojave SP	8.5	8.5	A-1	A	15.15
8	428-152-01	196	Mojave SP	8.5	8.5	A-1	A	14.06
9	428-152-02	196	Mojave SP	8.5	8.5	A-1	A	13.58
							Site 1 (Northern) Acreage: 92.94	
Site 2 (Western)								
10	427-020-27	196	Mojave SP	6.3	6.3	CH PD	A	7.12
11	427-030-07	196	Soledad Mtn – Elephant Butte SP	LDR	LDR	A-1	A	1.59

Count	APN	Zone Map	General/Specific Plan	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	Acres
12	427-030-35	196	Soledad Mtn – Elephant Butte SP	LDR	LDR	A-1	A	75.59
13	427-030-36	196	Soledad Mtn – Elephant Butte SP	LDR	LDR	A-1	A	37.35
14	427-100-22	196-20	Mojave SP	3.1, 3.1/2.5, 5.2, 5.2/2.5, 5.3, 6.2, 6.2/2.5, 6.3, 6.3/2.5	8.5 and 2.5	R-2 PD, C-2 PD FPS, OS FPS,OS, R-2 PD FPS, CH PD FPS, CO PD	A PD FPS	51.35
15	427-100-23	196-20	Mojave SP	3.1, 5.2, 5.3, 5.4	8.5	R-1	A	34.7
16	427-100-24	196-20	Mojave SP	5.3, 5.4, 6.3/2.5	8.5 and 2.5	R-1, E (1/4), R-2 PD, R-2 PD FPS, R-1 FPS	A PD FPS	71.28
							Site 2 (Western) Acreage:	**278.98**
				Site 3 (Eastern)				
17	235-202-02	195	KCGP	8.5	8.5	A-1	A	40
18	235-202-07	195	KCGP	8.5	8.5	A-1	A	10
19	235-202-08	195	KCGP	8.5	8.5	A-1	A	10
20	235-202-09	195	KCGP	8.5	8.5	A-1	A	10
21	235-202-10	195	KCGP	8.5	8.5	A-1	A	10
22	235-202-11	195	KCGP	8.5	8.5	A-1	A	10
23	235-202-12	195	KCGP	8.5	8.5	A-1	A	10
24	235-202-13	195	KCGP	8.5	8.5	A-1	A	10
25	235-202-14	195	KCGP	8.5	8.5	A-1	A	10
26	235-204-01	195	KCGP	8.5	8.5	A-1	A	10.14
27	235-204-07	195	KCGP	8.5	8.5	A-1	A	5.07
28	235-204-08	195	KCGP	8.5	8.5	A-1	A	5.07
29	235-204-09	195	KCGP	8.5	8.5	A-1	A	5.07
30	235-204-10	195	KCGP	8.5	8.5	A-1	A	5.07
31	235-204-17	195	KCGP	8.5	8.5	A-1	A	2.61
32	235-204-18	195	KCGP	8.5	8.5	A-1	A	2.61
33	235-204-19	195	KCGP	8.5	8.5	A-1	A	2.61
34	235-204-20	195	KCGP	8.5	8.5	A-1	A	10.15
35	235-204-21	195	KCGP	8.5	8.5	A-1	A	2.61
36	235-204-31	195	KCGP	8.5	8.5	A-1	A	2.61
37	235-204-32	195	KCGP	8.5	8.5	A-1	A	2.61
38	235-204-33	195	KCGP	8.5	8.5	A-1	A	5.08
39	235-204-34	195	KCGP	8.5	8.5	A-1	A	5.08
40	235-204-35	195	KCGP	8.5	8.5	A-1	A	2.54
41	235-204-36	195	KCGP	8.5	8.5	A-1	A	2.54
42	235-204-37	195	KCGP	8.5	8.5	A-1	A	2.54
43	235-204-38	195	KCGP	8.5	8.5	A-1	A	2.53
44	235-204-39	195	KCGP	8.5	8.5	A-1	A	5
45	235-204-40	195	KCGP	8.5	8.5	A-1	A	2.5
46	235-204-41	195	KCGP	8.5	8.5	A-1	A	2.5

Count	APN	Zone Map	General/Specific Plan	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	Acres
47	235-204-42	195	KCGP	8.5	8.5	A-1	A	10
48	428-030-06 (portion of)	196	Mojave SP	8.5	8.5	A	A	40
49	428-161-01	196	Mojave SP	8.5	8.5	A-1 H	A H	40
50	428-161-02	196	Mojave SP	8.5	8.5	A-1 H	A H	20
51	428-161-03	196	Mojave SP	8.5	8.5	A-1 H	A H	19.76
52	428-161-04	196	Mojave SP	8.5	8.5	A-1 H	A H	9.06
53	428-161-07	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
54	428-161-08	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
55	428-161-09	196	Mojave SP	8.5	8.5	A-1 H	A H	4.4
56	428-161-10	196	Mojave SP	8.5	8.5	A-1 H	A H	7.89
57	428-161-11	196	Mojave SP	8.5	8.5	A-1 H	A H	17.42
58	428-161-14	196	Mojave SP	8.5	8.5	A-1 H	A H	5.2
59	428-161-16	196	Mojave SP	8.5	8.5	A-1 H	A H	3.26
60	428-161-20	196	Mojave SP	8.5	8.5	A-1 H	A H	5.1
61	428-162-11	196	Mojave SP	8.5	8.5	A-1	A H	5.04
62	428-162-12	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	21.54
63	428-162-13	196	Mojave SP	8.5	8.5	A-1 H	A H	2.55
64	428-162-14	196	Mojave SP	8.5	8.5	A-1 H	A H	2.55
65	428-162-15	196	Mojave SP	8.5	8.5	A-1 H	A H	2.55
66	428-162-16	196	Mojave SP	8.5	8.5	A-1 H	A H	2.55
67	428-162-17	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	4.88
68	428-162-18	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	3.6
69	428-162-19	196	Mojave SP	8.5	8.5	A-1	A	2.5
70	428-162-20	196	Mojave SP	8.5	8.5	A-1	A	2.51
71	428-162-21	196	Mojave SP	8.5	8.5	A-1	A	2.5
72	428-162-22	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	2.51
73	428-162-23	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	7.35
74	428-162-24	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	3.11
75	428-162-27	196	Mojave SP	8.5	8.5	A-1 H	A H	20
76	428-171-01	196	Mojave SP	8.5	8.5	A-1 H	A H	10
77	428-171-02	196	Mojave SP	8.5	8.5	A-1 H	A H	10
78	428-171-03	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	20
79	428-171-04	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	15
80	428-171-05	196	Mojave SP	8.5	8.5	A-1 H	A H	5
81	428-171-06	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
82	428-171-07	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
83	428-171-08	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
84	428-171-10	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
85	428-171-11	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
86	428-171-12	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
87	428-171-13	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
88	428-171-14	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
89	428-171-16	196	Mojave SP	8.5	8.5	A-1	A	5
90	428-171-17	196	Mojave SP	8.5	8.5	A-1	A	2.5
91	428-171-18	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	2.5
92	428-171-19	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
93	428-171-20	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
94	428-171-21	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
95	428-171-22	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
96	428-171-23	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	10
97	428-171-24	196	Mojave SP	8.5	8.5	A-1	A	2.5
98	428-171-25	196	Mojave SP	8.5	8.5	A-1	A	2.5

Count	APN	Zone Map	General/Specific Plan	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	Acres
99	428-171-26	196	Mojave SP	8.5	8.5	A-1	A	5
100	428-171-27	196	Mojave SP	8.5	8.5	A-1	A	10
101	428-171-28	196	Mojave SP	8.5	8.5	A-1	A	10
102	428-171-29	196	Mojave SP	8.5	8.5	A-1	A	2.5
103	428-171-30	196	Mojave SP	8.5	8.5	A-1	A	2.5
104	428-171-31	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	2.5
105	428-171-32	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	2.5
106	428-171-33	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	5
107	428-171-34	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
108	428-171-35	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
109	428-172-01	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	20
110	428-172-02	196	Mojave SP	8.5	8.5	A-1 H	A H	20
111	428-172-03	196	Mojave SP	8.5	8.5	A-1 H	A H	20
112	428-172-04	196	Mojave SP	8.5	8.5	A-1 H	A H	5
113	428-172-05	196	Mojave SP	8.5	8.5	A-1 H	A H	15
114	428-172-06	196	Mojave SP	8.5	8.5	A-1 H	A H	20
115	428-172-07	196	Mojave SP	8.5	8.5	A-1 H	A H	15
116	428-172-08	196	Mojave SP	8.5	8.5	A-1 H	A H	5
117	428-172-10	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	160
118	428-172-11	196	Mojave SP	8.5	8.5	A-1 H	A H	20
119	428-172-12	196	Mojave SP	8.5	8.5	A-1 H	A H	10
120	428-172-13	196	Mojave SP	8.5	8.5	A-1 H	A H	10
121	428-173-01	196	Mojave SP	8.5	8.5	A-1, A-1 H	A H	120
122	428-173-02	196	Mojave SP	8.5	8.5	A-1	A	2.56
123	428-173-03	196	Mojave SP	8.5	8.5	A-1	A	2.56
124	428-173-04	196	Mojave SP	8.5	8.5	A-1	A	2.5
125	428-173-05	196	Mojave SP	8.5	8.5	A-1	A	2.56
126	428-173-06	196	Mojave SP	8.5	8.5	A-1	A	10
127	428-173-07	196	Mojave SP	8.5	8.5	A-1	A	2.56
128	428-173-08	196	Mojave SP	8.5	8.5	A-1	A	2.56
129	428-173-09	196	Mojave SP	8.5	8.5	A-1	A	2.56
130	428-173-10	196	Mojave SP	8.5	8.5	A-1	A	2.56
131	428-173-11	196	Mojave SP	8.5	8.5	A-1	A	10
132	428-174-25	196	Mojave SP	8.5	8.5	A-1	A	10
133	428-174-33	196	Mojave SP	8.5	8.5	A-1	A	20
134	428-174-34	196	Mojave SP	8.5	8.5	A-1	A	10
135	428-174-35	196	Mojave SP	8.5	8.5	A-1	A	10
136	428-174-36	196	Mojave SP	8.5	8.5	A-1	A	20
							Site 3 (Eastern) Acreage: 1,189.79	
Temporary Laydown Yards								
137	428-191-23	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
138	428-191-25	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
139	428-191-26	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
140	428-191-27	196	Mojave SP	8.5	8.5	A-1 H	A H	2.5
							Temporary Laydown Yards Acreage: 10	
Site 4 (Southern)								
141	235-132-13	195	KCGP	8.5	8.5	A-1	A	157.27
142	244-234-02	212	KCGP	8.5, 2.4	8.5, 2.4	A-1	A	161.46
143	244-234-08	212	KCGP/Western Edwards Road Settlement SP	1.1, 8.5	8.5	A-1	A	160
144	244-234-17	212	KCGP	8.5	8.5	A-1	A	10
145	244-234-18	212	KCGP	8.5	8.5	A-1	A	10

Count	APN	Zone Map	General/Specific Plan	Existing Map Code Designation	Proposed Map Code Designation	Existing Zoning	Proposed Zoning	Acres
146	244-234-28	212	KCGP	8.5	8.5	A-1	A	5.05
147	244-234-29	212	KCGP	8.5	8.5	A-1	A	5.05
148	244-234-30	212	KCGP	8.5	8.5	A-1	A	10.02
149	244-234-32	212	KCGP	8.5	8.5	A-1	A	20
150	244-234-33	212	KCGP	8.5	8.5	A-1	A	20
151	244-234-35	212	KCGP	8.5	8.5	A-1	A	10.02
152	244-234-10*	212	KCGP/Western Edwards Road Settlement SP	1.1	8.5	A-1	A	161.83
							Site 4 (Southern) Acreage: 730.7	
			Site 5 (Step-up Substation)					
153	237-031-04	197	KCGP	8.4	8.4	A WE	A WE	23
							Site 5 (Step-up Substation) Acreage: 23	

Key:
APN = Assessor's Parcel Number; KCGP = Kern County General Plan; SP = Specific Plan
* SCE transmission line APN

Kern County General Plan (KCGP) and Specific Plan (SP)Map Code Designation:
1.1 (State and Federal Land)
2.4 (Steep Slope)
2.5 (Flood Hazard)
3.1 (Parks and Recreation Areas)
5.2 (Residential - Maximum 16 Units/Net Acre)
5.3 (Residential - Maximum 10 Units/Net Acre)
6.2 (General Commercial)
6.3 (Highway Commercial)
8.4 (Mineral and Petroleum, Min 5 Acre Parcel Size)
8.5 (Resource Management, Min. 20 Acre Parcel Size)

Soledad Mtn. – Elephant Butte Specific Plan Designation:
LDR = Low Density Residential

Kern County Zoning District:
A (Exclusive Agriculture); A-1 (Limited Agriculture); A-1 H (Limited Agriculture, Airport Approach Height Combining); A H (Exclusive Agriculture, Airport Approach Height Combining); A-1 FPS (Limited Agriculture, Floodplain Secondary); C-2 PD FPS (General Commercial, Precise Development Combining, Floodplain Secondary Combining); CH PD (Highway Commercial, Precise Development Combining);CH PD FPS (Highway Commercial, Precise Development Combining, Floodplain Secondary Combining); CO PD (Commercial Office, Precise Development Combining); OS (Open Space); OS FPS (Open Space, Floodplain Secondary Combining); R-1 (Low-Density Residential District); R-2 PD (Medium-Density Residential District, Precise Development Combining); R-2 PD FPS (Medium-Density Residential District, Precise Development Combining, Floodplain Secondary Combining); E(1/4) (Estate District, Min. one-quarter acre); and, R-1 FPS (Low-Density Residential District, Floodplain Secondary Combining).

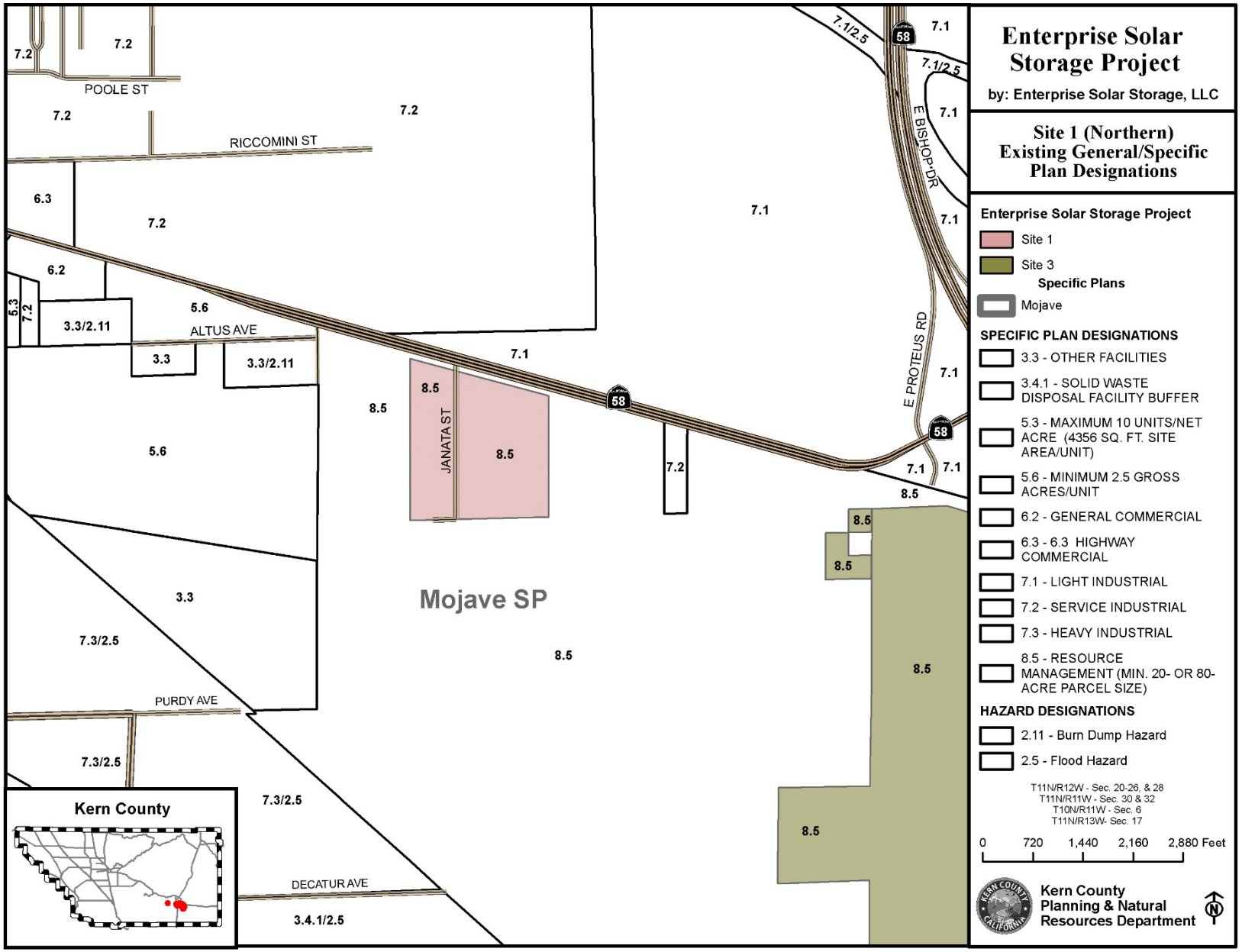


Figure 3-8a Site 1 (Northern) Existing General and Specific Plan Designations

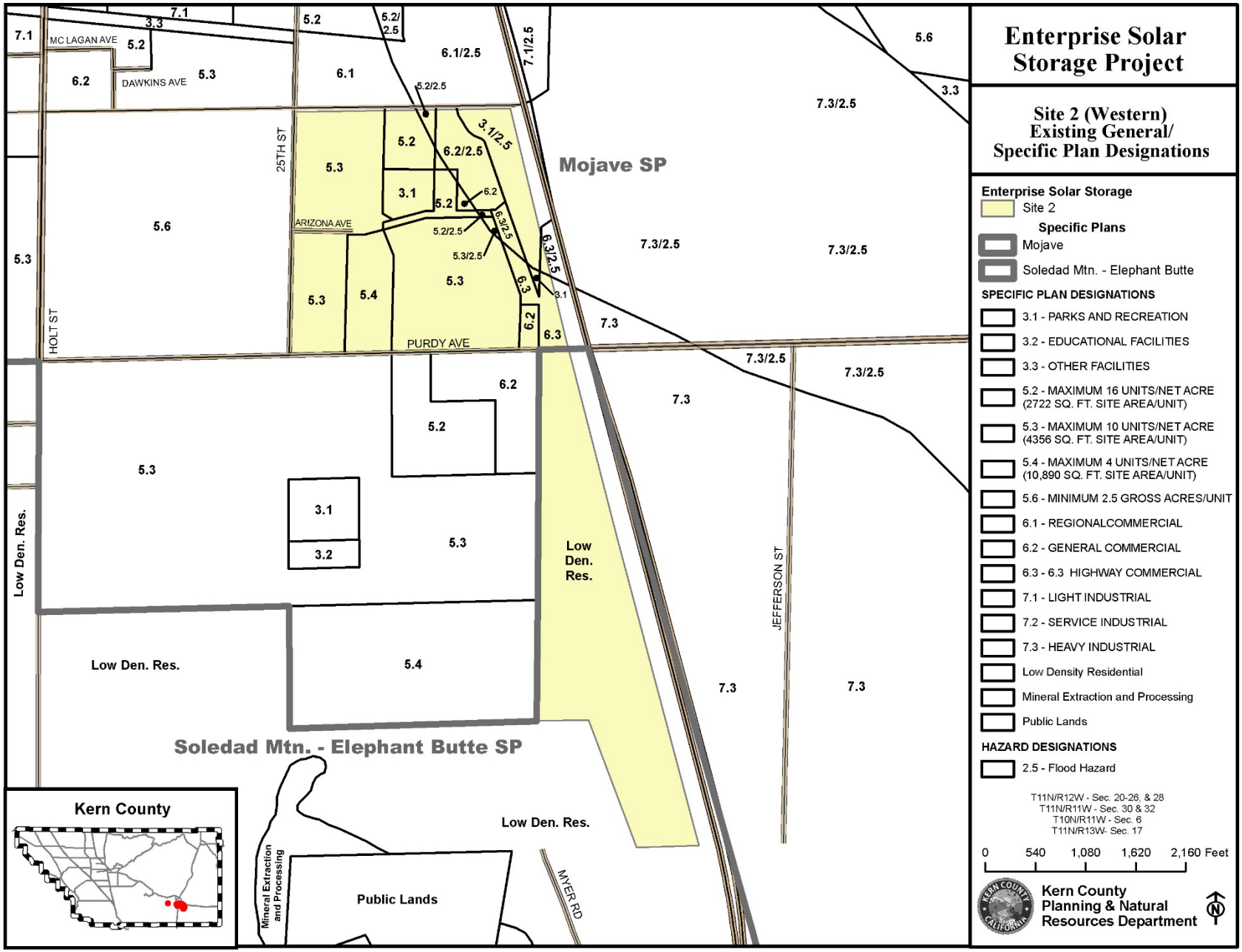


Figure 3-8b Site 2 (Western) Existing General and Specific Plan Designations

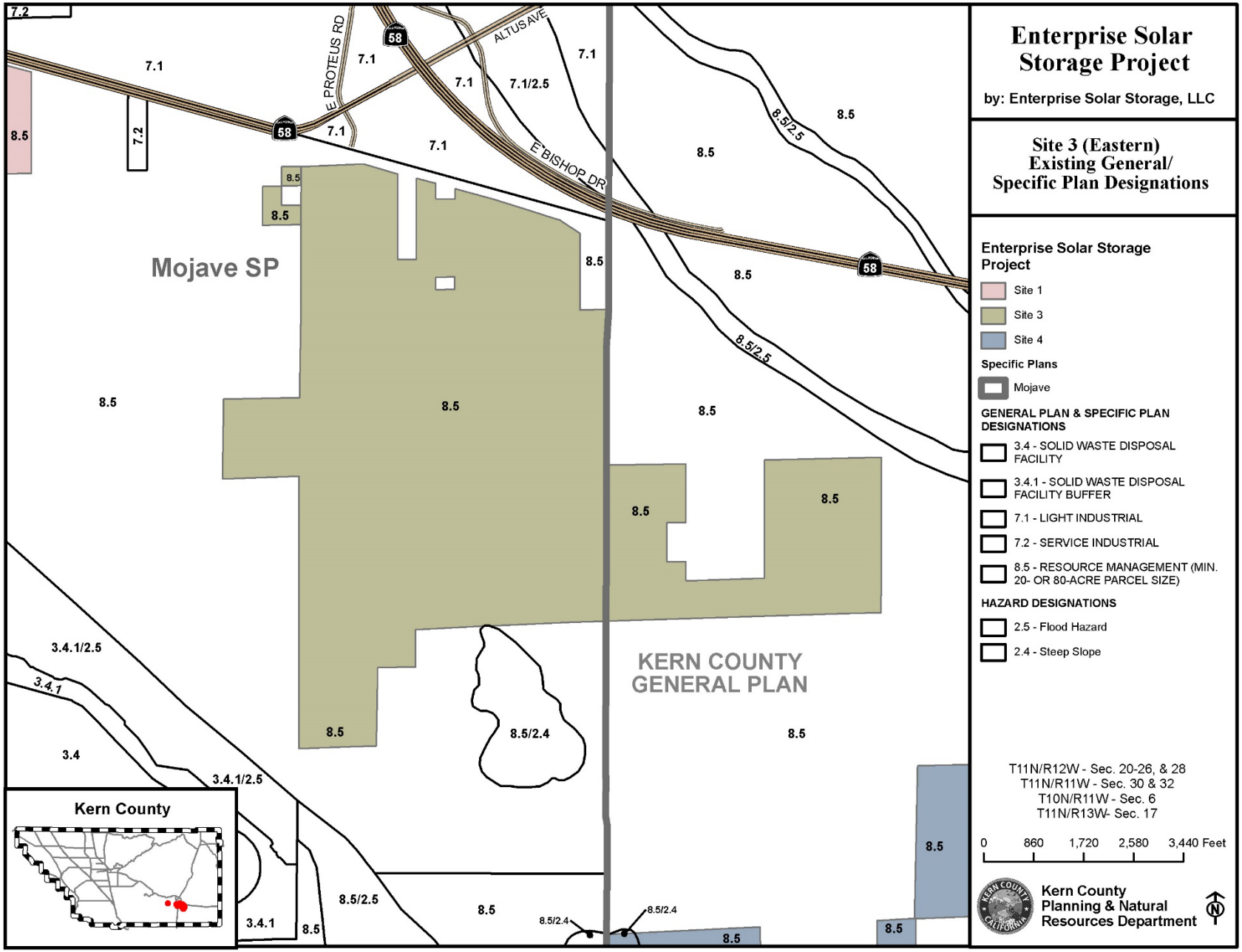


Figure 3-8c Site 3 (Eastern) Existing General and Specific Plan Designations

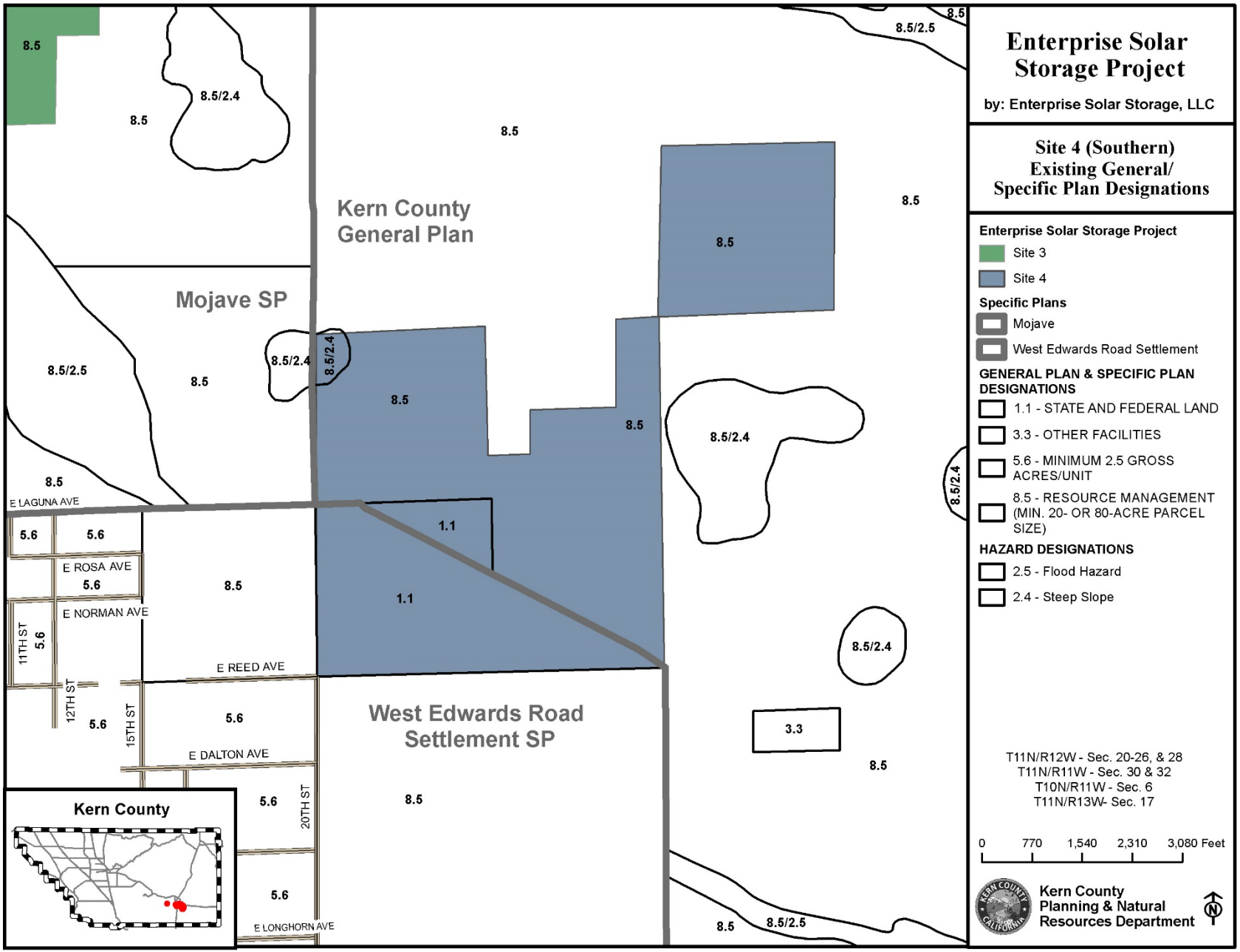


Figure 3-8d Site 4 (Southern) Existing General and Specific Plan Designations

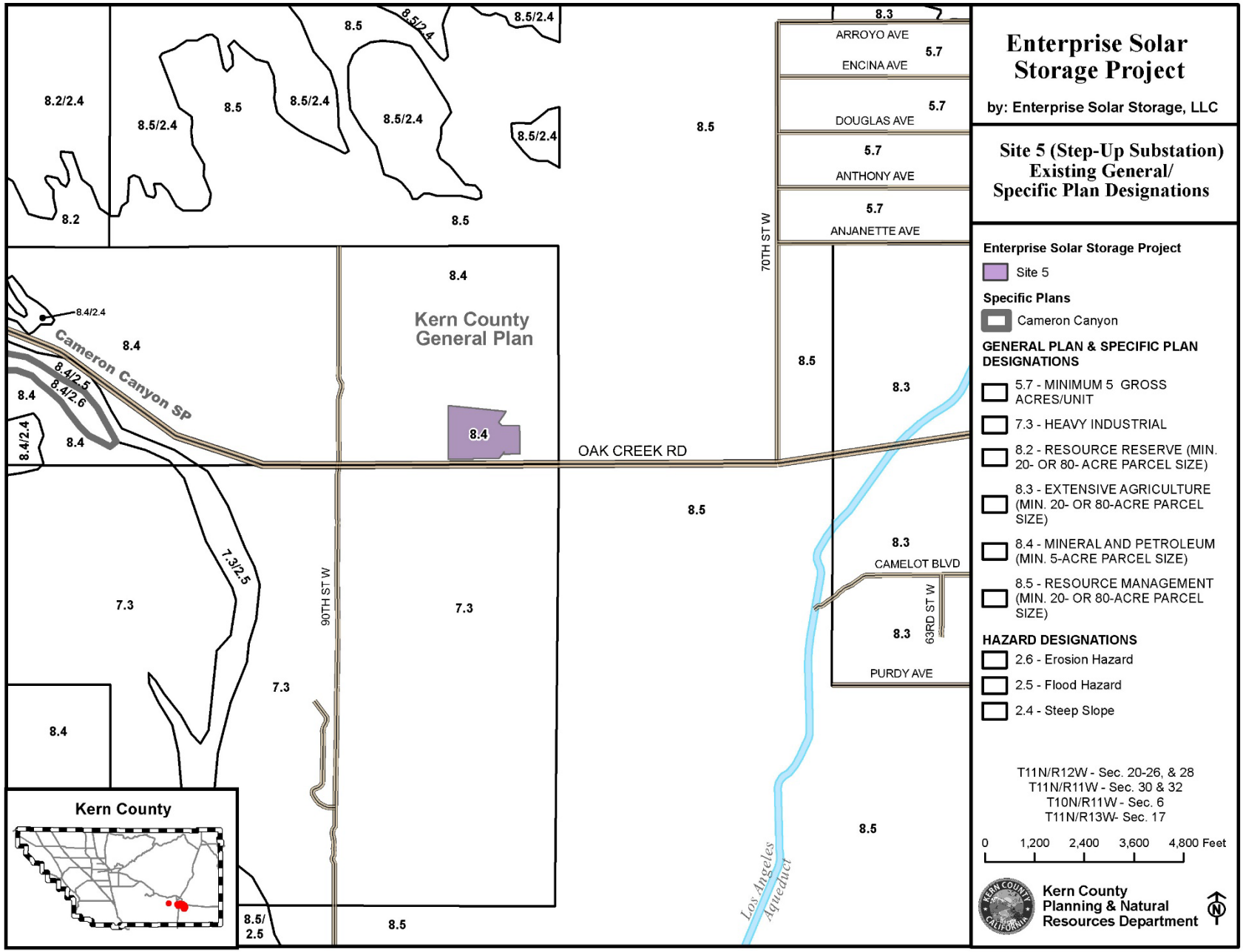


Figure 3-8e Site 5 (Step-Up Substation) Existing General and Specific Plan Designations

3.5.2 Kern County Zoning Ordinance

The proposed project is also subject to the provisions of the Kern County Zoning Ordinance. A majority of the project site is zoned A (Exclusive Agriculture) and A-1 (Limited Agriculture), with many parcels also having a Floodplain Secondary Combining, Precise Development Combining, and/or Airport Approach Height Combining District Overlay. Additional zoning of the proposed project includes the Commercial (General, Highway, and Office), Estate 0.25 acres, Residential (Low-Density and Medium Density), and Open Space Districts. The project site would be rezoned to A or A H (Exclusive Agriculture, Airport Approach Height Combining) with the exception of those portions that are already in the A Zone District. According to the Kern County Zoning Ordinance Section 19.12.030 G, solar energy electrical generators, when not accessory to a permitted or conditionally permitted use, are permitted within the A Zone District subject to the approval of a CUP. The existing and proposed zoning designations are as specified in **Table 3-1B,** *Project Assessor Parcel Numbers, Corresponding Map Codes, Existing and Proposed Zoning, and Acreage,* and depicted in **Figure 3-9a**, *Site 1 (Northern) Existing Zoning Classifications,* **Figure 3-9b**, *Site 2 (Western) Existing Zoning Classifications,* **Figure 3-9c**, *Site 3 (Eastern) Existing Zoning Classifications,* **Figure 3-9d**, *Site 4 (Southern) Existing Zoning Classifications,* **Figure 3-9e**, *Site 5 (Step-Up Substation) Existing Zoning Classifications,* and **Figure 3-10a**, *Site 1 (Northern) Proposed Zoning Classifications,* **Figure 3-10b**, *Site 2 (Western) Proposed Zoning Classifications,* **Figure 3-10c**, *Site 3 (Eastern) Proposed Zoning Classifications,* and **Figure 3-10d**, *Site 4 (Southern) Proposed Zoning Classifications*. No changes to zoning classification are included for Site 5 (Step-Up Substation).

The project is sited directly north of the Edwards AFB and is within the Joint Service Restricted R-2508 Complex. This restricted airspace allows flying missions at the Edwards AFB and China Lake Naval Weapons Station to go beyond the boundaries of the installations and fly at lower elevations within the complex. Also, the Kern County Zoning Ordinance, Section 19.08.160, describes U.S. military review requirements for proposed structures occurring within the vicinity of a military flight zone to ensure that projects within Kern County do not conflict with military flight test pathways.

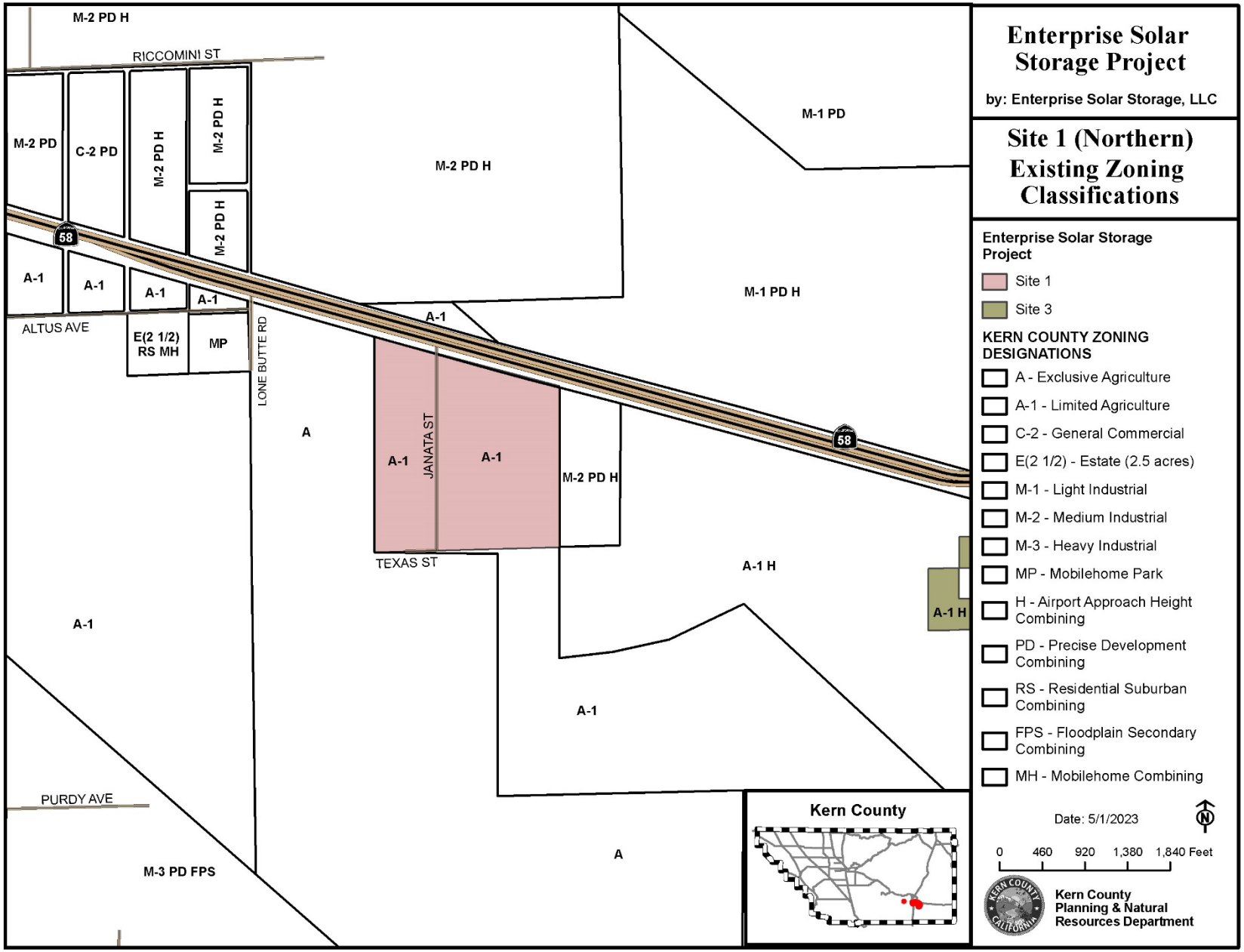


Figure 3-9a Site 1 (Northern) Existing Zoning Classifications

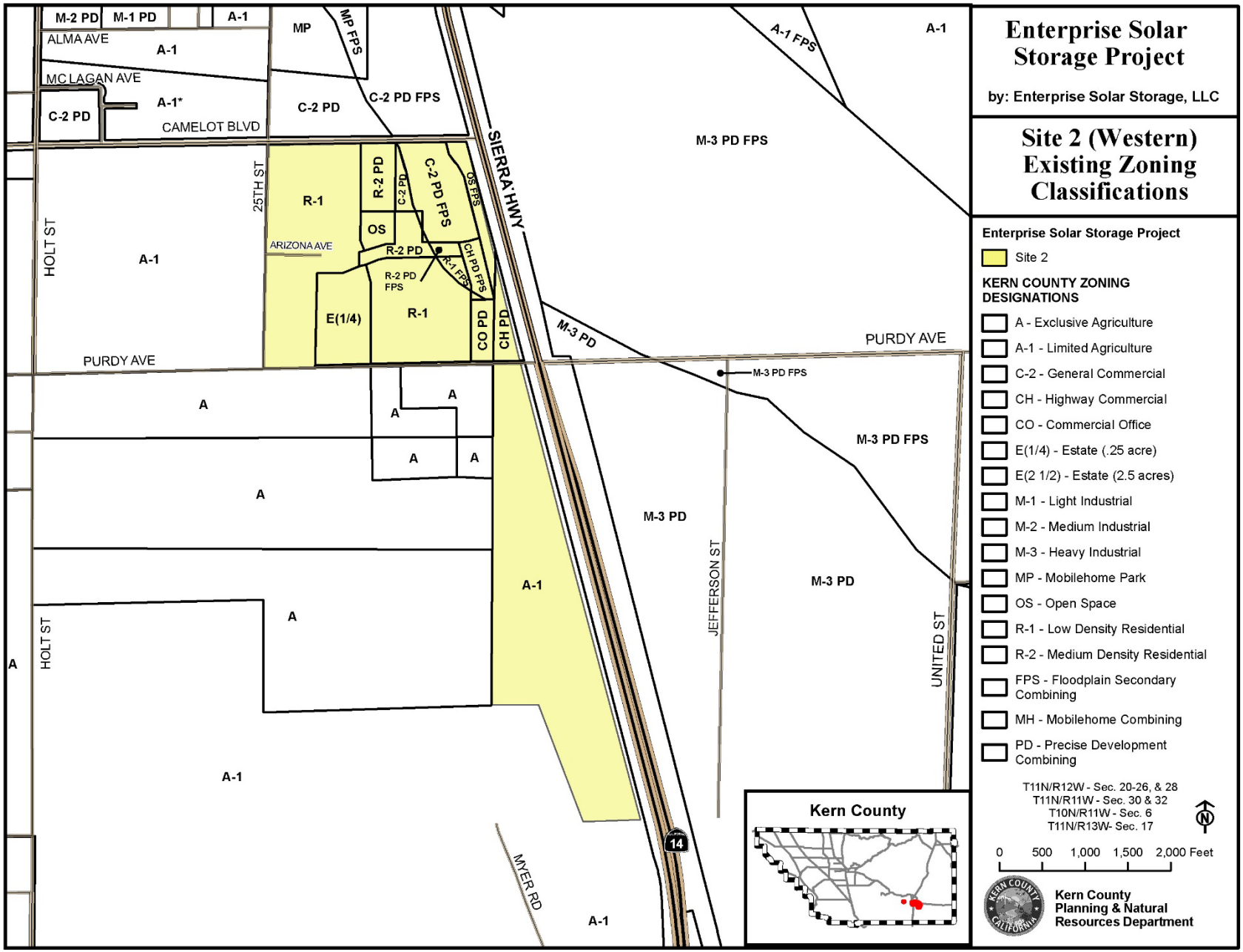


Figure 3-9b Site 2 (Western) Existing Zoning Classifications

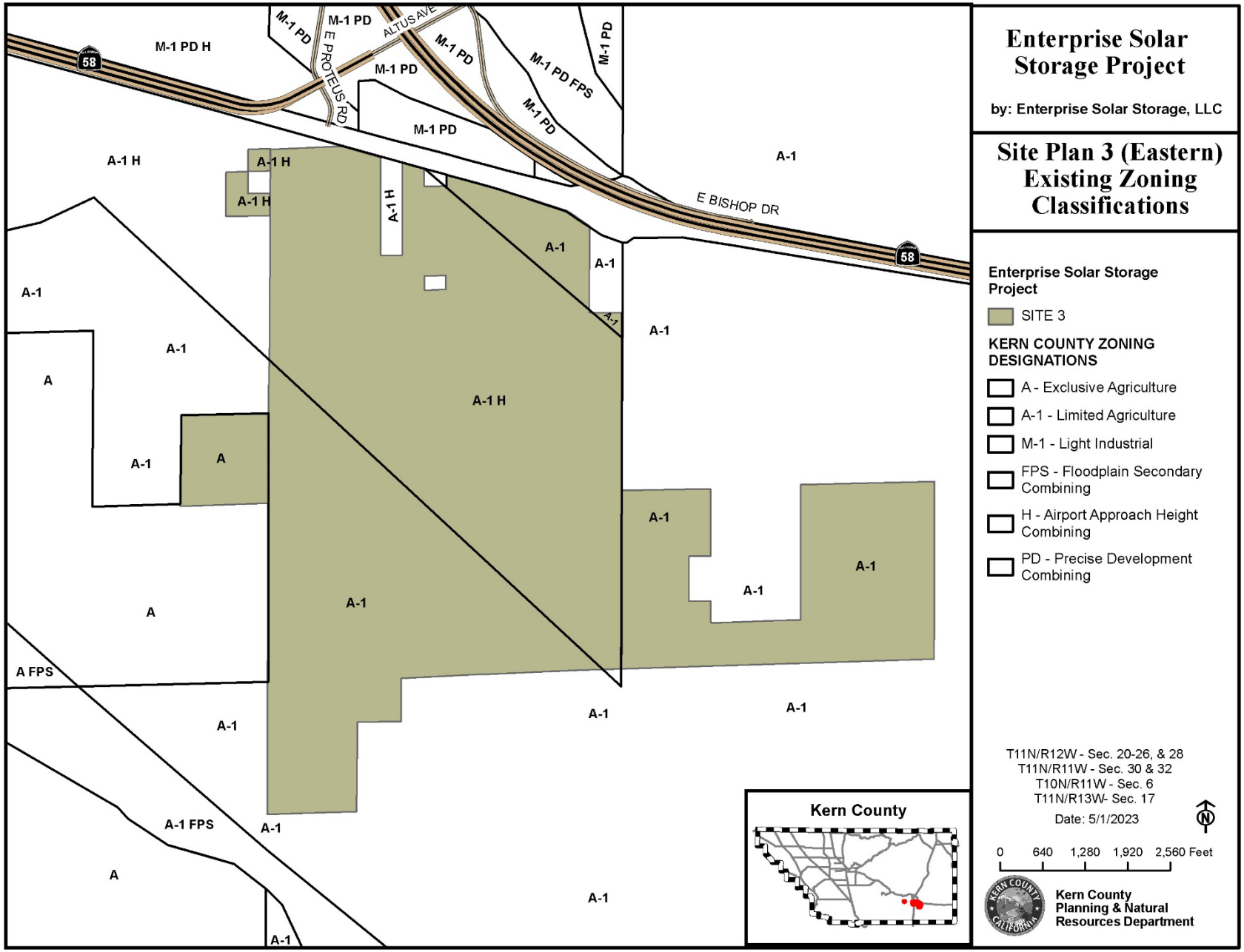


Figure 3-9c Site 3 (Eastern) Existing Zoning Classifications

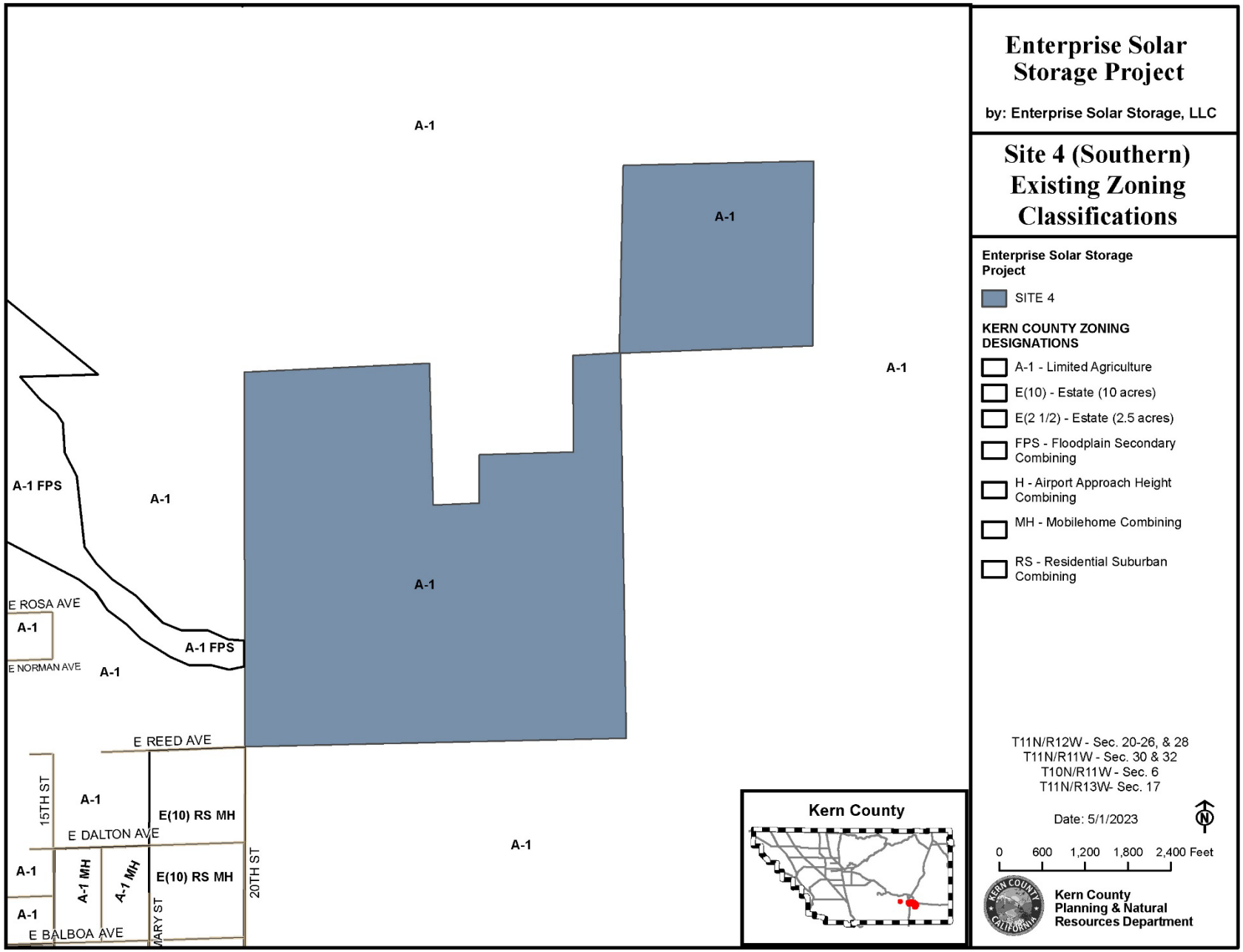


Figure 3-9d Site 4 (Southern) Existing Zoning Classifications

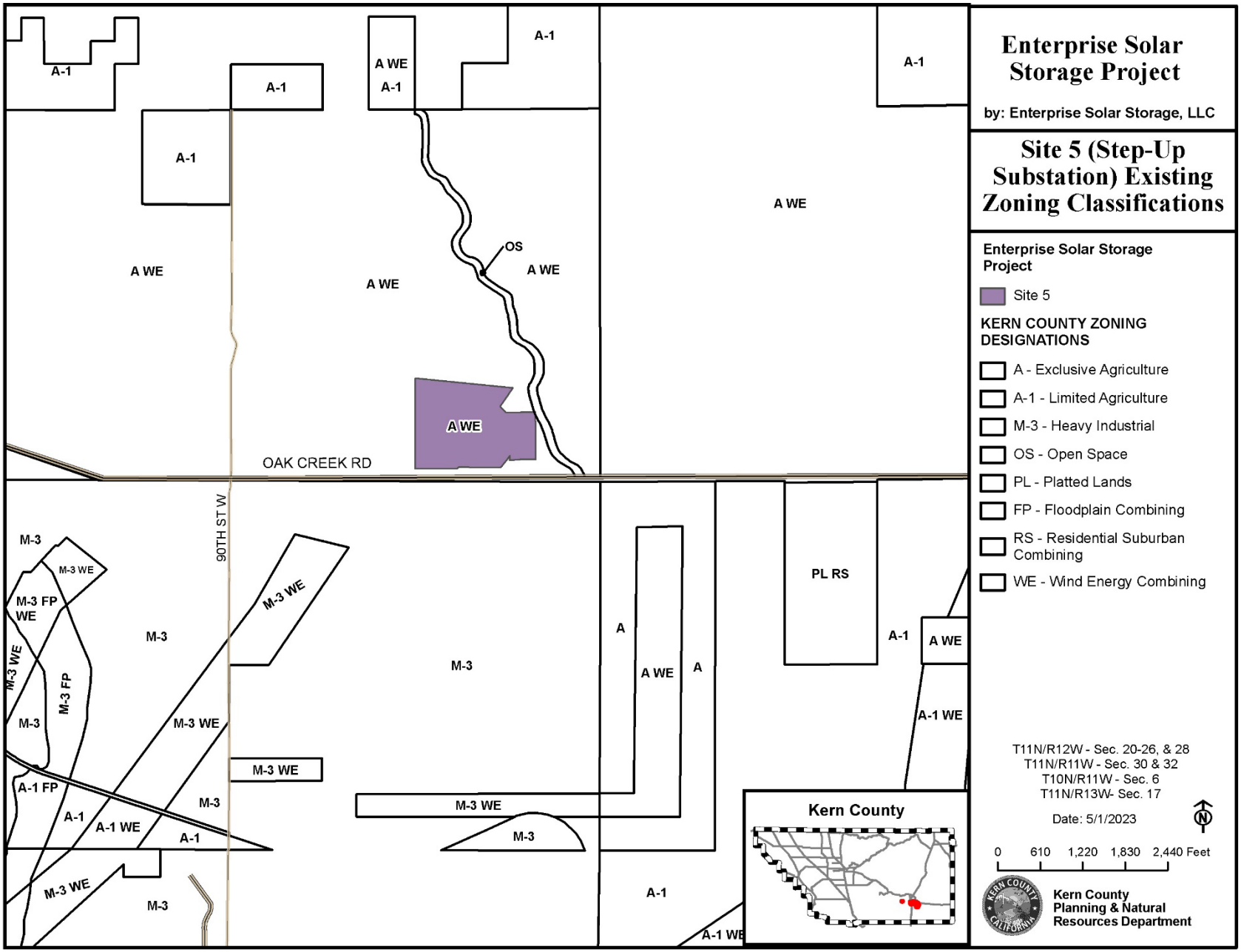


Figure 3-9e Site 5 (Step-Up Substation) Existing Zoning Classifications

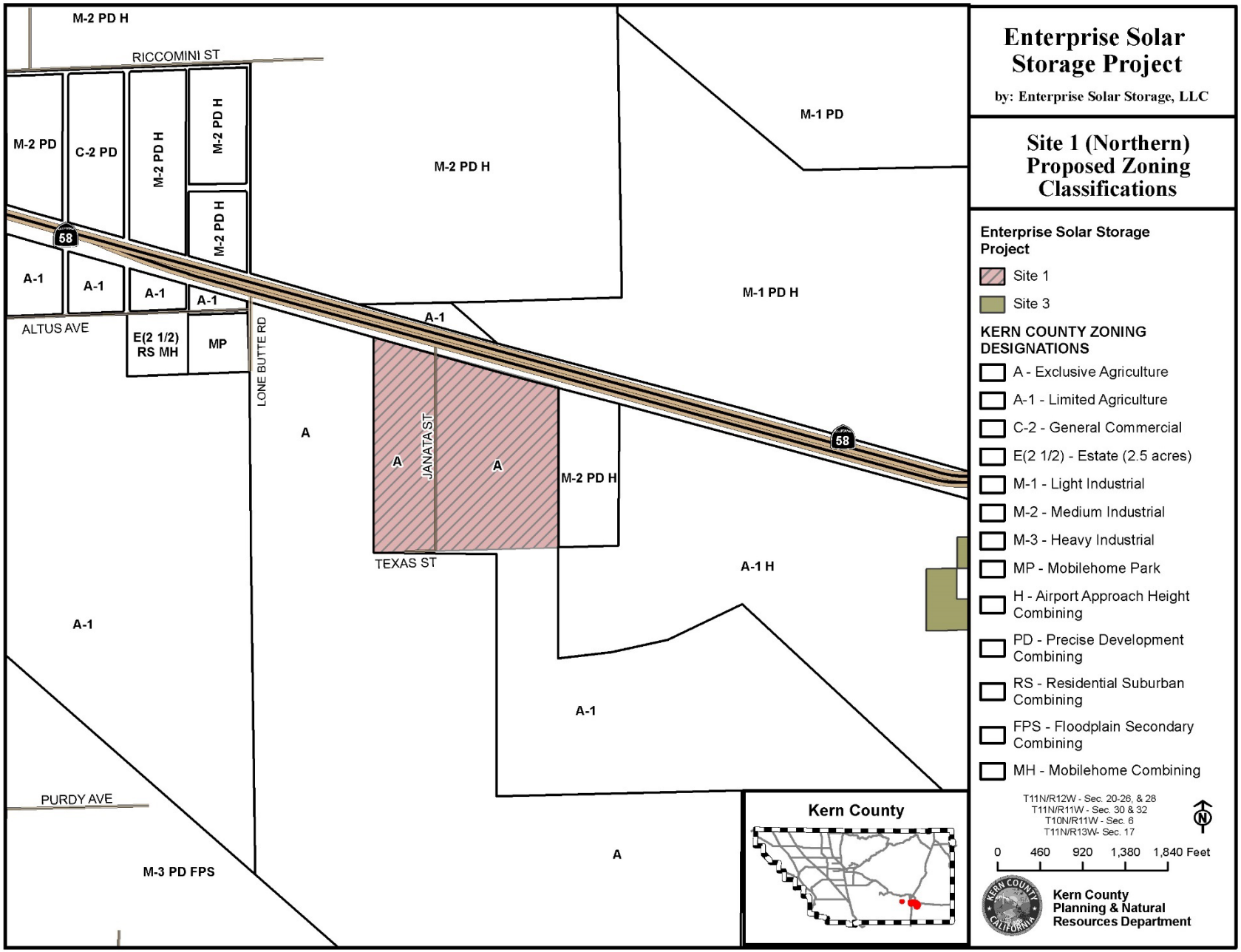


Figure 3-10a Site 1 (Northern) Proposed Zoning Classifications

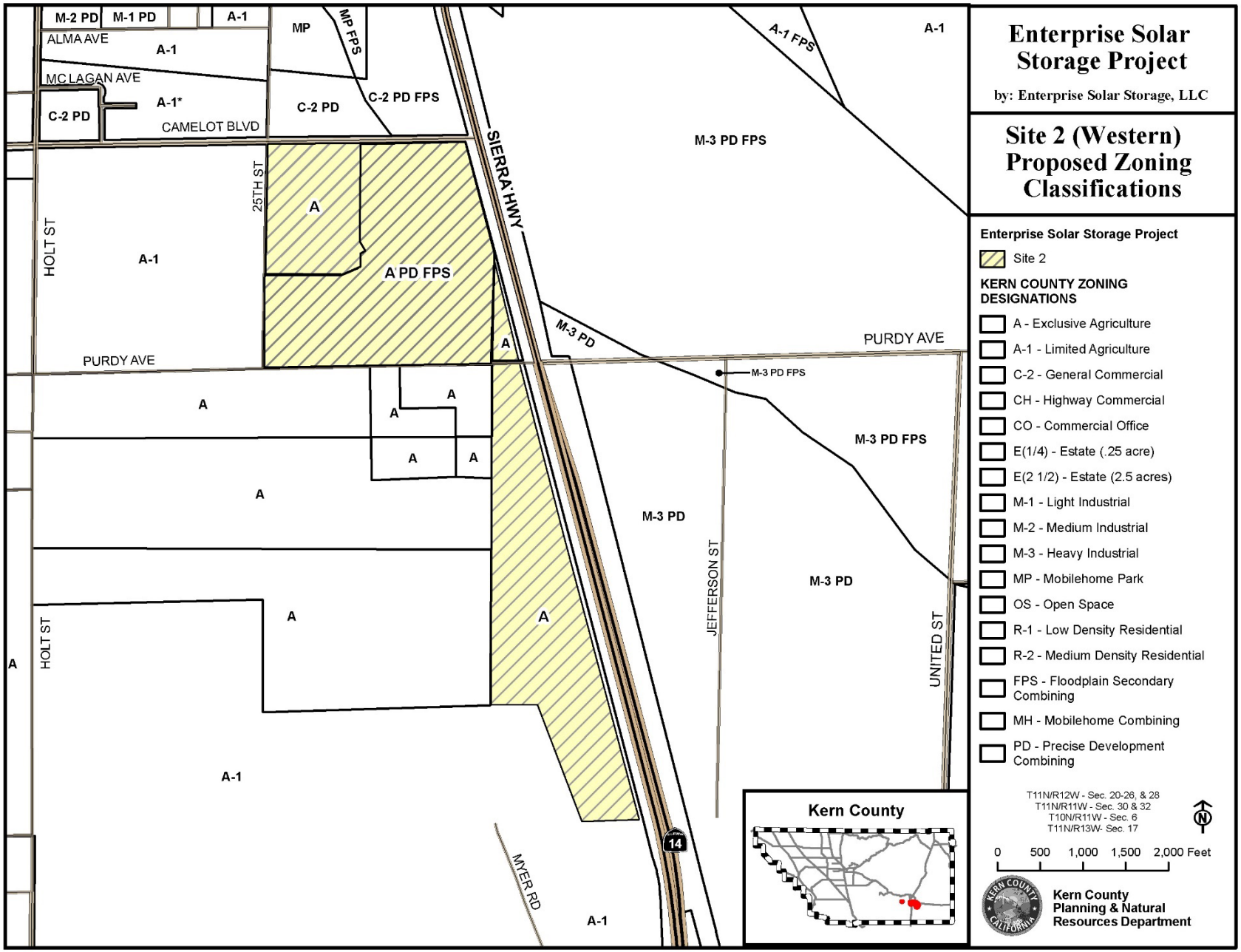


Figure 3-10b Site 2 (Western) Proposed Zoning Classifications

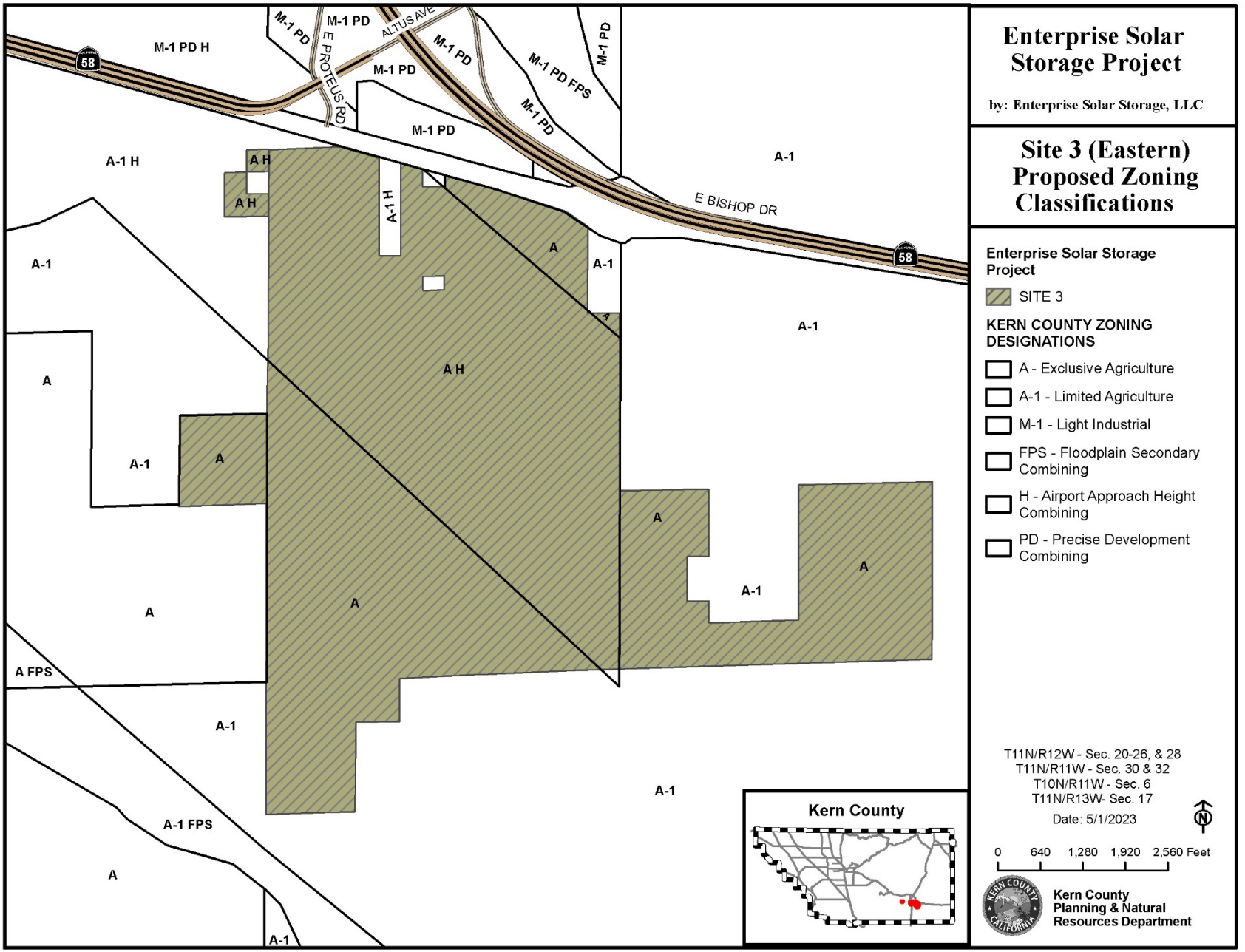


Figure 3-10c Site 3 (Eastern) Proposed Zoning Classifications

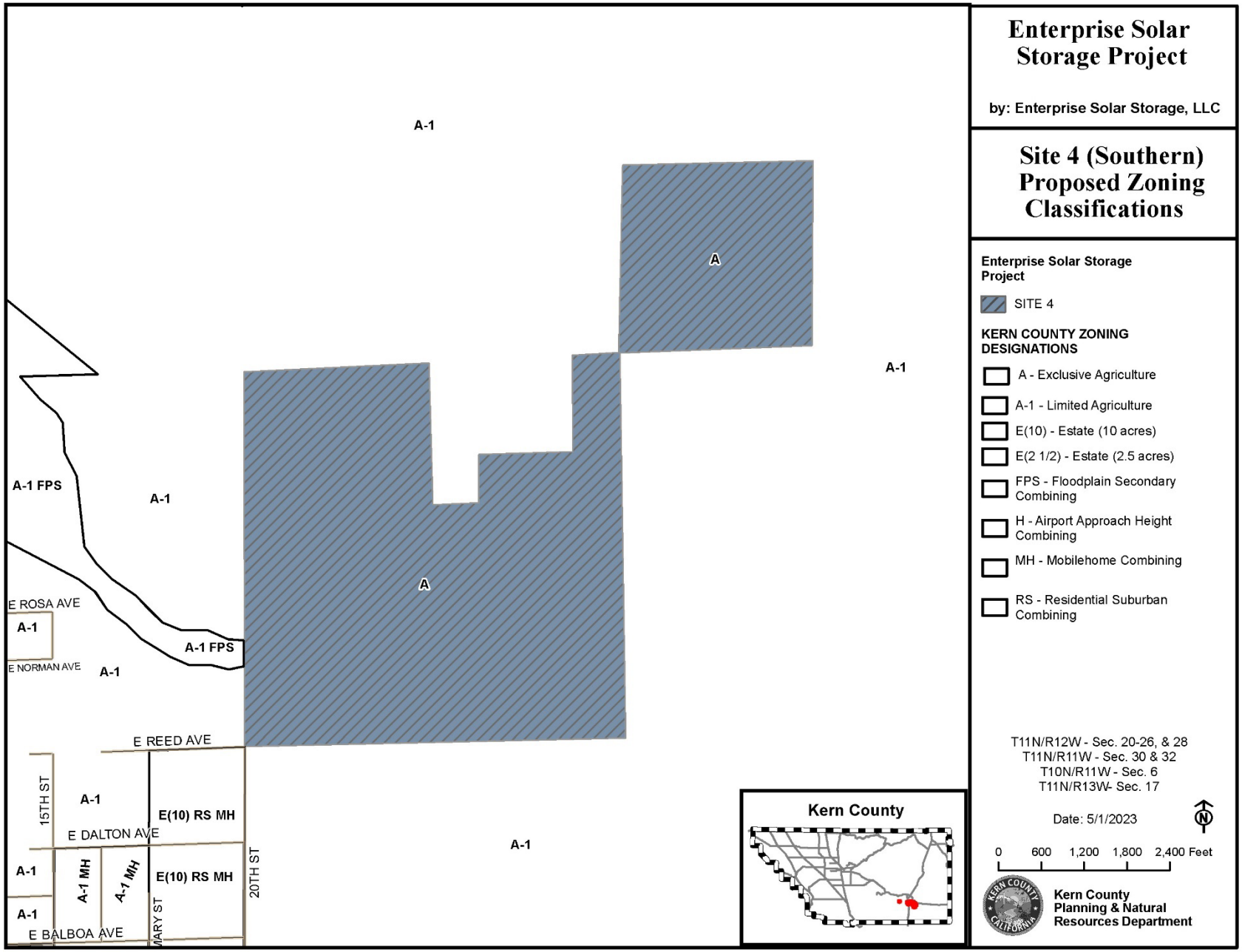


Figure 3-10d Site 4 (Southern) Proposed Zoning Classifications

3.6 Project Description

The proposed project would include the development a PV solar facility and associated infrastructure necessary to generate 600 MW of renewable electric energy with up to 4,000 MWh of energy storage capacity (approximately 1,000 MW), on approximately 2,320 acres of privately owned land.

The project consists of four non-contiguous solar sites, a step-up substation located north of the existing SCE-owned Windhub Substation, a 230-kV gen-tie line to carry power generated by project solar facilities from the on-site collector substations to the proposed step-up substation located north of the Windhub Substation, and temporary construction laydown areas.

The Enterprise Solar Storage Project as proposed includes the following requests:

Site 1 (Northern):

(a) Zone Classification Change No. 60, Map 196 from A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 93 acres;

(b) Conditional Use Permit No. 62, Map 196, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 93 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance.

(c) Nonsummary Vacations Map No. 196

Site 2 (Western):

(a) Specific Plan Amendment No. 34, Map 196, of the Mojave Specific Plan from Land Use Designations 3.1 (Parks and Recreation) on approximately 19 acres, 5.2 (Residential, maximum 16 units/net acre) on approximately 13 acres, 5.3 (Residential, maximum 10 units/net acre) on approximately 90 acres, 5.4 (Residential, maximum 4 unit/net acres) on approximately 15 acres, 6.2 (General Commercial) on approximately 15 acres, and 6.3 (Highway Commercial) on approximately 5 acres to 8.5 (Resources Management) for approximately 157 acres.

(b) Zone Classification Change No. 61, Map 196

- From A-1 (Limited Agriculture) to A (Exclusive Agriculture), on approximately 115 acres;
- From C-2 PD FPS (General Commercial Precise Development Combining Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining) on approximately 18 acres
- From CH PD (Highway Commercial Precise Development Combining) to A (Exclusive Agriculture) on approximately 7 acres;
- From CH PD FPS (Highway Commercial Precise Development Combining Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining) on approximately 4 acres
- From CO PD (Commercial Office Precise Development Combining) to A (Exclusive Agriculture) on approximately 5 acres;
- From OS (Open Space) to A (Exclusive Agriculture) on approximately 4 acres;
- From OS FPS (Open Space Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining) on approximately 6 acres;

- From E (1/4) (Estate 1/4 Acre) to A (Exclusive Agriculture) on approximately 16 acres;
- From R-1 (Low Density Residential) to A (Exclusive Agriculture) on approximately 18 acres;
- From R-1 FPS (Low Density Residential Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining) on approximately 2 acres
- From R-2 PD (Medium Density Residential Precise Development Combining) to A (Exclusive Agriculture) on approximately 8 acres; and
- From R-2 PD FPS (Medium Density Residential Precise Development Combining Floodplain Secondary Combining) to A FPS (Exclusive Agriculture Floodplain Secondary Combining) on approximately 2 acres.

(c) Conditional Use Permit 63, Map 196, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 278.98 acres in the A (Exclusive Agriculture) and A FPS (Exclusive Agriculture Floodplain Secondary Combining) Districts, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance.

(d) Nonsummary Vacations Map No. 196

Site 3 Eastern:

(a) Zone Classification Change No. 3, Map 195, from A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 217 acres;

(b) Zone Classification Change No. 62, Map 196

- From A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 165 acres
- From A-1 H (Limited Agriculture Airport Approach Height Combining) to A H (Exclusive Agriculture Airport Approach Height Combining on approximately 767 acres

(c) Conditional Use Permit No. 2, Map 195, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 216.54 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(d) Conditional Use Permit No. 64, Map 196, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 1,013 acres in the A (Exclusive Agriculture) and A H (Exclusive Agriculture Airport Approach Height Combining) Districts, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(e) Conditional Use Permit No. 65, Map 196, to allow for the temporary construction staging and equipment storage yard for on approximately 10 acres in an A (Exclusive Agriculture District and combining zone classifications), pursuant to Chapter 19.12.030.K of the Kern County Zoning Ordinance; and

(f) Specific Plan Amendment No. 35, Map 196, to the Circulation Element of the Mojave Plan to remove future road reservations on section and mid-section lines within the project boundary.

(g) Nonsummary Vacations Map No. 195.

(h) Nonsummary Vacations Map No. 196.

Site 4 Southern:

(a) Specific Plan Amendment No. 4, Map 212, to the West Edwards Road Settlement to change designation from 1.1 (State and Federal Lands) to 8.5 (Resource Management) on approximately 186 acres.

(b) Zone Classification Change No. 4, Map 195, from A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 157 acres;

(c) Zone Classification Change No. 3, Map No 212 from A-1 (Limited Agriculture) to A (Exclusive Agriculture) on approximately 573.43 acres;

(d) Conditional Use Permit No. 3, Map 195, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 157 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(e) Conditional Use Permit No. 6, Map 212, to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, on approximately 573.43 acres in an A (Exclusive Agriculture) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance;

(f) General Plan Amendment No. 3, Map 212, to the Circulation Element of the Kern County General Plan to remove future road reservations on section and mid-section lines within the project boundary.

(g) Nonsummary Vacations Map No. 212.

Site 5 Step-up Substation:

(a) Conditional Use Permit No. 20, Map 197, to allow for the construction and operation of a step-up substation on approximately 23 acres in an A WE (Exclusive Agriculture Wind Energy Combining) District, pursuant to Chapter 19.12.030.G of the Kern County Zoning Ordinance.

The project will abandon roads and public access easements within the proposed solar facility through parcel maps, which will merge smaller parcels into larger ones. The easements that will be requested to be vacated (abandoned) are listed in **Table 3-4**, *Vacations of Existing Public Access Easements* and are shown in **Figure 3-11a**, *Site 1 (Northern) Street Vacations,* **Figure 3-11b**, *Site 2 (Western) Street Vacations,* **Figure 3-11c**, *Site 3 (Eastern) Street Vacations,* and **Figure 3-11d**, *Site 4 (Southern) Street Vacations*. There are no street vacations included for Site 5 (Step-Up Substation). The proposed removal of future road reservations at section and mid-section lines is shown on **Figure 3-12**, *Circulation Element Amendment*.

TABLE 3-4: VACATIONS OF EXISTING PUBLIC ACCESS EASEMENTS

Parcel No.	Document	Description	NOTES
427-100-23	Book 6326, Page 375	Easement for ingress, egress and road purposes, to the public in general, and an Irrevocable Offer of Dedication to an easement for ingress, egress and road purposes	As to a portion
427-100-23	Book 6326, Page 371	A temporary easement for ingress, egress, and road purposes to the public in general	
428-140-10, 428-140-11, 428-140-13	Book 5218, Page 1270	Irrevocable Offer of Dedication for ingress, egress, and road purposes to the County of Kern	
428-140-10, 428-140-11, 428-140-12, 428-140-13	Book 5218, Page 1277	Easement for ingress, egress, and road purposes to the public in general	
428-140-10, 428-140-11	Book 5218, Page 1273	Irrevocable Offer of Dedication Easement for drainage purposes, to the County of Kern	
428-162-18, 428-162-19,	Book 4826, Page 882	Irrevocable Offer of Dedication of an easement for drainage purposes, to the county of Kern	

Parcel No.	Document	Description	NOTES
428-162-20, 428-162-21			
428-162-13, 428-162-14, 428-162-15, 428-162-16, 428-162-19, 428-162-20, 428-162-21, 428-162-22	Book 4826, Page 885	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-162-13, 428-162-18, 428-162-19	Book 4826, Page 358	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-162-17, 428-162-18	Book 4902, Page 2305	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-161-01	Book 5842, Page 1400	Easement for ingress, egress and public utility purposes, to the public in general	
428-171-23	Book 4199, Page 607	Non-exclusive easement for ingress, egress, roadways and public utilities, to the benefit and use of the owners, future owners, general public and county for reserved in Grant Deed	
428-173-07, 428-173-09, 428-173-10	Book 4883, Page 2233	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-173-02, 428-173-03, 428-173-05	Book 4883, Page 2235	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-173-07, 428-173-08, 428-173-09	Book 4883, Page 2238	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-173-02, 428-173-03, 428-173-05	Book 4883, Page 2240	Easement for ingress, egress and road purposes, and an Irrevocable Offer of Dedication for road purposes, to the County of Kern	
235-202-13	Book 4254, Page 877	Easement for public road, ingress, egress and public utility to be used in common with others, reserved in Grant Deed	As to a portion
235-204-19, 235-204-20	Book 4924, Page 185	Irrevocable Offer of Dedication for an easement for road purposes, and an easement for ingress, egress and road purposes, to the adjacent property owners and to the public in general	
235-204-20, 235-204-33, 235-204-34	Book 4872, Page 1797	Easement for public road, ingress, egress and public utility to be used in common with others, reserved in Grant Deed	As to a portion
235-204-20, 235-204-21, 235-204-31, 235-204-32	Book 4875, Page 1736	Easement for ingress, egress and road purposes, to the adjacent property owners and to the public in general	As to a portion
235-204-17, 235-204-18, 235-204-19	Book 4879, Page 1229	Easement for public road, ingress, egress and public utility purposes to be used in common with others, reserved in Grant Deed	As to a portion
235-204-17, 235-204-18, 235-204-19	Book 4923, Page 1246	Easement for ingress, egress and road purposes, to the adjacent property owners and to the public in general	As to a portion
235-204-21	Book 4936, Page 1564	Easement for ingress and egress of roads and or public utility purposes to be used in common with others, reserved in Grant Deed	
235-202-07	Book 4954, Page 1164	Non-exclusive easement for ingress and egress and roadway purposes to be used in common with others and for public utilities and incidental purposes, with the right to dedicate same to public use, reserved in Grant Deed	

Parcel No.	Document	Description	NOTES
235-204-09, 235-204-10	Book 5380, Page 2435	Non-exclusive easement for ingress and egress and roadway purposes to be used in common with others and for public utilities and incidental purposes, reserved in Grant Deed	
235-204-21, 235-204-31, 235-204-32	Book 5458, Page 587	Non-exclusive easement for ingress egress, roadways and public utilities, for the benefit and use of the owners, general public, future owners and County, reserved in Grant Deed	As to a portion
235-202-14	Book 5579, Page 2351	Non-exclusive easement for ingress and egress and roadway purposes to be used in common with others and for public utilities and incidental purposes, with the right to dedicate same to public use, reserved in Grant Deed	
235-204-07, 235-204-08	Book 5874, Page 431	Non-exclusive easement for ingress, egress and roadway purposes to be used in common with others and for public utilities and incidental purposes, with the right to dedicate to public use, reserved in Grant Deed	
235-204-41	Book 5706, Page 2191	Irrevocable Offer of Dedication for major highway alignment, to the County of Kern, a non-exclusive public access easement, dedicated to public use, and, upon the determination of need, drainage easements dedicated to the public, as required, per the Conditional Certificate of Compliance	
235-204-40	Book 5706, Page 2193	Irrevocable Offer of Dedication for major highway alignment, to the County of Kern, a non-exclusive public access easement, dedicated to public use, and, upon the determination of need, drainage easements dedicated to the public, as required, per the Conditional Certificate of Compliance	
235-204-39	Book 5706, Page 2195	Irrevocable Offer of Dedication for major highway alignment, to the County of Kern, a non-exclusive public access easement, dedicated to public use, and, upon the determination of need, drainage easements dedicated to the public, as required, per the Conditional Certificate of Compliance	
244-234-29, 244-234-32, 244-234-33	Book 3998, Page 672	Easement for public road and utility purposes to be used in common with others, reserved in Grant Deed	As to a portion
244-234-28, 244-234-29	Book 4822, Page 1015	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	As to a portion
244-234-29, 244-234-32, 244-234-33	Book 3998, Page 674	Easement for public road and utility purposes to be used in common with others, reserved in Grant Deed	As to a portion

The purpose of the request is to facilitate the optimal layout of solar panels by removal of record of unused/undeveloped public rights-of-way on vacant land. These easements and offers of dedication have been created by grant deed or parcel maps, and some dirt roads exist within the project footprint. As requested, the easement vacations would not eliminate any legal access for any property or persons in the area. In the cases where one of the proposed vacations removes primary access to a parcel, the project applicant/proponent would be responsible for recording private easements for access purposes prior to the vacation being recorded such that legal access remains. In most cases, the proposed private easements would be recorded along with the vacation of the original public easement.

Figure 3-2 shows the boundaries of the proposed project. With the requested zone change, the entirety of the project would be zoned A (Exclusive Agriculture) (excluding their combining zone classification). Therefore, pursuant to Chapter 19.12.030.G, CUPs are required to allow for the construction and operation of the proposed project under this zoning.

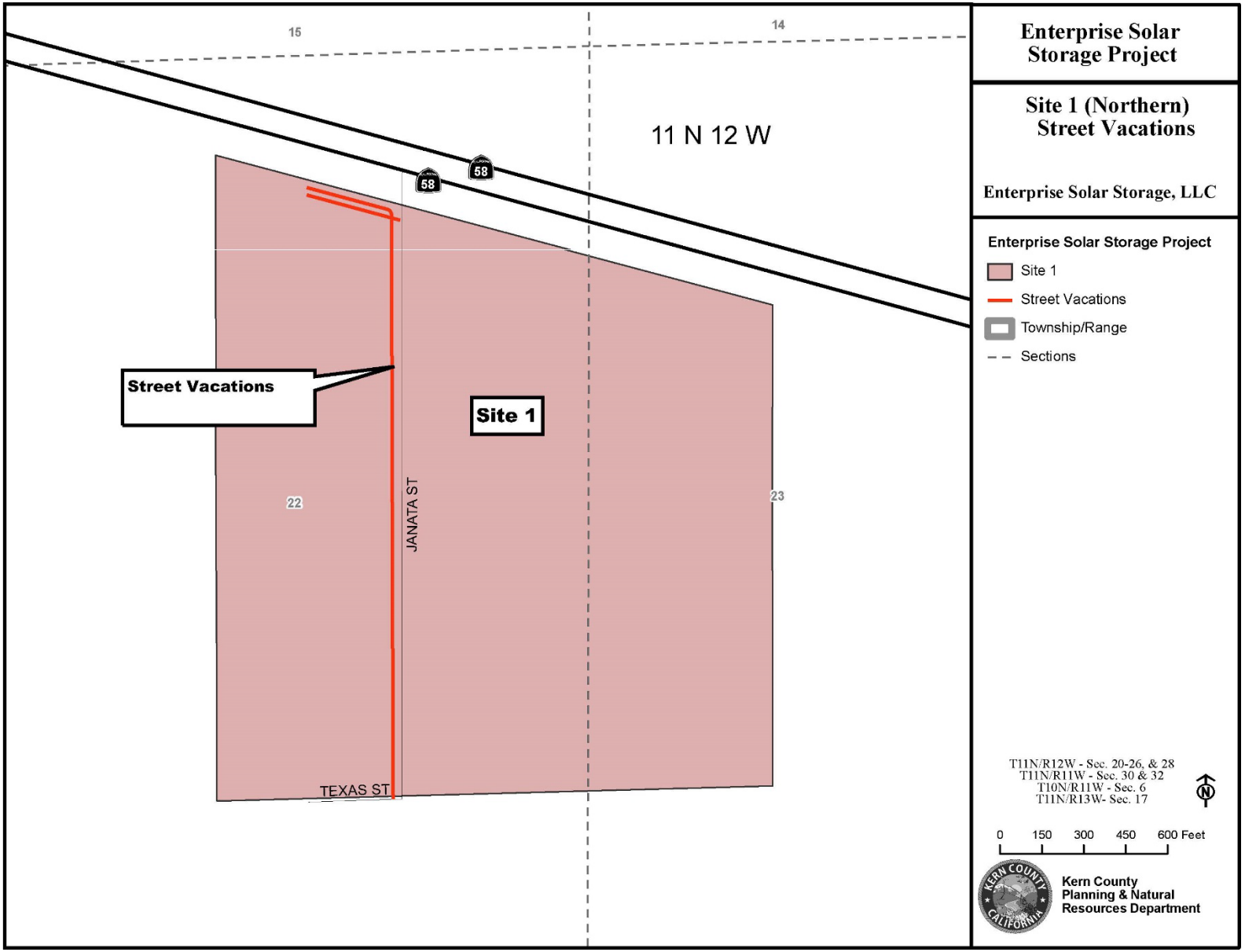


Figure 3-11a Site 1 (Northern) Street Vacations

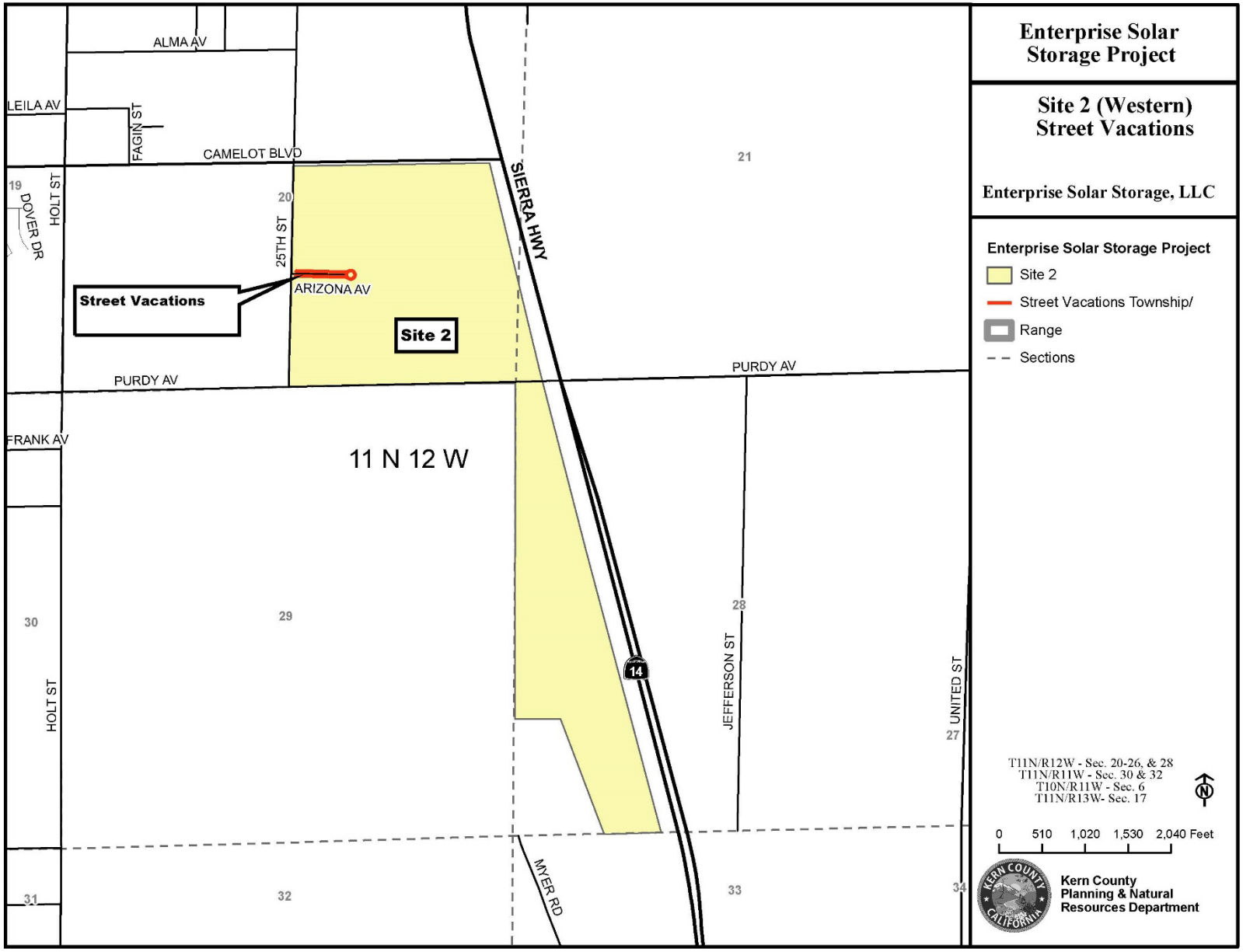


Figure 3-11b Site 2 (Western) Street Vacations

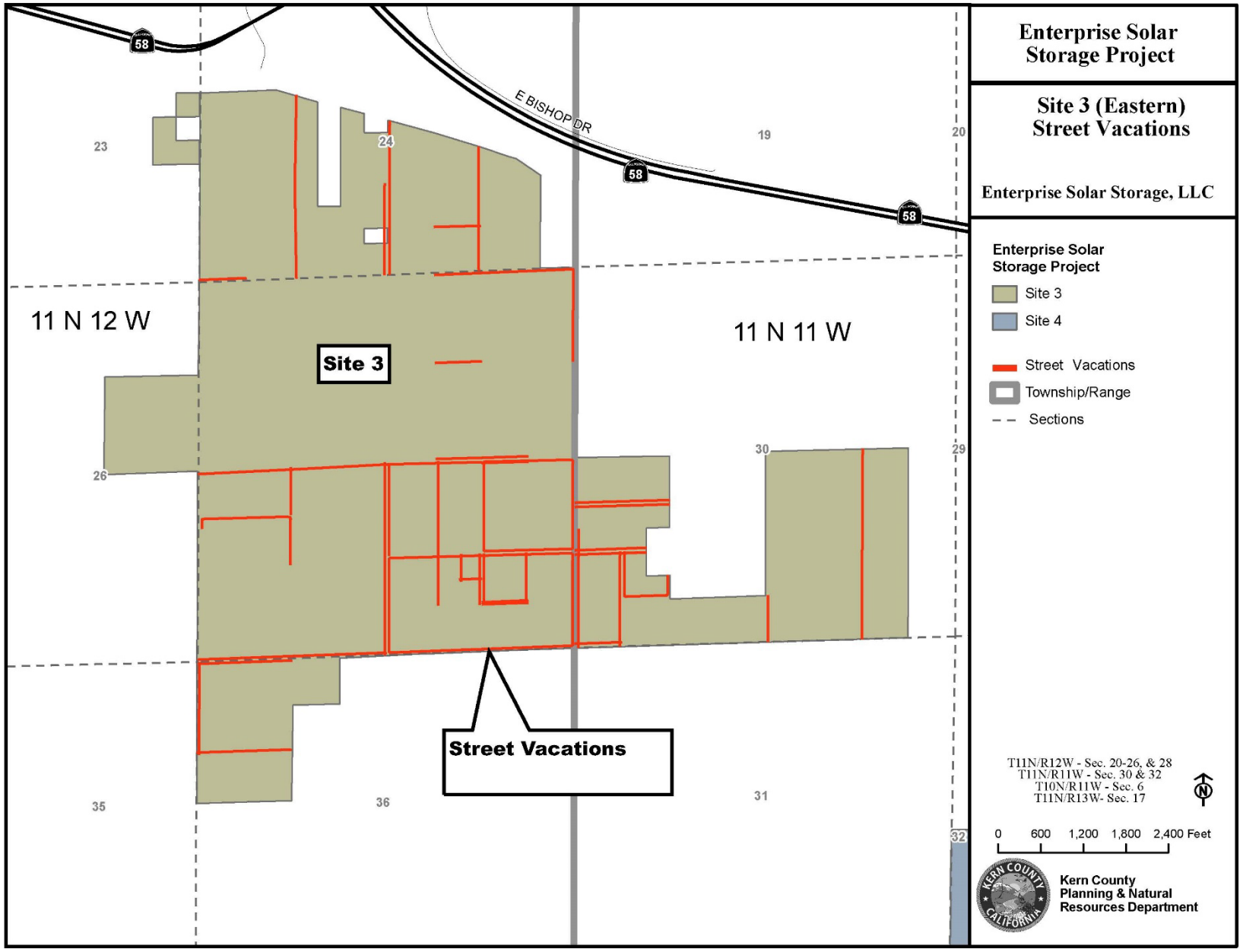


Figure 3-11c Site 3 (Eastern) Street Vacations

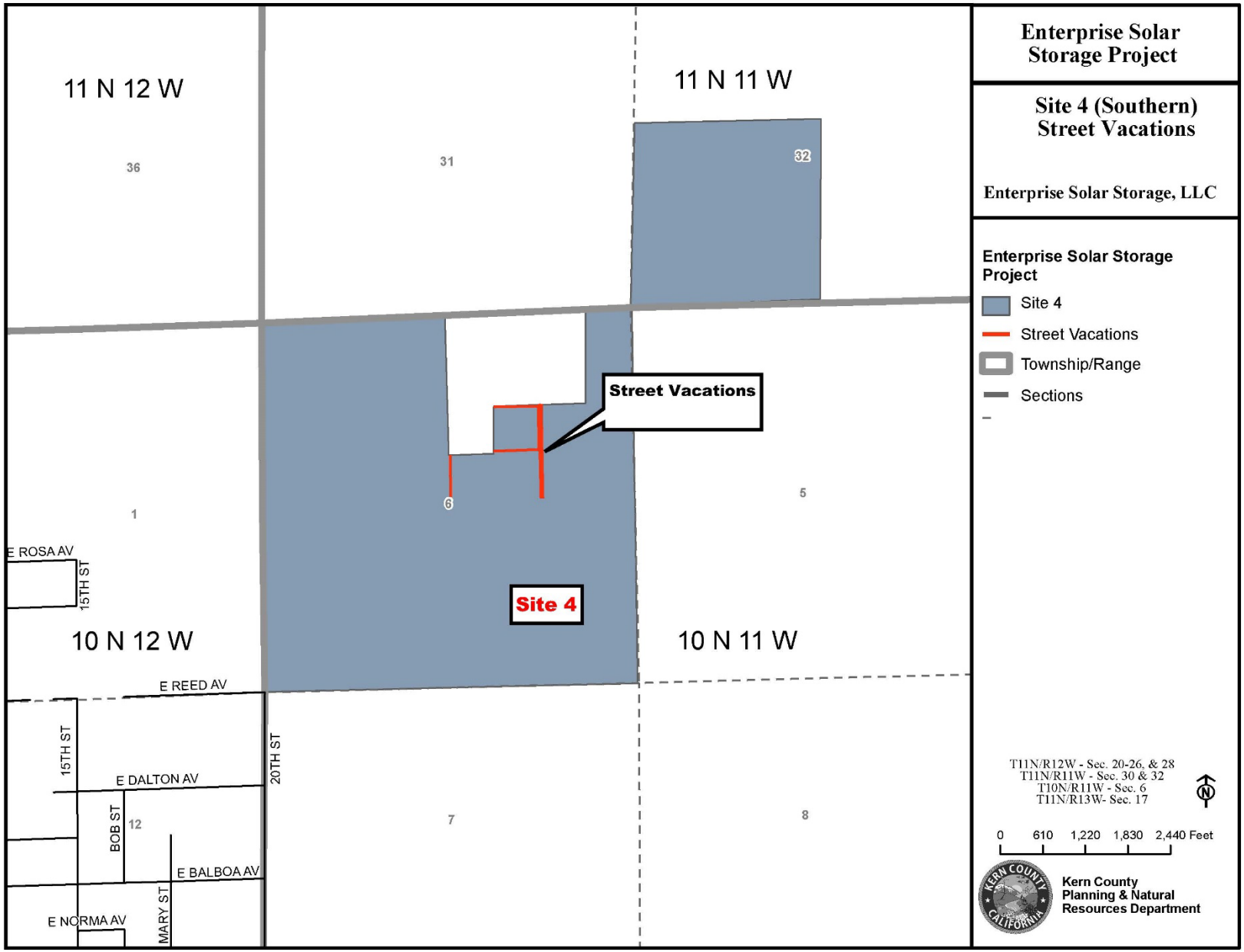


Figure 3-11d Site 4 (Southern) Street Vacations

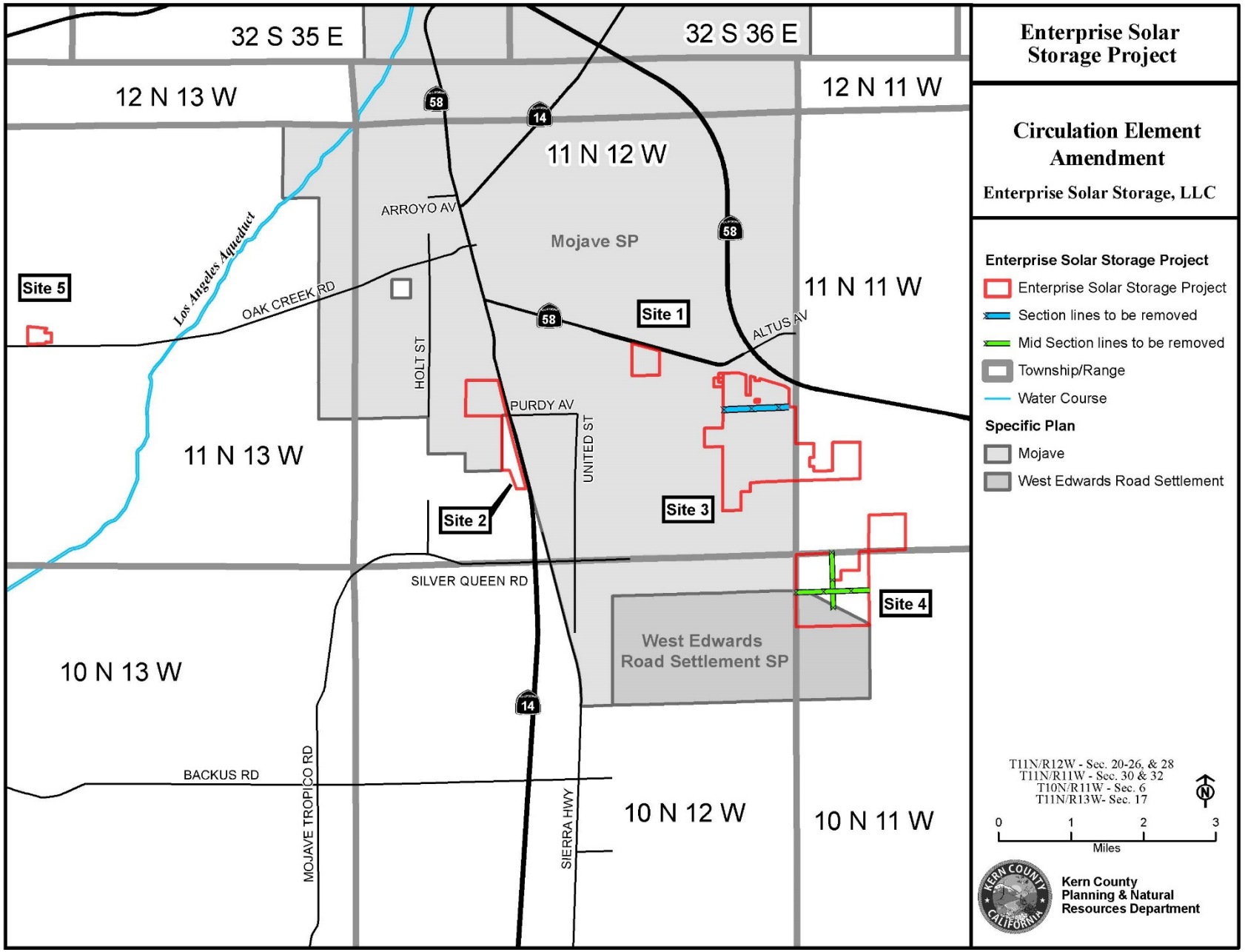


Figure 3-12 Circulation Element Amendment

3.7 Project Characteristics

The project would use PV solar technology designed in a collection of subarrays to convert solar energy directly to electrical power. The project is intended to operate year-round and would generate electricity during daylight hours to deliver renewable energy into the electric grid, and/or store the generated energy in on-site batteries and discharge it into the grid at various times when electricity demand is at its peak. The power generated on the project site would assist the state in complying with the Renewables Portfolio Standard under SB 350 (2015), which requires 50 percent of all electricity sold in the state shall be generated from renewable energy sources by December 31, 2030, and SB 100, approved in 2018, which requires that 100 percent of all electricity sold in the state shall be generated from renewable energy sources by 2045 (CPUC, 2020). The power generated on the project site would be sold to California investor-owned utilities, municipalities, community choice aggregators, or other purchasers in furtherance of the goals of the California Renewables Portfolio Standard. At the end of the project's operational term, the project applicant/proponent would determine whether the project site should be decommissioned and deconstructed, or if it would seek an extension of its CUP. If any portion of the project site is decommissioned, it would be converted to other uses in accordance with the applicable land use regulations in effect at that time. A typical solar facility and substation are shown in **Figure 3-13,** *Typical Solar PV Power Plant Facility*, and **Figure 3-14**, *Typical HV Step-up Substation*, respectively.



Figure 3-13 Typical Solar PV Power Plant Facility



Figure 3-14 Typical Step-up HV Substation

Project facilities would include the following components, which are described in more detail in the following subsections:

- Installation of up to 600 MW alternating current (AC) of solar PV modules, mounted either on a galvanized metal fixed-tilt or single-axis racking system. The mounting systems for the modules would be mounted on steel support posts that would be pile-driven into the ground;
- Installation of energy storage facilities and accessory infrastructure that would provide energy storage capacity of up to 4,000 MWh for the electrical grid (approximately 1,000 MW);
- One to three collector substations, including circuit breakers, disconnect switches, metering protection equipment, and main step-up transformer(s);
- One 230-kV to 500-kV step-up substation;
- Potential upgrades to the existing SCE Windhub Substation and installation of new circuits, lines, switches, utility poles, etc.;
- Relocation of approximately 1 mile of existing 66-kV Coram-Goldtown transmission line by SCE to avoid interrupting the project solar array (the project will not physically interconnect into this line);
- Overhead and underground collection systems both on-site and off-site (the collection systems would be aggregated at multiple circuit breakers or medium-voltage switchgear positions within the project facilities, leading to the collector substation);
- Telecommunication equipment, including underground and overhead fiberoptics, and meteorological data collection systems or supervisory control and data acquisition (SCADA);
- On-site access roads; and
- Perimeter security fencing and nighttime directional lighting.

3.7.1 Solar PV Generating Facilities and Solar Modules

The proposed project would use PV solar technology designed in a collection of subarrays to convert solar energy directly to electrical power for export to the electrical grid. It would include the installation of PV modules that would be mounted on steel support posts that would be pile-driven into the ground and connected to inverters. The modules would be made of a thin film material or crystalline 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 off-site location and transported to the site.

Solar modules for the proposed project would be provided on either a fixed-mount array system or a single-axis tracker system. Depending on the type of technology (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 7 to 12 feet. The length of each row of panels would be 350 to 400 feet and would be oriented in the east-west direction in the case of a fixed-mount array being used, and oriented in the north-south direction in the case of single-axis trackers being used.

Spacing between each row would be approximately 8 to 22 feet to allow access and reduce shading between rows. 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 with a range of up to 120 degrees. The motors would be installed after the horizontal cross-members are in place. In the morning, the panels would face east. The panels would slowly move to the upright position at noon and on to the west at sundown. The panels would stow horizontally overnight and as operational conditions dictate. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise.

3.7.2 Energy Storage System

The proposed energy storage system(s) would use direct current (DC)-coupled and/or AC-coupled battery storage. The DC energy storage system would be distributed and located throughout the solar arrays. The AC energy storage system could be either centralized and located close to the collector substation(s) or distributed throughout the solar arrays. The energy storage batteries within both proposed systems would be housed in a structure or within Conex boxes. If a structure is constructed, the maximum height (including any screening for heating, ventilation, and air conditioning [HVAC]) is anticipated to be approximately 35 feet. The batteries under this configuration would be housed in open-air-style racking (similar to computer racking) approximately 10 to 12 feet high. The associated inverters, transformers, and switchgear would be located adjacent to the structure on concrete pads or driven pier foundations.

The energy storage structure would also have a fire rating in conformance with County standards and specialized fire suppression systems installed for the battery rooms. All non-battery rooms would have County approved fire suppression systems. The structure would also have HVAC cooling in the battery room to maintain energy efficiency. Power to the HVAC, lighting, and other systems would be provided via a connection to the on-site collector substation service transformer with connection lines installed above ground and/or below ground. The energy storage system would be unstaffed, with remote operational control and periodic inspections and maintenance performed, as necessary.

Emergency backup generators for project substations or the battery energy storage systems may be required by the Authority Having Jurisdiction. If required, the generators would use diesel fuel and would need to be intermittently run for maintenance and testing purposes. The generators would operate in accordance

with applicable Eastern Kern Air Pollution Control District (EKAPCD) regulations and appropriate air permits will be obtained from EKAPCD.

3.7.3 Electrical Collection System and Inverters

The solar panels would be electrically connected to each other via above- and underground wiring. Underground electrical cables (underground collection system) would be installed from groups of PV arrays that would be arranged into power blocks. The cables would convey DC electricity to inverters, which convert the DC electricity to AC. Electrical inverters and transformers would be dispersed among the arrays and installed on prefabricated metal skids that would sit on steel pier foundations or concrete foundations, depending on the design. The inverter pad transformers would step up the voltage of the array output, which would be collected at the on-site circuit breakers or switchgear positions. From the circuit breakers or switchgear positions, the medium-voltage collector lines would be routed underground or aboveground to on-site step-up collector substations.

3.7.4 Collector Substations

The on-site collector substation is the termination point of the collection system of 34.5-kV AC electricity. The output of the entire field is passed through an interconnection step-up transformer to convert it to the grid-tie voltage at 230 kV. A minimum of two on-site collector substations will be needed for this project pending final engineering. The proposed substations would host the grid intertie safety equipment and switches required to interconnect to the high-voltage transmission system. The open-air collector substations would likely be constructed on Site 3 (Eastern) at the corner of the general alignment of Purdy Avenue and 10th Street and on Site 2 (Western) north of Purdy Avenue just west of Highway 14. The proposed location of the collector stations is shown within the site plan. The footprint, approximately 375 feet by 350 feet, would be sized to accommodate all required equipment with safety related setbacks and would consist of components up to 75 feet in height.

3.7.5 High-Voltage Step-up Substation

The project includes a new high-voltage step-up substation located north of the SCE-owned Windhub Substation off Oak Creek Road. At this step-up substation (Site 5), the 230-kV transmission will be stepped up to 500 kV for interconnection with Windhub's 500-kV transmission banks. This step-up substation will be on private land and will be owned and operated by the project applicant/proponent. A new 500-kV transmission line will be built from the 230-kV to 500-kV substation into Windhub for ultimate grid connection. The 500-kV transmission line will: 1) be constructed on either the east and south sides of Windhub, where it will transition into Windhub's 500-kV transmission banks; or 2) transition directly into the Windhub Substation from the north, depending on final high-voltage engineering.

3.7.6 Grid Interconnection

From the 230-kV project collector substation in Site 3 (Eastern), the energy generated would interconnect via a new double-circuit gen-tie line to be installed within the previously approved Sanborn Solar project (2020) then run west within the same gen-tie corridor as the approved and constructed Sanborn Solar gen-tie line. The collector substation in Site 2 (Western) would interconnect via a direct tap or other high-voltage connection into the line. The final design, layout, and required interconnection components would be

determined at the detailed engineering stage. The 230-kV generation will get stepped up to 500 kV at a new substation (owned and operated by the project owner) to be built north of the SCE-owned Windhub Substation. New 500-kV gen-tie lines (owned and maintained by the project owner) would then connect from the step-up substation into Windhub.

3.7.7 Telecommunication Facilities

The SCADA system is critical to the California Independent System Operator and SCE utility interconnection, and for the proper operation and maintenance of the proposed project, which uses proprietary software; a fiberoptic transmission system; and a telephone, radio, and other means of communication, such as radio links and phase loop communication systems. The SCADA system functions as a remote start, stop, reset, and tag out for the facility, and provides site diagnostic information from the energy generating facility. The SCADA system would also control the collector substation, allowing for fully centralized operation of the proposed project to meet all California Independent System Operator and utility interconnection requirements.

The proposed project would use local exchange carrier services for telecommunication to support remote monitoring requirements. It would connect to telecommunication fiberoptic lines owned and managed by AT&T or an alternative provider. The cabinet holding the connection equipment would have a base of approximately 4 feet by 2 feet and would be approximately 5 feet in height. From the point of demarcation, an underground fiberoptic cable would be installed within the footprint of the proposed project to connect the cabinet to the SCADA equipment within the solar collector substations.

3.7.8 Site Access and Security

The site can be accessed from various separate roadways. Interstate 5 is the largest highway that would provide regional access to the site from the north and the south, along with SR-14, SR-58, and SR-138. The solar facility can be accessed via Purdy Avenue, Camelot Boulevard, Decatur Avenue, Sunset Avenue, and Silver Queen Road.

Although the existing roadways would be used to the greatest extent possible, new unpaved roads would be constructed to serve as access roads from the existing road network to the solar array blocks. Access roads would be up to 25 feet wide and would be cleared and compacted for travel and access to the solar blocks. These site access roads would remain in place for ongoing operations and maintenance activities after construction is completed. Cut slopes and other road construction activities would be constructed in a similar fashion. Dirt roads that are located within the boundaries of the proposed project and that are not the subject of a written easement would be closed to third-party use for vehicular or other access. Any such third parties that may currently use these dirt roads would be rerouted to the major public access routes, which would remain open.

Final service road alignments would depend on the final placement of the solar panels and on the results of field investigations, including topography and any other site-specific details to be incorporated into the final design. Should access roads be required to cross streambed areas under the jurisdiction of the California Department of Fish and Wildlife (CDFW), appropriate crossings would be installed to minimize impacts to these jurisdictional areas and comply with all California Fish and Game Code requirements, including authorization through a Streambed Alteration Agreement as appropriate.

All fence installation requirements would be evaluated, and the best-fit scenario would be incorporated in the site. The fences would be installed around the perimeter of each site, substation, switchyard, and other areas requiring controlled access for safety and security purposes. The fencing would remain for the life of the project. The proposed fencing locations are included in the preliminary plot plan.

Permanent motion-sensitive, directional security lights would be installed to provide adequate illumination around the substation areas and points of ingress/egress. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. All lighting would also conform to applicable County night-sky ordinance requirements. Lighting would be used from dusk to dawn once the facilities are operational. Motion-sensitive cameras may also be installed throughout each solar facility at the inverters for added security. The cameras would be mounted on poles approximately 20 feet in height.

3.7.9 SCE Transmission Line Relocation and Interconnection Work

SCE will complete relocation of the 66-kV transmission line to remove it from the project footprint and avoid interference with the project's solar panels. The relocated transmission structures will be wood or metal ranging from 50 to 70 feet above ground and will accommodate the relocated 66 kV transmission line as well as a potential distribution circuit with polymer insulators. SCE will complete relocation of the transmission line by grading an approximate 20-foot-wide access road within SCE's right-of-way (ROW) to facilitate construction and future maintenance of the line. Construction will include using bladed equipment (scraper or bulldozer), backhoe, and other support vehicles. Placement of transmission structures will require an auger truck to bore the holes, a crane, manlifts/boom truck, and other support vehicles to place the structures. Stringing the 66-kV conductors will be completed using manlifts/boom trucks, hydraulic tensioning machines, wire reel stringing trailers, drum pulling machines, and other support vehicles. After the relocated transmission line is installed and energized, the old transmission line will be demolished using equipment used to install and tension the relocated transmission line. Other support vehicles will be used to remove the old conductors and poles which will be recycled offsite or disposed as appropriate. Final grading for the relocated transmission line will be performed during construction of the solar project as part of the final grading. SCE will prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) prior to land disturbance. It is anticipated that relocation of the transmission line will be completed in four months using up to 50 construction workers per week. The relocation of the transmission line will be performed prior to solar tracker installation. The construction will require approximately 0.5 acre-feet of construction water to be used for dust suppression.

SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. Final design and location of the interconnection facilities will be determined during SCE's engineering. It is anticipated that SCE's interconnection work will involve upgrades to the substation including relocating cap banks and installing breakers, disconnects and other equipment within the substation. The work may also involve relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. Should existing adjacent transmission poles require relocation it is anticipated the poles would be moved to the west approximately 400 feet. Equipment required to perform the work may include, but would not be limited to, cranes, blading equipment, backhoes, boring equipment, boom trucks, hydraulic tensioning machines, wire reel stringing trailers, drum pulling machines and other

equipment. SCE's interconnection work will take between 3 to 8 months to complete using approximately 30 to 40 workers per week. The construction would require minimal water for dust suppression and for operations.

3.8 Construction

Construction of the proposed project is expected to last for approximately 28 months, with the first 4 months dedicated to realignment of the SCE transmission line, and would proceed following receipt of all permits and agency approvals. The construction activities for the proposed project are categorized into three main phases:

- Site Preparation;
- System Installation; and
- Testing, Commissioning, and Cleanup.

Additional details for construction phases and their respective durations and required equipment can be found in **Table 3-5**, *Solar PV Construction Activity, Duration, and Equipment.*

TABLE 3-5: SOLAR PV CONSTRUCTION ACTIVITY, DURATION, AND EQUIPMENT

Construction Phase[a]	Months	Equipment
Transmission Line Realignment	4	Scraper/Grader, Backhoe, Pickup Truck, Pole Auger, 80-ton Crane, Boom Truck with Bucket, Hydraulic Tensioner, Line Truck with Spool Trailer, Drum Puller
Perimeter Fence Installation	2	Skid Steer Loader, Pickup Truck, Flatbed Truck
Site Preparation and Clearing/Grading	1.5	Water Truck, Grader, Bulldozer, Scraper, 10-ton Roller, Sheepsfoot Roller, Tractor with Mower Attachment,
Underground Work (Trenching)	4	Excavator, Sheepsfoot Roller, Water Truck, Generator, Aussie Padder Screening Machine, 4x4 Forklift,
System Installation	14	4x4 Forklift, 80-ton Crane, ATV, Pile Driver, Pickup Truck, Offroad Cement Truck, On-road Cement Truck, Generator
Gen-tie Construction	2	Line Truck with Spool Trailer, Boom Truck with Backhoe, 80-ton Crane
Energy Storage System	4	80-ton Crane, Grader, 4x4 Forklift
Testing and Commissioning	4	Pickup Truck
Site Cleanup and Restoration	1	Grader, Skid Steer Loader
General Management	28	On-site Crew Truck, Various On-road Haul Trucks, Various Offroad Haul Trucks

[a] Construction activities will overlap.

3.8.1 Schedule and Workforce

Construction workforce is expected to peak at 550 individuals. However, the average daily workforce is expected to be 250 construction, supervisory, support, and construction management personnel on-site during construction. 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 Rosamond, Mojave, Lancaster, 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. Workers could use Highway 58, Purdy Avenue, Camelot Boulevard, or other local roads as points of ingress/egress to the solar sites and 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 7:00 AM and 6:00 PM, as required to meet the construction schedule. Any construction work performed outside the normal work schedule would be coordinated with the appropriate agencies and would conform to the Kern County Noise Ordinance (Chapter 8.36).

3.8.2 Site Preparation

The construction contractor would be required to incorporate best management practices (BMP) consistent with the County zoning ordinance and with guidelines provided in the California Stormwater Quality Association's Construction Best Management Practice Handbook, including the preparation of a SWPPP and soil erosion and sedimentation control plan to reduce potential impacts related to construction of the proposed project. Prior to initial construction mobilization, preconstruction surveys would be performed, and sediment and erosion controls would be installed in accordance with the approved SWPPP. Stabilized construction entrances and exits would be installed at driveways to reduce tracking of sediment onto adjacent public roadways. Site preparation would also be consistent with County BMPs and EKAPCD rules for dust control. Laydown yards used for temporary offices, equipment and material unloading and storage, worker parking, and other construction-related activities would be prepped by mowing and clearing existing vegetation and installation of temporary security fencing. In heavy use zones, crushed aggregate may be applied.

Site preparation would involve the removal and proper disposal of existing vegetation and debris that would unduly interfere with the proposed project construction or the health and safety of on-site personnel. Dust minimizing techniques would be employed, such as maintaining natural vegetation where possible, using mow-and-roll vegetation clearance strategy, placing wind control fencing, applying water, and applying dust suppressants. Conventional grading would be performed throughout the site, but minimized to the maximum extent possible to reduce unnecessary soil movement that may result in dust. Earthwork, scrapers, excavators, dozers, water trucks, paddlewheels, haul vehicles, and graders may all be used to perform grading. 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 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 or decomposed granite to meet emergency access requirements. Soil movement from grading would be balanced on the site, and no import or export of soils would occur.

Trenching would be required for placement of underground electrical and communication 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 substation and switchyard areas would have a grounding grid installed and would be covered with aggregate surfacing for safe operation. Collection and transmission structures from the substation to the existing transmission line would require drilling for foundation support, and the soils removed would be spread across the site.

3.8.3 System Installation

The construction of the solar arrays would include support structures and associated electrical equipment and cabling. It would start with steel foundation piles being driven into the soil using pneumatic techniques. The piles are typically spaced approximately 10 to 15 feet apart and installed to a revealed height of approximately 4 feet above grade.

Once the piles have been installed, the horizontal cross-members would be placed and secured. The arrays would consist of either a fixed-mount array system or a motorized, single-axis tracking system. For a fixed-mount system, a galvanized metal racking system, which holds the PV modules in the correct position for maximum capture of solar insulation, would be field assembled and attached to the horizontal cross-members. For a single-axis tracking system, the trackers and their associated motors would be mounted to the horizontal cross-members.

Concrete would be required for the footings and pads for the substation transformers and switchyard equipment and may also be required for pile foundation support in the event soils prevent some piles from being driven to appropriate depths. Final concrete specifications would be determined during detailed design engineering. There would be no concrete batch plants required on-site. Concrete would be purchased from an off-site supplier and trucked into the site.

There would be multiple crews working on-site with various equipment and vehicles, including special vehicles for transporting the modules and other equipment. As the solar arrays are installed, the collector substations, high-voltage components, and other associated buildings would be constructed, and the electrical collection and communication systems would be installed. The electrical and communication wiring for the solar arrays would be installed in underground trenches or placed in aboveground cable trays or cable support systems, and some of the medium-voltage collection runs and communication systems may be overhead lines. The wiring would connect to the appropriate electrical and communication terminations and the circuits would be checked and commissioned prior to operation.

3.8.4 Testing, Commissioning, and Cleanup

After each major electrical system component (including interconnection, high-voltage transmission, electrical collection system, and the solar arrays) is completed, the system would be thoroughly inspected and tested to ensure it is ready to carry energy. The system would then be energized, and additional testing would be performed to ensure safe operation.

“Startup” refers to commissioning activities that would occur after mechanical completion of the solar modules and commissioning of the electrical systems.

After construction of the project is complete, the site would be cleaned up and restored to facilitate operational activities. All waste, debris, and construction equipment would be removed from the site. During construction, the site would be kept as clean as possible. After construction, any visible waste on the site would be removed. Laydown yards or other areas disturbed during construction that are not needed for facility operations would be revegetated.

3.8.5 Construction Water Use

During construction of the proposed project, water would be required for common construction-related purposes, including, but not limited to, dust suppression, soil compaction, and grading. Dust-control water may be used for ingress and egress of on-site construction vehicle equipment traffic and for the construction of the solar equipment. A sanitary water supply would not be required during construction because restroom facilities would be provided by portable units to be serviced by licensed providers.

The overall construction water usage is anticipated to be approximately 335 acre-feet during the 28-month construction period. The water used is anticipated to be purchased from Mojave Public Utility District and California City with additional potential use of existing or new on-site water wells. Water demand during construction is expected to be the same if the proposed project is constructed during a year with normal precipitation, a year with less than average precipitation, or a multiyear period of less than average precipitation.

3.8.6 Construction Electrical Supply

Power required for construction activities, such as for the temporary construction trailers, would be provided via portable generators or temporary local distribution. Generators used on-site would abide by California Air Resources Board and EKAPCD regulations.

3.8.7 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 off-site to an appropriate green waste facility. The closest Class III municipal landfill is the Mojave-Rosamond Recycling and Sanitary Landfill (RSLF), which is located approximately 1 mile southwest of Site 1 (Northern). The Mojave-Rosamond RSLF is an unlined, active, public, Class III sanitary landfill owned by the County and operated by the Kern County Public Works Department.

3.8.8 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 on-site 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 on-site personnel.

3.8.9 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 off-site for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

3.9 Operations

The facility would operate year-round. It is anticipated that approximately six permanent full-time staff employees would be needed to maintain the facility. Additional staff would also be needed for certain activities such as solar panel washing. Typical operational and maintenance activities that would occur on-site include, but are not limited to, liaison and remote monitoring; administration and reporting; semi-annual and annual services; remote operations of inverters and battery energy storage systems; site security and management; additional communication protocol; repair and maintenance of solar facilities, battery storage facilities, substations, electrical transmission lines, and other project facilities; mowing and vegetation control; and periodic panel washing. It is expected that staff will primarily operate from an operations facility that is off-site. However, small satellite portable office trailers may be placed on the project site to help facilitate rapid repair of equipment.

3.9.1 Operation Water Use

During operations, the water used will be provided from the Mojave Public Utility District or existing or new on-site water wells. Water would be required for panel washing, equipment washing, non-sanitary uses, and other miscellaneous water uses, such as landscaping. During project operations, solar panel washing is expected to occur one to four times per year based on site conditions, such as usual weather occurrences, wild/forest fires, local air pollutants, and other similar conditions. Panel washing would require 15 days to complete per wash cycle. Water consumption is expected to be around 0.28 gallon per square yard of panel, based on other similar operations. Given a 600-MW facility, with four cycles per year, the annual water usage is expected to be up to approximately 25 acre-feet of water. This amount includes the water necessary for the operations, fire suppression, and site maintenance. On-site water resources would also include an aboveground 10,000-gallon fire tank, which would be placed at each site entrance. The footprint of the tanks are approximately 20 feet by 20 feet.

3.9.2 Operation Electrical Supply

Power for operational and maintenance activities would be provided by the proposed project's electrical generation or supplied by the local power provider. The proposed project would require electrical enclosures, substation equipment, tracker motors (if non-self-powered single-axis trackers are used), battery storage, and plant lighting and security. The battery rooms in the substation buildings would supply DC power for the backup protection equipment. In the event emergency backup generators are required for project facilities such as project substations and battery energy storage systems, these diesel-powered

generators would meet applicable best available control technology and be operated in accordance with applicable California Air Resources Board and EKAPCD rules and regulations.

3.9.3 Solid and Nonhazardous Waste

The project would produce a small amount of waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning modules, electrical materials, empty containers, and other miscellaneous solid waste, including the typical refuse generated by workers. Most of these materials would be collected and delivered back to the manufacturer or to recyclers. Nonrecyclable waste 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. The closest Class III municipal landfill is the Mojave-Rosamond RSLF. Shipping materials, construction waste, and other general solid wastes would be separated for recycling where possible/available.

3.9.4 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. Appropriate spill containment and cleanup kits would be maintained during operation of the project.

3.9.5 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. Workers would be trained to properly identify and handle all hazardous wastes. Fuels and lubricants used in operations would be subject to the Spill Prevention, Containment, and Countermeasure Plan to be prepared for the proposed project.

Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped off-site for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location.

3.9.6 Security and Lighting

The proposed project would be fenced by a 6 to 8-foot-high chain link fence installed around the perimeter of the facility to help prevent public access. 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.

Vegetation is sparse with little potential for vegetative fuel buildup. Nevertheless, the project applicant/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 Requirements*.

3.10 Decommissioning

At the end of the project's operational term, the project applicant/proponent may determine that the site should be decommissioned and deconstructed, or it may seek an extension of its CUP. Because the supporting equipment for the PV arrays sits on the surface of the land, when the arrays are removed after the project's lifetime, the land would be largely unaltered from its natural state. The project would include BMPs to ensure the collection and recycling of modules and to avoid the potential for modules to be disposed of as municipal waste.

The project has an anticipated operational life of up to approximately 35 years, after which the project applicant/proponent may choose to update site technology and recommission, or to decommission the site and remove the systems and their components. 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. If any portion of the project site is decommissioned, it could be converted to other uses in accordance with the applicable land use regulations in effect at that time.

It is anticipated that during project decommissioning, project structures would be removed from the ground on the site. Aboveground equipment that would be removed would include module posts and support structures, on-site transmission poles that are not shared with third parties, and the overhead collection system within the site, inverters, transformers, electrical wiring, battery storage equipment, and equipment on the inverter pads. The substations would be removed if they are owned by the project applicant/proponent; however, if a public or private utility assumes ownership of the substations, the equipment may remain on-site to be used as part of the utility service to supply other applications.

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 off-site to be recycled or disposed of at an appropriately licensed disposal facility. Removal of the solar modules would include removing the racks on which the solar panels are attached and placing them in secure transport crates and a trailer for storage for ultimate transportation to another facility or to a recycling or disposal facility. Once the solar modules have been removed, the racks would be disassembled and the structures supporting the racks would be removed. Site infrastructure would be removed, including the fences and the concrete pads that may support the inverters, transformers, and related equipment, and concrete posts will be removed to grade level. The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried with the equipment being used. The fencing and gates would be removed, and all materials would be recycled to the extent feasible. Project roads would be restored to their preconstruction condition unless the landowner elects to retain the improved roads for access throughout that landowner's property. The area would be thoroughly cleaned, and all debris removed. A collection and recycling program would be executed to promote recycling of project components and minimize disposal in landfills.

3.11 Entitlements Required

The Kern County Planning and Natural Resources Department, as the CEQA Lead Agency (per CEQA *Guidelines* Section 15052), has discretionary responsibility for the Enterprise Solar Storage Project owned

by Enterprise Solar Storage, LLC. To implement this project, the project applicant/proponent may need to obtain the following discretionary and ministerial permits/approvals, including but not be limited to:

- **Federal**
    - U.S. Fish and Wildlife Service Incidental Take Permit and Habitat Conservation Plan (if required).
    - U.S. Army Corps of Engineers, Section 404 Permit (if required)
- **State**
    - California Public Utilities Commission
        - Approval under General Order 131-D (if required)
    - CDFW
        - Section 2081 Permit (State-listed endangered species) (if required)
        - Section 1600 et seq. (Lake and Streambed Alteration Agreement) (if required)
    - Lahontan Regional Water Quality Control Board
        - Waste Discharge Requirements (if required)
        - Regional Water Quality Certification (401 Permit) (if required)
        - National Pollutant Discharge Elimination System Construction General Permit
    - California Department of Transportation (Caltrans)
        - Right-of-Way Encroachment Permit (if required)
        - Permit for Transport of Oversized Loads
- **Local**
    - Kern County
        - Consideration and Certification of Final Environmental Impact Report
        - Adoption of 15091 Findings of Fact and 15093 Statement of Overriding Considerations
        - Adoption of Mitigation Monitoring and Reporting Program
        - Approval of Amendments to the Kern County General and Specific Plans (land use designations and circulation system)
        - Approval of Changes in Zone Classifications
        - Approval of Conditional Use Permits for the project sites
        - Approval of Vacations of Public Access Easements
        - Approval of Parcel Maps
        - Approval of Kern County Grading and Building Permits
        - Approval of Kern County Encroachment Permits
        - Approval of Fire Safety Plan

- EKAPCD
  - Approval of Fugitive Dust Control Plan
  - Authority to Construct
  - Permit to Operate

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

3.12 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 reasonably 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).

A list and description of past, present, and reasonably foreseeable projects near the project can be found in **Table 3-6**, *Cumulative Projects List*. **Figure 3-15**, *Cumulative Projects*, shows the approximate location of the proposed projects in Kern County considered in the cumulative analysis.

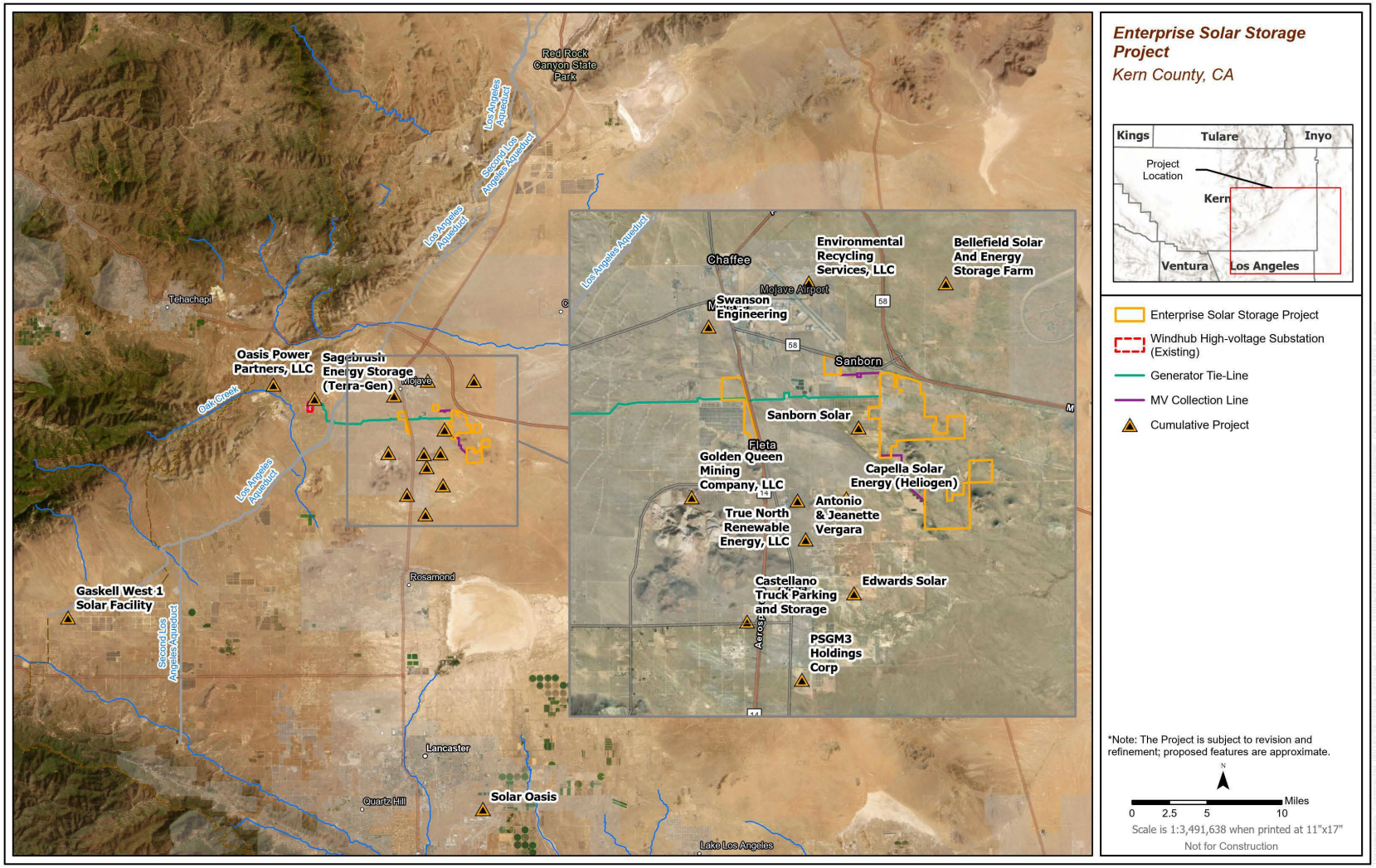


Figure 3-15 Cumulative Projects

TABLE 3-6: CUMULATIVE PROJECTS LIST

Date	Permit	Status	Description	Actions	Applicant	APN	Section	Township	Range	Acreages	Zone Map
11/13/2018	PLN18-01989	Approved	EIR: Solar/Wind; Planner: T. Schoene - CUP for 300 MW Solar Facility on 2,101 acres.	Conditional Use Permit	Sanborn Solar, LLC	Multiple	Multiple	11W, 12W	NULL	196, 212, 213	
10/14/2019	PLN19-02070	Approved	CUP/ZCC/GPA, Map 195 for PV Solar Project and Battery Energy Storage System.	Conditional Use Permit, General Plan Amendment, Zone Change	Bellefield by 50LW 8me LLC	Multiple	Multiple	11W	NULL	195	
7/28/2021	PLN21-01202	Approved	Map 196, ZCC, CUP, Vacation - Expansion Sanborn Solar Facility (Sanborn 2.0)	Conditional Use Permit, Nonsummary Vacation, Zone Change	Sanborn Solar, LLC by Simon Day	Multiple	Multiple	12W	NULL	196	
8/25/2021	PLN21-01618	Processing	Map 213, CUP to allow a 5 MW solar power facility; ZV to allow a 265 ft tall power tower where 80 ft is required in the A-1 zone and 8.5 general plan designation; and a Street Vacation of Farlin Street which runs thru center of property on 142 acres.	Conditional Use Permit, Summary Vacation, Zone Variance	Capella Solar Energy by Heliogen	Multiple	Multiple	12W	NULL	213	
6/12/2018	PLN18-00841	Applied	ZCC to R-2 and SPA to 5.2 (16 DU/acre).	Zone Change and Specific Plan Amendment	Swanson Engineering	236-080-09	17	11N	12W	19.22	196
11/8/2018	PLN18-01924	Approved	EIR: Solar/Wind; Planner: R. Cates - CUP for construction and operation of 20 megawatt solar photovoltaic electrical generating facility.	Conditional Use Permit	First Solar	Multiple	28 & 29	11N	13W	307.5	197
11/13/2018	PLN18-01977	Approved	EIR: Solar/Wind; Planner: J. Mayes - Substation, warehouse, admin buildings	N/A	Edwards Air Force Base	Multiple	Multiple	Multiple	Multiple	3,500	Multiple
9/18/2019	PLN19-01878	Applied	Site Plan Review in WE zone - Tehachapi Energy Storage 1 Project - 77MW / 77MWh Battery Energy Storage System	Site Plan Review	TGP Battery Storage, LLC	237-031-04	17	11N	13W	636.36	197
10/21/2019	PLN19-02124	Approved	Oasis Repower Project to remove 60 smaller turbines to be replaced with 22 new larger turbines at a previously existing and approved wind farm in an A WE zone.	Plot Plan Review	Oasis Power Partners, LLC	Multiple	6,7,8	11N	13W	1,065	197
1/29/2020	PLN20-00213	Approved	Proposed addendum to an EIR approved for a surface mining and reclamation plan (CUP 27, Map 196; CUP 41, Map 213; CUP 22, Map 214)	Conditional Use Permit	Golden Queen Mining Company, LLC	429-190-069	6	10N	12W	44.18	196
11/14/2020	PLN20-01420	Applied	Map 196, CUP - Aircraft Recycling Facility	Conditional Use Permit	Environmental Recycling Services, LLC	428-010-05	10	11N	12W	N/A	196
4/29/2021	PLN21-00285	Processing	Map 213, GPA, ZCC, PD - Steel Micro Mill Mfg Facility	General Plan Amendment, Precise Development, Zone Change	PSGM3 Holdings Corp	431-010-02	27	10N	12W	154	213
6/9/2021	PLN21-00524	Approved	Battery Energy Storage System Accessory to an existing Large Wind-Driven Electrical Generator Facility	Mitigated Negative Declaration	Sagebrush Energy Storage Project by Terra-Gen	237-031-04 & 237-031-38	16 & 17	11N	13W	43	197
8/10/2021	PLN21-01380	Processing	Map 213 - GPA and SPA to Kern County General Plan and Willow Spring Specific Plan to designate the site as Solid Waste Disposal Facility and CUP to allow a renewable energy facility on 117 acres.	Conditional Use Permit, Specific Plan Amendment, Precise Development Plan	True North Renewable Energy, LLC by QK, Jaymie Brauer	429-101-30 thru 34 and 36	3	10N	12W	117	213
11/16/2021	PLN21-02354	Applied	Map 213, GPA ZCC PD - Truck Parking and Storage Facility	General Plan Amendment, Precise Development, Zone Change	Castellano Truck Parking and Storage	430-053-08	16	10N	12W	10	213
8/16/2022	PLN22-00199	Applied	Map 213, CUP - Construction Materials Recycling Facility	Conditional Use Permit	Antonio & Jeanette Vergara	429-010-02	10	10N	12W	40	213

Section 4.1
Aesthetics

4.1.1 Introduction

This section of the 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 to illustrate various views of the project site after buildout of the project. The terms and concepts are used in the discussion below are used to describe and assess the aesthetic setting and impacts from the project. Potential effects associated with lighting and glare are also evaluated. Information in this section related to glare impacts is based primarily on the *Glare Analysis Report* (Dudek, 2023), which was prepared by Dudek, located in Appendix B of this EIR and incorporated by reference herein.

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.

The following terms and concepts are used in the discussion below to describe and assess the aesthetic setting and impacts from the proposed project:

- **Glare** – The introduction of features with reflective surfaces has the potential to result in visual impacts. Reflected light can cause glint (a quick reflection) and glare (reflection that lasts for a longer duration), which depending on the intensity and duration, can create hazards for pilots, air traffic control personnel, motorists, and other potential receptors. Glare can also draw greater attention to objects in a landscape and contribute to visual effects. For the purposes of the EIR discussion, any light reflected off project facilities is referred to as glare.
- **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.
- **Scenic Quality** - Scenic quality refers to the visual appeal of a landscape relative to desired scenic values and the abundance or scarcity of similar qualities in the region. Scenic quality can be measured by evaluating the presence or absence of scenic features and the intrusion of other features that detract from the scenic features.
- **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 –** perception of details (e.g., form, line, color, and texture) diminishes with increasing distance. The landscape is subdivided into three distance zones based on relative visibility from travel routes or observation points. The three zones are: foreground, middle ground, and background. The foreground zone includes areas less than ¼ mile away, the middle ground zone includes areas ¼ mile to 3 to 5 miles away, and the background zone includes areas beyond middle ground (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 is located in an unincorporated area in southeastern Kern County, California, at the western edge of the Antelope Valley and south of the community of Mojave, as shown in **Figure 3-1**, *Site Vicinity*. Portions of the project site are adjacent to State Route (SR)-58 and SR-14. The project site is directly south of the unincorporated community of Mojave, 9.5 miles southwest of the unincorporated community of California City, 10 miles north of the unincorporated community of Rosamond, and 16 miles southeast of the city of Tehachapi.

The Antelope Valley encompasses approximately 2,400 square miles in northern Los Angeles County, southern Kern County, and western San Bernardino County. The region is on the south side of the Tehachapi Mountains, and is dominated by desert vegetation. Topography in the Antelope Valley is relatively flat, with elevations gradually rising towards the northwest, providing open, expansive views of hills and mountains that surround the valley. Land uses in the Antelope Valley include a mix of undeveloped land, agriculture, solar and wind energy production facilities and transmission facilities, low-density residential development, and other uses.

The aesthetic features of the Antelope Valley include the southeastern flank of the Tehachapi Mountains, characterized by terrain that gradually slopes form northwest to southeast. The Pacific Crest National Scenic Trail (commonly known as the Pacific Crest Trail, or PCT) is designated as a National Scenic Trail, and located approximately 3.8 miles northwest of the generation tie (gen-tie) line corridor and northwest of Site 1 (Northern), Site 2 (Western), Site 3 (Eastern), and Site 4 (Southern) approximately 10.8 miles, 8.8 miles, 10.9 miles, and 13.9 miles, respectively. Forest, parkland, and preserve areas in the vicinity of the project site include the Angeles National Forest located approximately 40 miles south; the Desert Pines Wildlife Sanctuary and the Arthur B. Ripley Desert Woodland State Park located approximately 26 miles to the southwest; and the Antelope Valley California Poppy Reserve located approximately 23 miles to the south.

There are several planned, existing, and permitted solar energy and transmission projects in the region where the project site is located. In total, there are over 30,000 acres of existing large-scale commercial solar projects in Eastern Kern County desert areas. Surrounding solar projects in the vicinity include (see **Figure 3-5**, *Surrounding Solar Projects*) the Sanborn Solar Project, which is located between Site 1 (Northern), Site 2 (Western), and Site 3 (Eastern) and to the west and south of Site 4 (Southern). The RE Camelot Solar Project, RE Columbia Two Solar Project, RE Columbia Three Solar Project, and RE Rio Grande Solar Project are operational and adjacent to Site 2 (Western). The Windhub Solar Project and the SEPV Solar Project, approximately 5 miles to the west, are currently operational, as are the Rosamond One, Rosamond Two, and Catalina Solar Projects to the southwest. Edwards Solar Project is south of Site 4 (Southern).

Local Character

The nearest populated areas to the project site are the unincorporated community of Mojave directly to the north, the unincorporated community of California City 9.5 miles to the northeast, the unincorporated community of Rosamond 10 miles to the north, and the City of Tehachapi 16 miles to the northwest. Scattered rural residences are located to the south and west of the project, see **Figure 4.1-1**, *Key Observation Point (KOP) Locations*.

Surrounding land uses are composed primarily of undeveloped land, scattered single-family homes, and other solar energy development. Existing development in the project vicinity includes single-family homes, rural access roads, scattered rural residences, wind and solar energy, and scattered commercial uses. Site 1 (Northern) is directly south of SR-58, generally west of 10th Street and north of Purdy Avenue. Site 2 (Western) is directly west of SR-14, east of 25th Street West, south of Camelot Boulevard, and generally north of Purdy Avenue with one small portion extending south of Purdy Avenue and north of Sunset Avenue. Site 3 (Eastern) is east of 10th Street, south of SR-58, and north of Silver Queen Road. Site 4 (Southern) is south of the Burlington Northern Santa Fe (BNSF) Railway with a large portion of the site being located south of Silver Queen Road. Site 5 (Step-up Substation) is located north of Oak Creek Road and north of the Windhub Substation.

Elevations across the project site range from approximately 2,750 feet above mean sea level in the northwest portion of Site 2 (Western) to approximately 2,520 feet above mean sea level in the southeast portion of Site 4 (Southern). The topography of the project site is relatively flat, with scattered hills up to approximately 200 feet in height present adjacent to Site 4 (Southern). As described in more detail in Section 4.4, *Biological Resources,* the project site is privately owned*,* currently undeveloped, and is comprised of both disturbed and undisturbed native and nonnative habitats. Much of the project site is highly disturbed from domestic sheep grazing. In general, three natural vegetation communities occur in the project site: allscale saltbush scrub alliance, creosote bush scrub alliance, and Joshua tree woodland alliance. Non-native species, such as cheatgrass (*Bromus tectorum*), Mediterranean grass (*Schismus* sp.), red brome (*Bromus madritensis*), and red-stem filaree (*Erodium cicutarium*), were ubiquitous throughout the project site. There are no structures within the project boundaries; however, several recreational vehicles and automobiles are stored on a site south of SR-58 and west of 10th Street, along the underground medium voltage gen-tie route.

Scenic Highways

According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, there are no Officially 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-58 (portion east of SR-14), located directly north of Site 3 (Eastern), and SR-14 (portion north of SR-58), located approximately 1.8 miles north of Site 2 (Western) (Caltrans, 2023). Prominent views along SR-14 and SR-58 adding to the scenic elements in the landscape for motorists include panoramic views of the open Mojave Desert landscapes and surrounding mountains, including the Tehachapi Mountains, San Gabriel Mountains, and southeastern extent of the Sierra Nevada 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. The Kern County General Plan Circulation Element identifies several local scenic routes within Kern County, including SR-58 and SR-14,

which as described above are Eligible State Scenic Highways, As local scenic routes are not considered officially designated by the State, they are not analyzed below.

As part of the Kern County General Plan 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 is not within a Scenic Corridor Combining District.

Lighting Environment

The project site does not currently contain any lighting, and none of the dirt roads bordering or traversing the project site include street lighting. Minimal offsite fixed lighting in the area immediately surrounding the project site includes lighting fixtures associated with nearby residences, which contain small lighting fixtures installed on building exteriors, and main driveways or gates. Located directly adjacent to and west of SR-58, existing wind turbine facilities, including the Rising Tree Wind Farm, and existing solar generating facilities contribute lighting and potential sources of glare. Required Federal Aviation Administration obstruction lighting tops wind turbines and the regular slow pulsing red lights operate during nighttime hours. The main source of nighttime lighting 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 2 percent of incoming sunlight, which is similar to water and less than soil and wood shingles. Some of the concerns and misconceptions are 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. In the vicinity of the project, 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.

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, solar panels, 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.

Locations of potential glare receptors in the vicinity of the project may include motorists on SR-14, SR-58, and local roadways, BNSF Railway, Mojave Air and Space Port (MASP) runway approach paths and air traffic control towers (located approximately 0.33 miles north of Site 1 [Northern]), and potentially sensitive observation point receptors (i.e., residences, parks, etc.) located within potential line of sight to the project.

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, 2023a). There are no National Scenic Byways or All-American Roads within the vicinity of the project site (FHWA, 2023b).

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 (National Park Service, 2019). PCT's southern terminus is on the U.S. border with Mexico, just south of Campo, California, and its northern terminus on the Canada–U.S. 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 approximately 3.8 miles northwest of the Site 5 (Step-Up Substation) and northwest of Site 1 (Northern), Site 2 (Western), Site 3 (Eastern), and Site 4 (Southern) approximately 10.8 miles, 8.8 miles, 10.9 miles, and 14 miles, respectively. Views of the project components from the PCT would be limited given the project components are between 3 and 14 miles from the PCT and intervening topography between viewers along PCT and the project components would obscure views of the project components.

U.S. Federal Aviation Administration

The Federal Aviation Administration (FAA) has crafted a policy regarding the ocular hazards posed by solar projects to federally obligated airports. Initially, it was assumed that solar energy systems might generate new glint and glare effects for pilots during the final approach. However, FAA has since concluded that in most instances, the glint and glare from solar energy systems experienced by pilots during final approach are comparable to those routinely encountered from water bodies, glass facade buildings, parking

lots, and similar features. Therefore, FAA has retracted its prior interim guidance, which mandated airports to analyze potential glint and glare effects for pilots on final approach (86 *Federal Register* [FR] 25801–25803). Instead, FAA has determined that its policy should primarily focus on the impact of on-airport solar energy systems on federally obligated towered airports, especially the airport's air traffic control tower cab (86 FR 25801–25803).

Per FAA Policy 86 FR 25801–25803, the following criteria must be met for solar energy systems on airport property:

- No glare of any kind for air traffic control tower(s) at cab height

This policy only applies to proposed solar energy systems on federally obligated airport property and only those airports with control towers. Though the MASP is a federally obligated airport, the project does not fall on airport property. For that reason, this policy does not apply to the project; however, it is included here to describe the standard methodologies used to assess solar glare near operating airports.

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 Subsection 4.1.2, *Environmental Setting*, there are no Designated State Scenic Highways within Kern County. The closest Eligible Scenic Highways are SR-58 (portion east of SR-14), located directly north of Site 3 (Eastern), and SR-14 (portion north of SR-58), located approximately 1.8 miles north of Site 2 (Western) (Caltrans, 2023).

Local

Construction and operation of the project would be subject to policies and regulations contained within the general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to aesthetics. The policies, goals, and implementation measures in the Kern County General Plan related to aesthetics that are applicable to the proposed 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. These measures are not listed below, but as stated in Chapter 2, *Introduction*, of this EIR, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Kern County General Plan

The Land Use, Open Space, and Conservation Element of the Kern County General Plan (County of Kern, 2009) evaluates the visual and aesthetic setting of Kern County and assesses 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 on 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 SR- 14 and State Highway 395. Route 2 consists of SR-58 between Mojave and Boron. Route 3 consists of 5 miles of SR-41 in northwest Kern County. Site 2 (Western) of the project would potentially be visible from Route 1. Site 3 (Eastern) and potentially Site 1 (Northern) would be visible from Route 2. The Circulation element provides County procedures for obtaining a designation for any these routes of Officially Designated State Scenic Highways. This has not happened for any of the identified routes to date.

As part of the Kern County General Plan 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 is not within a Scenic Corridor Combining District.

As SR-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: 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.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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 Mojave Specific Plan that are applicable to aesthetics. The Mojave 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 Mojave Specific Plan are incorporated by reference.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan addresses issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. There are no goals, policies, or implementation measures in the West Edwards Road Settlement Specific Plan that are applicable to aesthetics. In Kern County, specific plans are used to implement goals, objectives, and policies of the General Plan in a more detail and refined manner unique to a smaller area of the County. Since there are no applicable goals, policies, or implementation measures within the West Edwards Road Settlement Specific Plan, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. The recommendations, analysis, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan for aesthetics applicable to the project are provided below. The Soledad Mountain Elephant Butte Specific Plan contains additional recommendations, analysis, 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 Soledad Mountain Elephant Butte Specific Plan are incorporated by reference.

Item 4. Scenic Lands

Recommendation - All possible safeguards should be made to protect the scenic lands along State Route 14, designated as a proposed Scenic Highway, and other County roadways.

Analysis - No billboards or unsightly construction should be allowed within the scenic lands along roadways. All utilities along the route should be underground. State Route 14 provides an excellent example of scenic desert lands for visitors traveling through eastern Kern County and should be protected.

Implementation - Compliance with existing Zoning Ordinance, where applicable.

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.

Kern County Airport Land Use Compatibility Plan

Projects within the influence area of MASP are subject to the policies outlined in the Kern County Airport Land Use Compatibility Plan (Kern County 2012). The following policies apply to the project (Kern County 2012):

> New land uses (or the expansion of existing land uses) with activities which may produce hazards to aircraft in flight shall not be permitted within the Mojave Airport's influence area…. Specific characteristics to be avoided include:
>
> (1) Glare, distracting lights, or light patterns which could be mistaken for airport lights

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 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 (2015), and the Bureau of Land Management (BLM) (BLM, 1986),. 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;
- Conducting a field visit in June 2023 of the project site and vicinity to document the following:
  - Project site's visual characteristics.
  - Project vicinity's visual characteristics.
  - Establish a visual characteristic baseline.
  - Location of visual (sensitive) receptors in the vicinity.

- Establishing five Key Observation Points (KOPs) within the 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;
- Assessing the project's impacts related to lighting and glare; and
- Proposing methods to mitigate any potentially significant visual impacts identified.

The evaluation of project impacts is based on professional judgment, analysis of the Kern County General Plan goals and policies related to visual resources, and the significance criteria established by Appendix G of the CEQA *Guidelines*. More detailed information on the methodology behind the selection of KOPs and rating visual quality is provided below.

Selection of Key Observation Points

Five KOPs were selected to represent views that would be experienced from sensitive viewpoints. These five KOPs were also selected for visual simulation to create post-development views. The evaluated KOPs are mapped on **Figure 4.1-1**, *Key Observation Point (KOP) Locations*, and described below in **Table 4.1-1**, *Key Observation Points*. KOPs are single viewpoints that appropriately reflect the impact implementation the project would have on one or more sensitive receptors. Sensitive receptors near the project 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.

TABLE 4.1-1: KEY OBSERVATION POINTS

KOP	Location	Representative Sensitive Viewers
1	From Dalton Avenue, between Bob Street and Mary Street, looking northeast toward the Site 4 (Southern).	Residents located near the Site 4 (Southern).
2	From westbound travel lanes of SR-58, near 30th Street, looking southwest towards the Site 1 (Northern) and Site 3 (Eastern).	Motorists on SR-58 as they pass near Site 3 (Eastern).
3	From southbound travel lanes of SR-14 looking southwest toward Site 2 (Western).	Southbound motorists on SR-14.
4	From southern end of Dover Drive looking southeast toward Site 2 (Western).	Residents located near Site 2 (Western).
5	From the PCT looking southeast towards the project.	Hikers on the PCT.

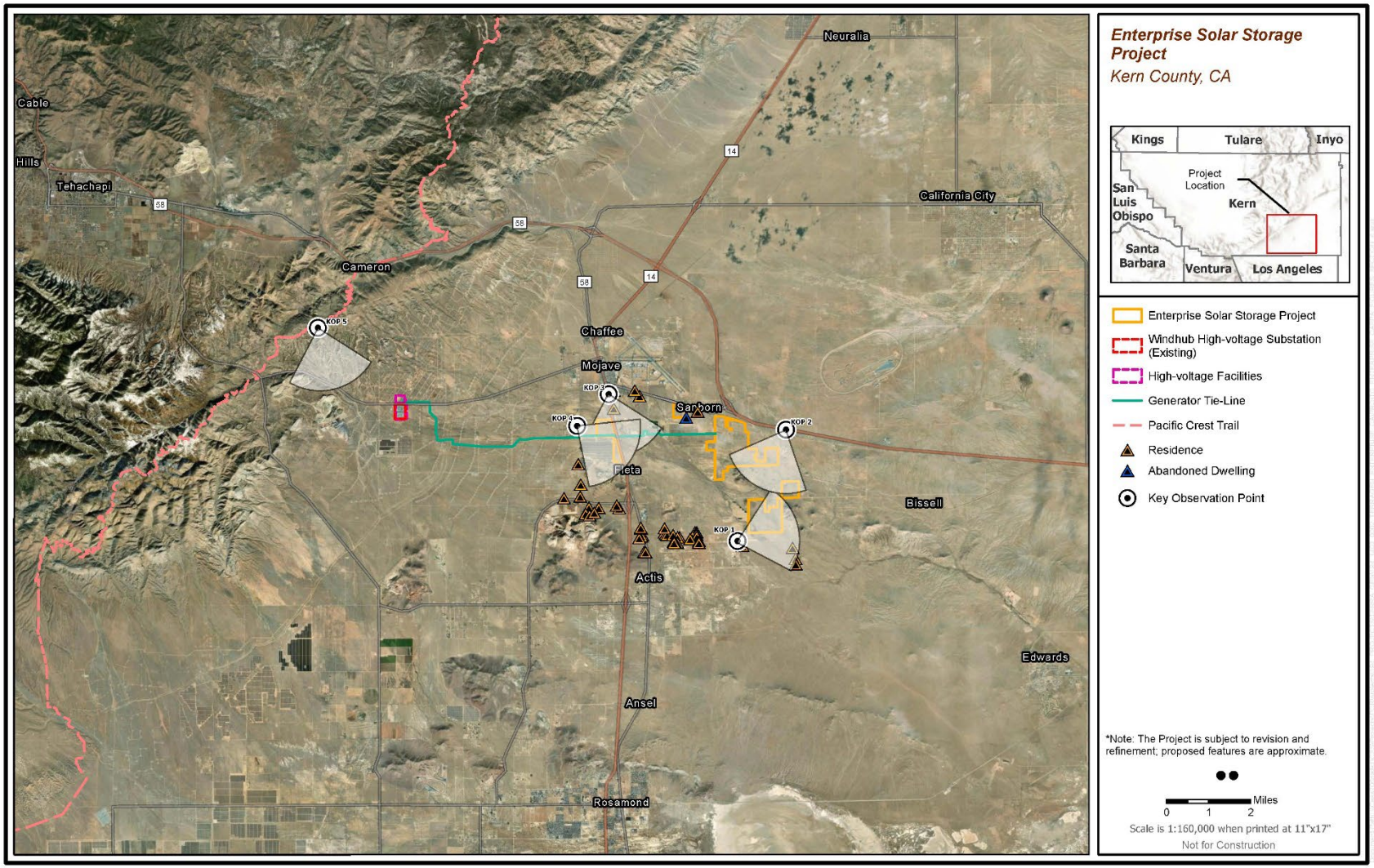


Figure 4.1-1 Key Observation Point (KOP) Locations

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 project site include motorists, due to the eligible state scenic designation of SR-14 and SR-58, and views to the project site available from rural scattered residences along local roads. 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. While SR-58 and SR-14 are not officially designated State Scenic Highways, as they are eligible scenic highways they were considered 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,* above, scattered rural residences are found to the south and west of the project site. Among these residents, those with direct views of the project 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.

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 development of the project. Photographs were taken during a site visit in June 2023 and simulations were prepared by using the assumptions and methodologies listed below in **Table 4.1-2***, Visual Simulation Methodology and Assumptions,* below.

TABLE 4.1-2: VISUAL SIMULATION METHODOLOGY AND ASSUMPTIONS

Component	Details
Photography from Key Observation Points	• Photos were taken in June 2023. • Canon 5D Mark III digital camera with a 35 to 52 mm zoom
Visual simulation assumptions	• Solar modules up to 12 feet in height and separated by approximately 8 to 22 feet. • Modules on single-axis tracking system were used to show the worst-case visual impact. • Two collector substations are included, covering an area of approximately 350 feet by 375 feet each. • Collector substation elements consist of components up to 75 feet in height. • Battery energy storage structure would be up to 35 feet in height. • Transmission structures would range from 50 to 70 feet in height • Gen-tie poles would be up to 185 feet in height. • Fencing is 6 to 8 feet in height (chain link topped by barbed wire). • Module setbacks from property line ranges: South 75’-200’, West 45’-270’, North 55-300’,East 55’-144’

Component	Details
Methods	Following the data gathering phase, the process begins with a determination of proposed camera locations or KOPs. A site visit is then conducted to take digital photographs from the selected locations. This includes identification of reference points with GPS coordinates and specific fields of vision for each view. Concurrently, the modeling team develops a three-dimensional (3D) physical massing model that incorporates the photovoltaic (PV) scale model. Upon completion of the 3D modeling phase realistic materials, maps, and textures are then applied. The next phase is assembly, during which the modeling is inserted into photographs taken during the field study using a full frame camera and camera match technology. 3D pads and boundary outlines are used to situate the modules to the proposed positions as shown on the project layout in computer-aided design (CAD) format. During this process, a computer model camera is aligned with the onsite photography to depict the project setting within each view. Lastly, final artistic touches are made to ensure accuracy, and that the look and feel is consistent with the vision of the project.

A comparison of existing views from the KOPs with visual simulations depicting visible 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 project 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 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 evaluated. 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.

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**

Key Factors	Rating Criteria and Score		
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**

Source: BLM 1986

Notes:

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

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 two 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.

Glare Impacts

Glare can result in visual hazards and temporary loss of vision. The hazard level of glare depends on the ocular impact to the observer. Generally, an ocular impact is calculated as a function of the incidence angle and the intensity of the light. For the purpose of this analysis, an ocular impact is classified in one of three categories, as follows:

- Green: Low potential for the glare to cause an after-image (also known as flash blindness)
- Yellow: Potential to cause a temporary after-image
- Red: Potential to cause retinal burn and permanent eye damage

The Glare Analysis Report (Appendix B) was conducted to address the potential for glare on sensitive receptors within a 5-mile study area as well as the six runway approach paths and single air traffic control tower associated with MASP. A 5-mile study radius was used because that distance approximates the maximum distance that an observer standing at ground level could see the proposed PV panels before the curvature of the earth would intervene (assuming a perfect sphere, no built environmental obstruction, and flat topography).

All six runway approach path receptors associated with MASP were modeled as follows:

- Air Traffic Control Tower Receptor – There is one currently operating control tower located on the southeast side of MASP, adjacent to runways 30 and 26. The control tower height was obtained from publicly available elevation data and was determined to be 85 feet above ground level.
- Airport Flight Approach Observation Route – Six flight approach observation routes were selected to simulate an aircraft following a straight-line approach toward each runway at MASP. Flight approach routes use glide slopes and elevation parameters, as well as cockpit visibility angles. Modeled flight approaches extended out 2 miles from each runway threshold.

A visibility analysis on the surrounding terrain within the study area was conducted to estimate where the project would be most visible to sensitive receptors. This analysis is considered conservative as the visibility analysis only models existing terrain and does not consider above-ground features such as vegetation or structures that might further obscure the visibility of the project. Based on these inputs, the analysis determined the location of potential sensitive receptors within the study area. Areas within the glare study area that were not predicted to have a direct line of site view of the project were not included in the glare analysis. Sensitive observation point and observation route receptors were modeled as follows:

- **Observation Point Receptors** – 31 existing potentially sensitive observation point receptors with potential line of sight to the Project were analyzed. The eye-level height of all observer points was set to 5.5 feet. Descriptions of each observation point can be found in Appendix B.

- **Highway/Road/Railroad Observation Route** – A combination of 33 road, highway (State Route 14 and State Route 58), and railroad observation routes were selected based on visibility, sensitivity, distance to the Project site, and level of traffic expected on the roadways. Per the American Association of State Highway and Transportation Officials, the eye-level height of observers on highway routes was set to 7.6 feet, the average height for observers in large trucks. This height was selected to account for the higher potential for truck traffic on the highway routes. Railroad routes used a height of 14 feet, the approximate eye-level height of an engineer in a train cab. The rest of the routes used an eye-level height of 3.5 feet, the average height of observers in passenger vehicles (AASHTO 2001). The analysis name and description of each observation route can be found in Appendix B.

The analysis used an industry standard 3D geometric glare analysis software tool developed by Sandia National Laboratories and licensed by ForgeSolar. Though initially developed for solar projects on airports, this software has been validated as effective for projects that are not located on airports. By inputting the solar panel locations and characteristics, as well as the locations and elevations of the receptors, the software is able to simulate the sun's progression across the sky over the course of a year and model the potential glare caused by the proposed solar arrays. If glare is detected, the software can quantify the level of ocular impact hazard (green, yellow, or red) and pinpoint the exact time of year the glare would occur. This analysis is automatically performed for every minute of the calendar year for each PV array analysis group and for each potential receptor defined in the model.

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 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 which would adversely affect daytime 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.

There are no local areas that are designated as scenic vistas within the vicinity of the project site. However, the PCT, an important regional recreational facility and long-distance hiking and equestrian trail, is located approximately 3.8 miles northwest of the gen-tie line corridor and northwest of Site 1 (Northern), Site 2 (Western), Site 3 (Eastern), and Site 4 (Southern) approximately 10.8 miles, 8.8 miles, 10.9 miles, and 13.9 miles, respectively. In addition to the existing wind power facilities, the areas surrounding the Project site have been modified with new solar facilities. These include the RE Camelot Solar Project, RE Columbia Two Solar Project, RE Columbia Three Solar Project, and RE Rio Grande Solar Project located adjacent to Site 2 (Western). In addition, the Sanborn Solar Project is located between Site 1 (Northern), Site 2 (Western), and Site 3 (Eastern) and to the west and south of Site 4 (Southern) and the Edwards Solar Project is located to the west and south of Site 2 (Western) and Site 4 (Southern). The Windhub Solar Project and the SEPV Solar Project, approximately 5 miles to the west, are currently operational, as are the Rosamond One, Rosamond Two, and Catalina Solar Projects to the southwest, as discussed in Section 4.1.2, *Environmental Setting*, above. While implementation of the Project would add new human-made elements to views from the PCT, the distance of the Project site from the PCT along with intervening topography would result in limited distant views of project components. Distance from the PCT combined with intervening topography and the existing visual setting including solar, wind, and transmission facilities would result in the Project producing no noticeable impact to views from the PCT.

The Windhub Substation and the Project's step-up substation and interconnection to Windhub are located approximately 4 miles from the PCT. Traversing a modified mountainous and desert landscape, the PCT is separated from the gen-tie line corridor by numerous rows and strings of existing wind turbines, electrical infrastructure development, and the Windhub Substation. Distance from the PCT combined with the existing visual setting including solar, wind, and transmission facilities would result in the Project producing no noticeable impact to views from the PCT.

Due to distance, topography, and the developed nature of the landscape visible from the PCT in the general vicinity, Project development would not have a substantial adverse effect on existing views from the PCT. Therefore, impacts to scenic vistas would be less than significant and no mitigation would be required.

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.

According to the California Scenic Highway Mapping System, there are no Officially Designated State Scenic Highways within Kern County. The California Scenic Highway Mapping System identifies both SR-58 east of Mojave and SR-14 north of Mojave as eligible State Scenic Highways (Caltrans, 2023). Although, they are designated as Eligible for State Scenic Highway status, they have not yet been Officially Designated. The project would not be visible from any Officially Designated State or County Scenic Highway. Therefore, construction and operation of the proposed project would not change the viewshed from any Officially Designated Scenic Highway and impacts would be less than significant.

However, the following analysis is provided for informational purposes regarding the sections of eligible scenic highways near the project site. As stated previously, from north of Mojave to the Inyo County Line, SR-14 is an eligible state scenic highway. Development is relatively scarce along this segment of the state highway; however, due to the presence of clustered development around the community of Mojave, distance, and intervening terrain and vegetation, most of the project site would not be clearly visible from the eligible scenic segment of SR-14 with the exception of Site 2 (Western) and the project gen-tie line. Views of Site 2 (Western) and the project gen-tie line would be limited to a short distance. Project fencing and solar panels would generally display a low vertical profile and would not substantially obstruct or interrupt available views to mountainous terrain or other scenic features. The project facilities would appear as a continuation of the existing solar facilities and electrical distribution infrastructure.

Views to the project also are available from SR-58, particularly Site 3 (Eastern) located immediately to the south. The eligible scenic segment of SR-58 within the County is approximately 31 miles in length from SR-14 near Mojave east to Boron. Views along this segment of SR-58 where the project site is located are more developed in nature. Project fencing and solar panels would generally display a low vertical profile and, therefore, components of the project would not substantially alter existing long-distance views of the mountain terrain and valley landscape or other natural and scenic features visible from the eligible scenic segments of SR-58. In addition to panels and fencing, the on-site collector substation, energy storage facility, and gen-tie line would be located on Site 3 (Eastern) and would be potentially visible from SR-58. Although the on-site collector substation (components up to 75 feet high), the energy storage facility building (up to 35 feet high), and gen-tie poles (metal poles up to 185 feet high and spaced every 600 feet) would have greater vertical prominence, these components cover a relatively small area and would blend into the visual landscape as part of the surrounding electrical/transmission facilities due to their consistent industrial nature. The components also would be located at a lower elevation than SR-58 motorists and setback approximately 0.85 mile or greater from the state route and 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 measures 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, would the project 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,* existing development in the project vicinity includes single-family homes, rural access roads, scattered rural residences, wind and solar energy, electrical transmission infrastructure, and scattered commercial 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 project would create temporary changes in views of the project site. Furthermore, construction activities would introduce heavy equipment, including backhoes, compactors, tractors, and trucks, into the viewshed of all viewer groups. During construction, there would be multiple crews working on the site with various equipment and vehicles, including special vehicles for transporting the modules and other equipment. The influx of construction vehicles, equipment, and worker vehicles would create visible contrast within the rural and primarily undeveloped setting of the project site. However, vehicles, equipment, and construction activity would be temporary in nature (approximately 28 months), with peak construction anticipated to last 15 months, and would be limited to active areas of construction as opposed to the entirety of the project site at the same time.

It should be noted that local viewers are accustomed to seeing heavy machinery associated with the construction of other solar facilities in the area. In addition, the visual effects associated with the presence of construction vehicles, equipment, and workers in the project area landscape would be limited in duration and would be spatially limited at any given time to the active area of construction. Therefore, impacts to existing visual character or quality of the project site and surrounding area during construction of the project would be less than significant.

Operation

In order to determine whether the project would substantially degrade the existing visual quality of the project site, this analysis compares the existing visual setting with visual simulations of the post-project visual conditions. As described above, five 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 **4.1-6**. KOPs are described in **Table 4.1-1,** *Key Observation Points*. 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.

The project would introduce solar arrays covering most of the project site. Collection lines, storage yards, dirt or gravel access roads, project substations, and perimeter fence (with barbed wire on top) would be visible for an estimated lifespan up to approximately 35 years. These features would be visible to residents, workers at nearby solar facilities, and travelers on surrounding roadways for the life of the project. Roads, driveways, and site entrances would be constructed in accordance with Kern County improvement standards, would be consistent with existing roadways in the area, and would not greatly alter the visual landscape. Fences would be approximately 6 to 8 feet tall (chain link with barbed wire on top). The battery energy storage systems and other equipment could introduce industrial-looking elements into the landscape that could be visible to sensitive viewers if viewers are located in proximity to these features and if terrain, vegetation, and the proposed solar modules do not obscure views of these features. In addition, powerlines are proposed to connect the project to the existing Windhub Substation.

Solar modules for the proposed project would be provided on either a fixed-mount array system or a single-axis tracker system. Depending on the type of technology (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 7 to 12 feet. The degree of visual change and impacts on scenic quality that would result from the project can be measured by subtracting the score for the project conditions from the score for existing conditions. The difference in the scenic quality scores represents the degree of visual change and impacts on existing scenic quality. Higher differential values indicate greater impacts, while differential values near zero indicate little to no impact. A summary of scenic quality ratings at the KOPs for existing conditions and proposed project conditions based on the visual simulations, as well as the score differences, are provided in **Tables 4.1-4,** *Visual Quality Rating Analysis – KOP 1,* through **4.1-8,** *Visual Quality Rating Analysis – KOP 5,* which discuss the particular characteristics of each KOP and changes in the visual environment.

KOP 1. Figure 4.1-2, *KOP 1 - Existing and Simulated Views from Dalton Avenue Looking Northeast Towards Site 4 (Southern),* shows views from Dalton Avenue, between Bob Street and Mary Street. This KOP reflects views to Site 4 (Southern) that would be experienced by area residents located in proximity to Site 4 (Southern). At KOP 1, Site 4 (Southern) is located 0.42 miles away. The pre-development views from KOP 1 show that the landscape is relatively flat and covered with low-lying desert shrubs with dark, conical hills in the foreground and middle ground. Visible development within this viewpoint includes fencing along the roadway, a rural residence, and fencing associated with the Edwards Solar facility and Sanborn Solar facility. As shown in the post-development view from KOP 1 (see Figure 4.1-2) and discussed in **Table 4.1-4**, *Visual Quality Rating Analysis – KOP 1*, the project would not be visible, and therefore, no impact would occur from this viewpoint.

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

Sensitive Receptor: Residents located northeast of Site 4 (Southern).
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	**3**	**3**	**0**	**No Impact**
Explanation:	Relatively flat terrain covered with low-lying desert shrubs with dark, conical hills in foreground and middle ground.	As the project is not visible from this viewpoint, the slight modification to the flat topography of the project site would not be noticeable. Hilly landforms would not be modified.		
Detail:	Flat and hilly landforms are visible in the foreground and middle ground of the visible landscape. Hills provide elements of interest. The low height of solar arrays on Site 4 (Southern) would not be visible behind the existing fencing and would not obstruct or interrupt views of hills. There would be a less than significant impact to landforms resulting from project operations.			
Vegetation	**3**	**3**	**0**	**No Impact**
Explanation:	Low, mounded desert shrub vegetation dotted with Joshua trees; similar species present in the visible landscape.	Desert shrub vegetation would be removed from the solar sites in the middle ground, but effects would be obscured by existing fencing and distance.		

Sensitive Receptor: Residents located northeast of Site 4 (Southern).
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
Detail:	Both the pre- and post-development views depict low, mounded desert shrub vegetation covering the valley floor. Removal of vegetation in the middle ground due to project development would not be noticeable due to distance and existing fencing. No impacts to vegetation would occur.			
Water	**0**	**0**	**0**	**No Impact**
Explanation:	No water is present on the site or in the vicinity.	Project development would not introduce water to or remove water from the visible landscape.		
Detail:	Water features are not included in pre- or post-development views. No impacts to water features would occur.			
Color	**2**	**2**	**0**	**No Impact**
Explanation:	Shades of green, brown, and tan on the valley floor and the hills across the foreground and middle ground (associated with soil and vegetation). Dark grey associated with existing fencing. White and dark brown associated with buildings.	Solar arrays would display a low and thin black horizontal band in the middle ground. While these colors would contrast with the muted earth tones in the foreground and middle ground, they would not be visible from this viewpoint.		
Detail:	Existing muted earth tones of green, brown, and tan dominate the foreground and middle ground. As the project would not be visible, the existing background colors would not be altered or obstructed from view and no impacts would occur.			
Adjacent Scenery	**3**	**3**	**0**	**No Impact**
Explanation:	Foreground and middle ground hills to the northeast enhance the view.	Hills would remain visible and would not be obstructed by project components.		
Detail:	The project would not modify, obstruct, or interrupt views of adjacent scenery. No impacts to views of adjacent scenery would occur.			
Scarcity	**2**	**2**	**0**	**No Impact**
Explanation:	The available view is limited by foreground and middle ground hills. It is distinctive, though similar to other views within the region.	Views would not be modified.		
Detail:	Existing views offered from Dalton Avenue are distinctive though typical of the area. Visible features are not unique or unusual. As the project would not be visible, no impacts would occur.			

Sensitive Receptor: Residents located northeast of Site 4 (Southern).
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
Cultural Modifications	**0**	**0**	**0**	**No Impact**
Explanation:	Cultural modifications include a rural residential buildings and fencing associated with existing solar facilities.	The addition of project facilities would not be visible from this viewpoint.		
Detail:	Existing cultural modifications are visible but not particularly prominent. As the project would not be visible, no impacts would occur.			
Totals:	**14**	**14**	**0**	**No Impact**



Figure 4.1-2a KOP 1 - Existing View from Dalton Avenue Looking Northeast Towards Site 4 (Southern)

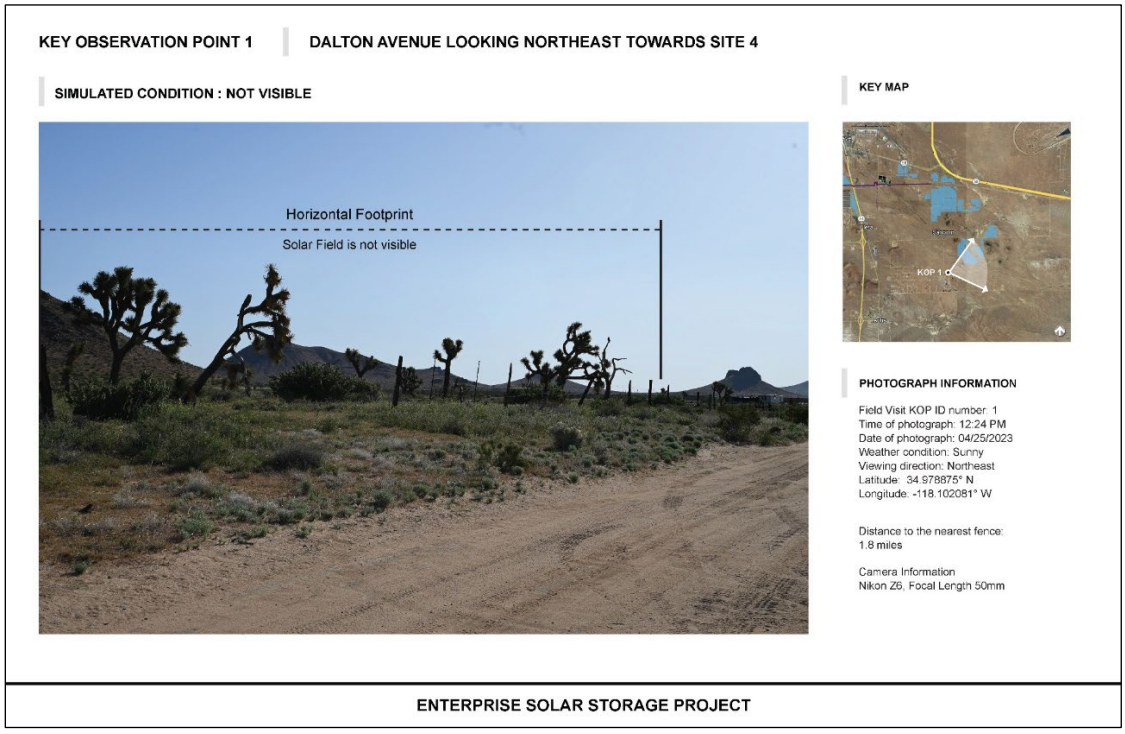


Figure 4.1-2b KOP 1 – Simulated View from Dalton Avenue Looking Northeast Towards Site 4 (Southern)

KOP 2. Figure 4.1-3, *KOP 2 - Existing and Simulated Views From SR-58 Looking Southwest Towards Site 3 (Eastern) and Site 4 (Southern),* shows views from westbound SR-58 looking southwest toward Site 3 (Eastern) and Site 4 (Southern). This KOP reflects views that state route motorists would experience as they pass Site 3 (Eastern), located to the south of SR-58. The pre-development views from KOP 2 depict broad and flat terrain covered with mounded grey and brown shrubs and low grasses in the foreground and middle ground. Buildings associated with the community of Mojave are visible in the middle ground of the northern portion of this viewpoint. Renewable wind energy facilities and low dark brown mountains are visible in the distance to the west. The post-development view from KOP 2 (see Figure 4.1-3) would include the low and dark horizontal line displayed by rows of solar panels. Solar arrays would interrupt the long view across the valley terrain to the south and would create noticeable color contrast. The introduction of project gen-tie structures would increase the volume of straight, thin, vertical features present in the view. While the contrast introduced by the project may not dominate the landscape, it would attract attention and would not be overlooked. As discussed in **Table 4.1-5**, *Visual Quality Rating Analysis – KOP 2*, the pre-development score is 12 (above average visual quality class), and the post-development score is 10 (average visual quality class), therefore, visual class of the view would be reduced. Since the difference in scores would be 2 points, visual impacts from KOP 2 are potentially significant.

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

Sensitive Receptor: Motorists on SR-58 as they pass Site 3 (Eastern).
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**
Explanation:	Broad and flat terrain in the foreground and middle ground with low, dark brown mountains in the distance.	Project development would result in slight modification of the area's topography but would not be noticeable from the KOP.		
Detail:	The pre- and post-development view is dominated by flat valley terrain in the foreground and middle ground with distant mountains in the background. Views of Site 3 (Eastern) would be visible in the middle ground. However, as the project will involve minimal overall mass grading, impacts to landforms would be less than significant.			
Vegetation	**3**	**3**	**0**	**Less than Significant**
Explanation:	Low and mounded desert shrub vegetation covers the foreground and middle ground terrain.	Solar arrays would replace a large area of vegetation in the landscape and would interrupt views of low and mounded shrub vegetation covering the desert terrain ground, but effects would be obscured by distance.		
Detail:	The visual effects of vegetation removal would generally be obscured by distance. Therefore, impacts to vegetation would be less than significant.			
Water	**0**	**0**	**0**	**No Impact**
Explanation:	No water is visible on site or in the surrounding area.	Project development would not introduce water to or		

Sensitive Receptor: Motorists on SR-58 as they pass Site 3 (Eastern).
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
		remove water from the visible landscape.		
Detail:	Water features are not included in pre- or post-development views. No impacts to water features would occur.			
Color	**2**	**1**	**1**	**Less than Significant**
Explanation:	Shades of green, brown, and tan are displayed by soil and vegetation, which dominate the foreground and middle ground. Low dark brown mountains rise from the valley. Development is grey (highway, buildings, solar arrays), white (wind turbines, buildings) and brown (electrical transmission line poles).	Solar arrays would display a low and thin black horizontal band in the middle ground. These colors would contrast with the muted earth tones in the foreground and middle ground.		
Detail:	Muted earth tones of brown, green and yellow dominate the foreground and middle ground. Visible solar arrays would introduce a simple horizontal band of black color to the middle ground that would be easy to overlook. Background colors would not be altered or substantially obstructed from view. Impacts associated with color would be less than significant.			
Adjacent Scenery	**2**	**2**	**0**	**No Impact**
Explanation:	Views of the flat desert terrain are enhanced by mountains to the west.	Mountains would remain visible. Visible solar arrays and fencing would not block mountains from view.		
Detail:	The project would not modify, substantially obstruct, or interrupt views of adjacent scenery. No impacts to views of adjacent scenery would result.			
Scarcity	**1**	**1**	**0**	**Less than Significant**
Explanation:	Views of the mountains are distinctive though similar and fairly common within the region.	Views would be slightly modified by industrial development in the middle ground.		
Detail:	The existing view of the mountain from SR-58 is distinctive to this viewpoint. Alteration of the landscape to accommodate the project would not result in visually significant impacts to view scarcity.			
Cultural Modifications	**0**	**-1**	**1**	**Less than Significant**
Explanation:	Cultural modifications include paved roads, electrical transmission lines, wind energy and solar facilities, and buildings.	The project would introduce manufactured elements to the foreground and middle ground, including solar arrays and inverters, the gen-tie and support structures, the		

Sensitive Receptor: Motorists on SR-58 as they pass Site 3 (Eastern).
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
		collector substation, and the energy storage facility. These project components are visible from this viewpoint and begin to attract attention.		
Detail:	To the south of SR-58, the landscape is generally free of cultural modifications, and those in the middle ground are not visually prominent. However, the wind turbines to the west in the background are prominent. The desert vegetation and the flat to mountainous terrain are prominent, and the view is open and long. The project would introduce solar development and ancillary components to the middle ground. Solar arrays, the gen-tie line and structures, the collector substation, and energy storage facility would attract attention and create form, line, and color contrast. Visual impacts associated with cultural modifications would be less than significant.			
Totals:	**12**	**10**	**2**	**Potentially Significant**

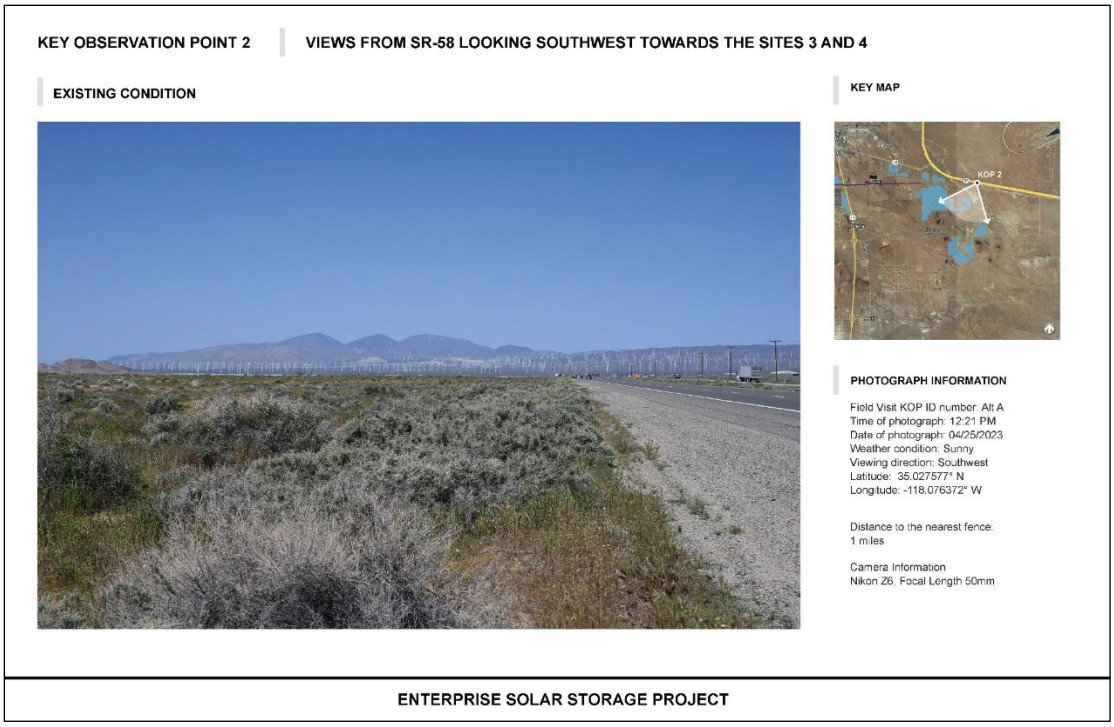


Figure 4.1-3a KOP 2 - Existing View From SR-58 Looking Southwest Towards Site 3 (Eastern) and Site 4 (Southern)

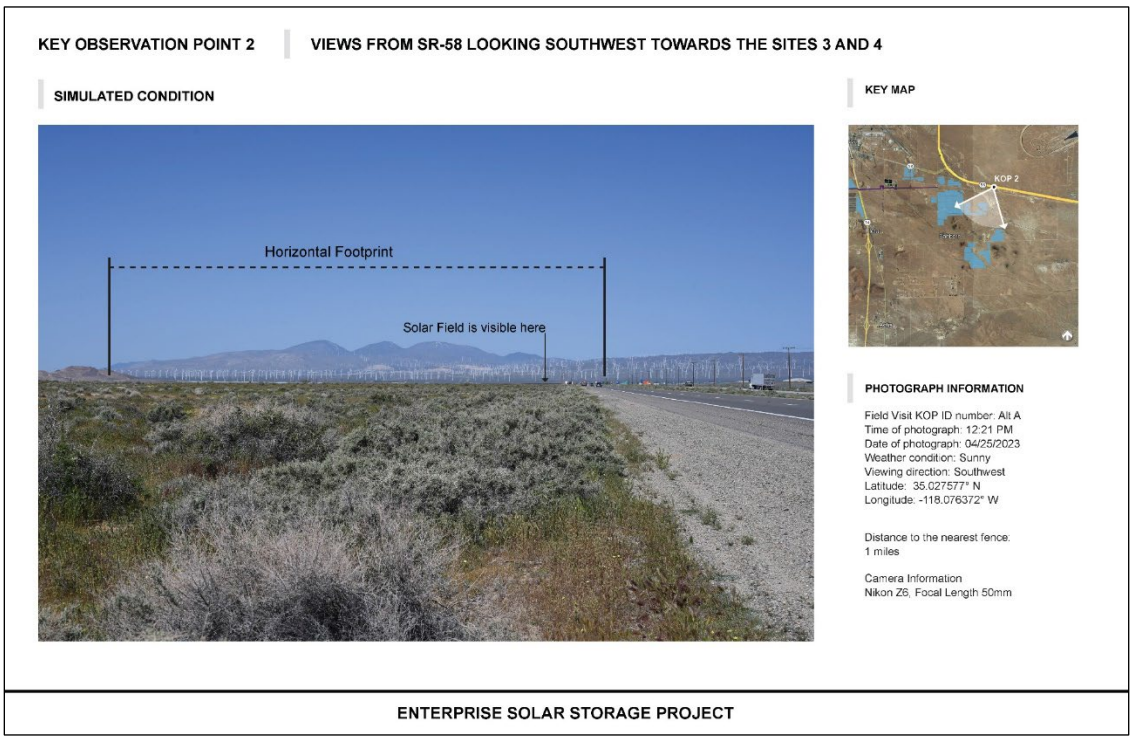


Figure 4.1-3b KOP 2 - Simulated View From SR-58 Looking Southwest Towards Site 3 (Eastern) and Site 4 (Southern)

KOP 3. Figure 4.1-4, *KOP 3 - Existing and Simulated Views From SR-14 Looking Southwest Towards Site 2 (Western)*, shows views from the southbound travel lanes of SR-14 looking southwest toward Site 2 (Western). This KOP reflects views to Site 2 (Western) that southbound state route motorists would experience adjacent to the project site. The pre-development views from KOP 3 depict flat terrain with the highway and railroad tracks dominant in the foreground. Desert vegetation and existing solar facilities are visible in the middle ground and existing transmission lines are visible throughout the foreground and middle ground. Soledad Mountain can be seen in the background with low mountains in the distance. The post-development view from KOP 3 (see Figure 4.1-4) would include rows of solar panels as well as gen-tie line and support structures. These components of the project would be visible in this viewpoint, but would be consistent with and appear as a continuation of the existing solar facilities. Although additional solar facilities from the project would result in some additional color contrast, they would not dominate the landscape. As discussed in **Table 4.1-6**, *Visual Quality Rating Analysis – KOP 3*, the pre-development score is 10 (average visual quality class), and the post-development score is 9 (average visual quality class); therefore, the view would remain in the same visual class. Since the difference in scores would be 1 point, visual impacts from KOP 3 are less than significant.

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

Sensitive Receptor: Motorists traveling westbound on SR-14 Looking Towards Site 2 (Western). 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**	**No Impact**
Explanation:	Flat terrain in the foreground and middle ground with Soledad Mountain in the background and a line of relatively low mountains in the distance.	The flat topography of the area would not be noticeably modified by project development.		
Detail:	Flat landforms dominate the foreground and middle ground of the visible landscape. However, Soledad Mountain can be seen in the background with low mountains in the distance. Mountains add interest to the otherwise low and flat landscape. There would be no impact to the mountain landforms resulting from project operations. As the project will involve minimal overall mass grading, impacts to flat landforms would be less than significant.			
Vegetation	**2**	**1**	**1**	**Less Than Significant**
Explanation:	Low and mounded desert shrubs dotted with Joshua trees in between highway and existing solar facilities.	Construction of the solar arrays would replace a large area of vegetation in the landscape and would interrupt views of low and mounded shrub vegetation covering the desert terrain.		
Detail:	Solar arrays would replace a large area of vegetation on Site 2 (Western), but the visual effects of vegetation removal would generally be reduced by Mitigation Measure MM 4.1-3, Landscape Revegetation and Restoration Plan, which involves limiting vegetation removal and planting native vegetation. Therefore, with the implementation of Mitigation Measure MM 4.1-3, impacts to vegetation would be less than significant.			
Water	**0**	**0**	**0**	**No Impact**

Sensitive Receptor: Motorists traveling westbound on SR-14 Looking Towards Site 2 (Western). 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
Explanation:	No water is visible on site or in the surrounding area.	Project development would not introduce water to or remove water from the visible landscape.		
Detail:	Water features are not included in pre- or post-development views. No impacts to water features would occur.			
Color	**2**	**2**	**0**	**Less than Significant**
Explanation:	Foreground and middle-ground terrain and vegetation display shades of yellow, green, and brown. Soledad Mountain in the background includes shades of brown and tan and dark brown mountains in the distance. Development is grey (highway, railroad tracks, solar arrays), and brown (electrical transmission line poles).	The grey color of solar arrays would contrast with the drab tones displayed by terrain and vegetation in the foreground However, these colors would be consistent with and appear as a continuation of the existing solar facilities and the grey of the highway in the foreground would remain dominate.		
Detail:	The highway and railroad tracks are dominant in the foreground. Solar arrays are visible in the middle ground. Transmission lines are visible throughout the foreground and middle ground. Shades of yellow, green, and brown associated with vegetation are visible in the foreground and middle ground. Solar arrays on Site 2 (Western) would display grey/blue color that would contrast with the characteristic color of the vegetation, however, would be consistent with and appear as a continuation of the existing solar facilities. Gen-tie structures and lines would be visible but would blend in with the numerous existing transmission lines. Impact would be less than significant.			
Adjacent Scenery	**3**	**3**	**0**	**No Impact**
Explanation:	Views are enhanced by Soledad Mountain in the background and mountains in the distance.	Soledad Mountain would remain visible. Solar arrays, fencing, gen-tie components, and other project components, would not block hills or mountains from view.		
Detail:	Visibility of Soledad Mountain would not be altered by project development. No impacts would occur.			
Scarcity	**2**	**2**	**0**	**No Impact**
Explanation:	Soledad Mountain is visible from this viewpoint.	Solar arrays, the collector substation, energy storage facility, and gen-tie would be visible from SR-14 and would modify the existing, landscape view in this area, but would not disrupt views of Soledad Mountain.		
Detail:	The existing view of Soledad Mountain from SR-14 is distinctive to this viewpoint. The Project would not disrupt views of Soledad Mountain and this			

Sensitive Receptor: Motorists traveling westbound on SR-14 Looking Towards Site 2 (Western). 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
	would continue to be available along the SR-14 corridor. Alteration of the landscape to accommodate the project would not result in visually significant impacts to view scarcity.			
Cultural Modifications	**-2**	**-2**	**0**	**Less than Significant**
Explanation:	Cultural modifications include paved roads, electrical transmission lines, and solar facilities.	The project would introduce manufactured elements to the middle ground, including solar arrays and inverters, the gen-tie and support structures, the collector substation, and energy storage facility. However, these Project components would be consistent with and appear as a continuation of the existing solar facilities.		
Detail:	The landscape contains numerous prominent cultural modifications. While Soledad Mountain is prominent, the desert vegetation in the foreground is subordinate. The project would introduce solar development and ancillary components to the middle ground. Solar arrays, the gen-tie line and structures, the collector substation, and energy storage facility would substantially attract attention as these Project components would be consistent with and appear as a continuation of the existing solar facilities. Visual impacts associated with cultural modifications would be less than significant.			
Totals:	**10**	**9**	**1**	**Less Than Significant**

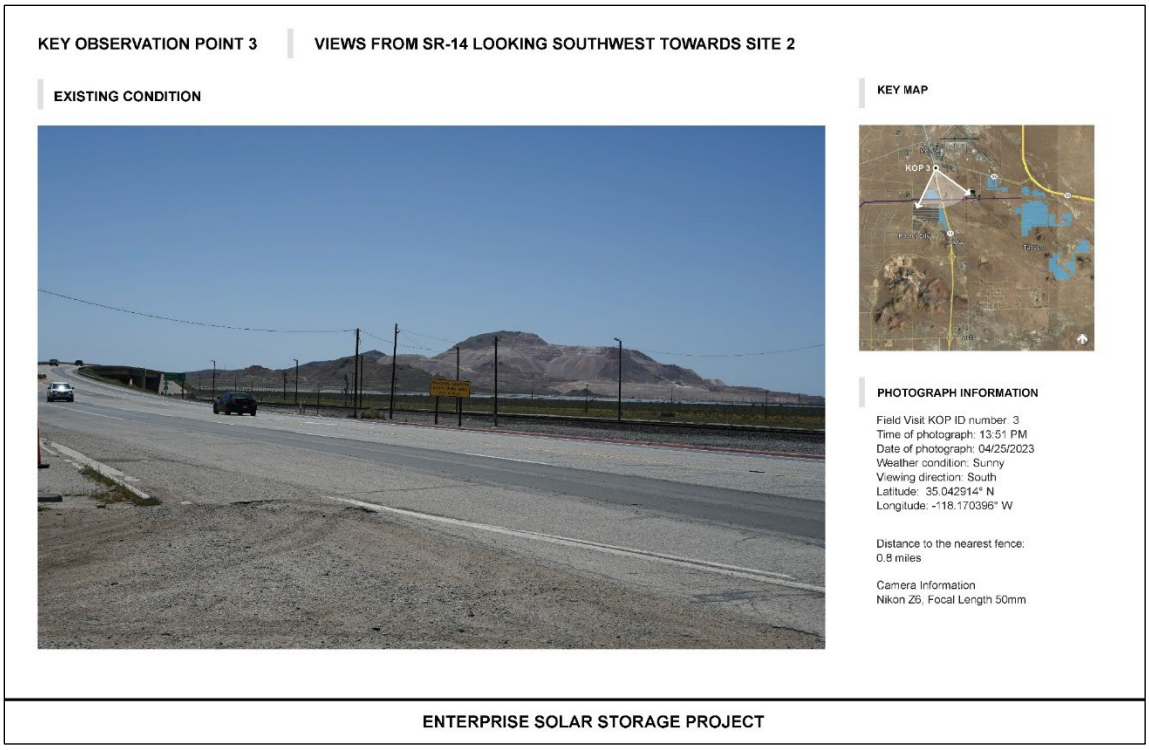


Figure 4.1-4a KOP 3 - Existing View From SR-14 Looking Southwest Towards Site 2 (Western)

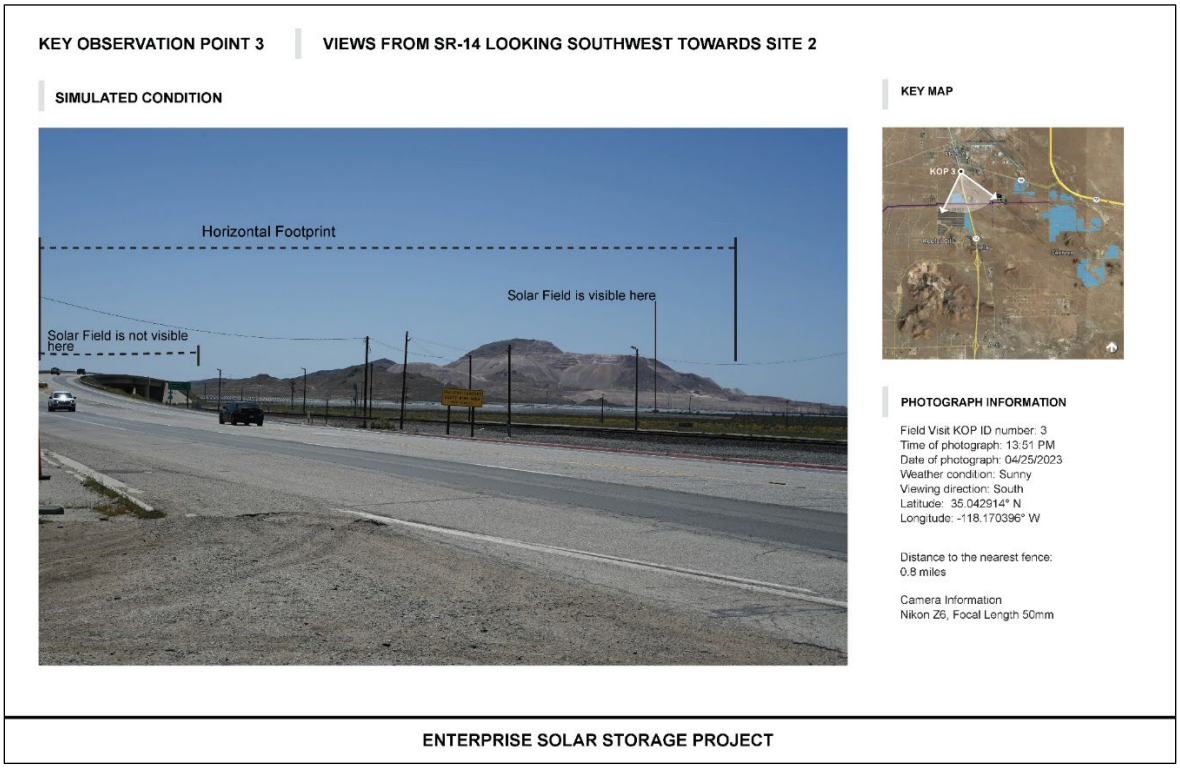


Figure 4.1-4b KOP 3 - Simulated View From SR-14 Looking Southwest Towards Site 2 (Western)

KOP 4. Figure 4.1-5, *KOP 4 - Existing and Simulated Views from Dover Drive Looking Southwest Towards Site 2 (Western),* shows views from the southern end of Dover Drive looking southeast towards Site 2 (Western) (located approximately 0.5 miles away). This KOP reflects views to the project site that residents located nearby would experience. The pre-development views from KOP 4 depict relatively flat terrain with dense shrubs in the foreground and middle ground terrain. Yucca and Joshua trees dot the foreground and middle ground. Middle ground views include Soledad Mountain with mountains in the background. The post-development view from KOP 4 (see Figure 4.1-5) would include relatively faint modifications (i.e., gen-tie lines) that would be located low in the middle ground landscape. However, due to intervening vegetation, only the gen-tie lines would be visible. In addition, where the contrast can be seen, it would not attract attention. As discussed in **Table 4.1-7**, *Visual Quality Rating Analysis – KOP 4*, the pre-development score is 11 (average visual quality class), and the post-development score is 11 (average visual quality class), therefore, the view would remain in the same visual class. With no change in scores, visual impacts from KOP 4 are less than significant.

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

Sensitive Receptor: Residents looking southeast toward Site 2 (Western).
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	**3**	**3**	**0**	**No Impact**
Explanation:	Flat terrain in the foreground and middle ground with Soledad Mountain and mountains in the background	The modification of flat topography of Site 2 (Western) would not be visible due to intervening vegetation.		
Detail:	Flat landforms dominate the foreground and middle ground of the visible landscape. However, Soledad Mountain can be seen in the background with low mountains in the distance. Mountains add interest to the otherwise low and flat landscape. There would be no impact to landforms resulting from project operations.			
Vegetation	**3**	**3**	**0**	**No Impact**
Explanation:	Mounded desert shrubs cover the foreground and middle ground terrain. Yucca and Joshua trees dot the foreground and middle ground	The development of solar modules and other components would replace existing desert vegetation; however, removal of vegetation is not visible from this viewpoint.		
Detail:	Removal of vegetation is not visible from this viewpoint. Therefore, no impacts to vegetation would occur.			
Water	**0**	**0**	**0**	**No Impact**
Explanation:	No water is visible on site or in the surrounding area.	Project development would not introduce water to or remove water from the visible landscape.		
Detail:	Water features are not included in pre- or post-development views. No impacts to water features would occur.			

Sensitive Receptor: Residents looking southeast toward Site 2 (Western).
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
Color	**2**	**2**	**0**	**Less than Significant**
Explanation:	Foreground and middle-ground vegetation and terrain display shades of tan, green, and brown. The hills in the middle ground are tan while the mountains ns in the background are dark grey. Grey fencing is prominent in the foreground and brown transmission lines are visible throughout the foreground and middle ground.	Dark grey/blue colors displayed by solar modules and rusty brown colors displayed by steel support poles would be introduced to Site 2 (Western). Solar modules would not be visible. The energy storage facility and gen-tie would only be faintly visible from this viewpoint.		
Detail:	The foreground and middle ground are dominated by shades of tan, green, and brown. Solar modules would not be visible. The gen-tie would only be faintly visible within the middle ground. The Project will use "weathering steel" for the gen-tie poles, which would display rusty brown colors that would be consistent with the characteristic drab color of desert terrain and vegetation. Where visible, the gen-tie structures and lines would blend in with the numerous existing transmission lines. Impacts would be less than significant.			
Adjacent Scenery	**2**	**2**	**0**	**Less than Significant**
Explanation:	Views are enhanced by Soledad Mountain in the background and mountains in the distance.	Hills and mountains would remain visible. Gen-tie components where visible would not block hills or mountains from view.		
Detail:	Visibility of hills and mountains would not be altered by project development. Impacts would be less than significant.			
Scarcity	**2**	**2**	**0**	**Less than Significant**
Explanation:	Soledad Mountain is visible from this viewpoint.	Where visible, views would be slightly modified by industrial development in the middle ground.		
Detail:	The existing view of Soledad Mountain is unique to this viewpoint. The Project would not disrupt views of Soledad Mountain and this would continue to be available. Impacts would be less than significant.			
Cultural Modifications	**-1**	**-1**	**0**	**Less than Significant**

Sensitive Receptor: Residents looking southeast toward Site 2 (Western).
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
Explanation:	Cultural modifications include paved roads, fencing, and electrical transmission lines.	Solar arrays and associated structures would be introduced to the middle ground but only the gen-tie components would be faintly visible from KOP 4.		
Detail:	Cultural modifications include paved roads, fencing, and electrical transmission lines. The project would introduce solar development and ancillary components to the middle ground. Solar arrays, the gen-tie line and structures and other project components would not attract attention and where visible, these project components are faintly visible from this viewpoint. Visual impacts associated with cultural modifications would be less than significant.			
Totals:	**11**	**11**	**0**	**Less Than Significant**

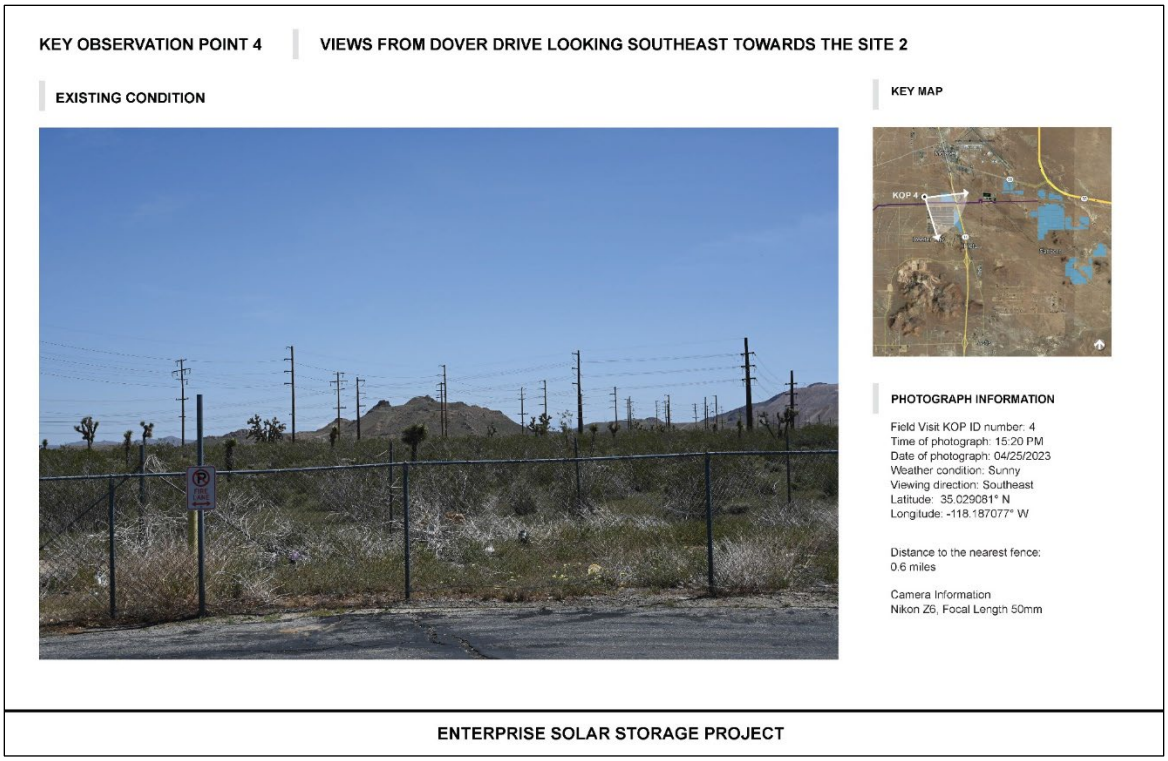


Figure 4.1-5a KOP 4 - Existing View from Dover Drive Looking Southeast Towards Site 2 (Western)

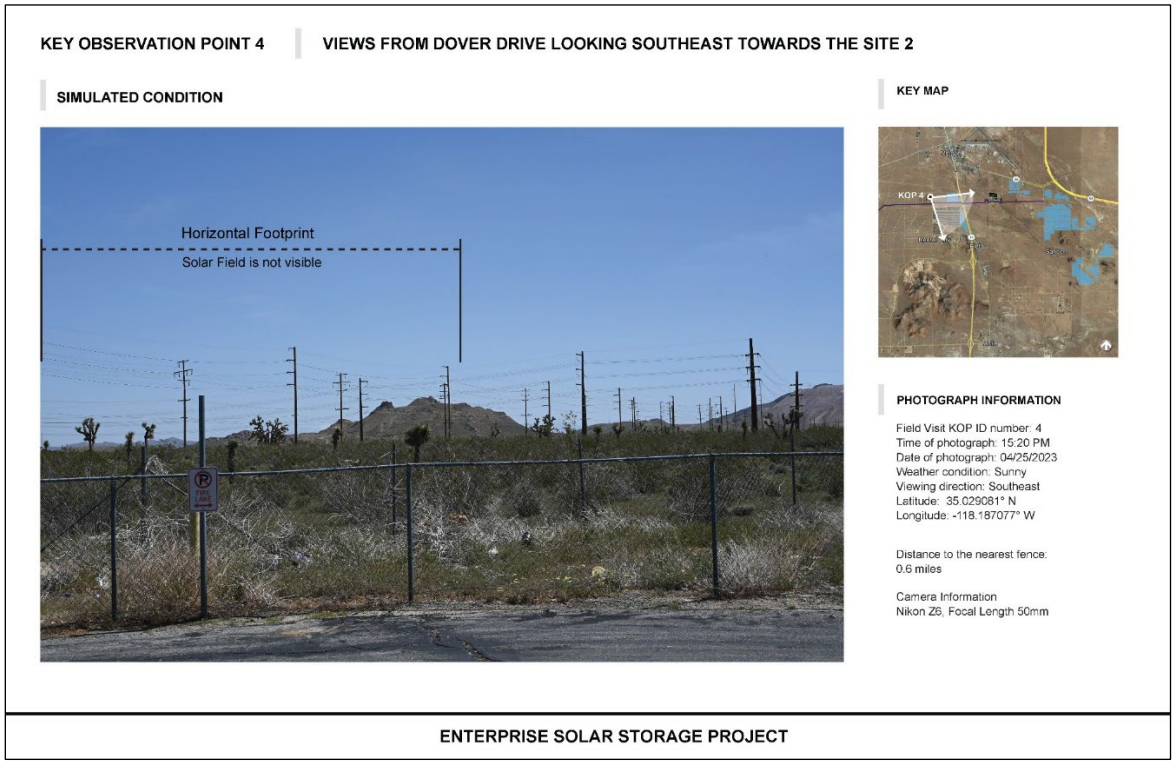


Figure 4.1-5b KOP 4 - Simulated View from Dover Drive Looking Southeast Towards Site 2 (Western)

KOP 5. Figure 4.1-6, *KOP 5 - Existing and Simulated Views From PCT Looking Southeast Towards the Project*, shows views from the PCT looking southeast toward the Project. The PCT is located approximately 3.8 miles northwest of the gen-tie line corridor and northwest of Site 1 (Northern), Site 2 (Western), Site 3 (Eastern), and Site 4 (Southern) approximately 10.8 miles, 8.8 miles, 10.9 miles, and 13.9 miles, respectively. This KOP accurately reflects views to the project site experienced by hikers on the PCT. The pre-development views from KOP 5 depict hilly terrain in the foreground and middle ground, to flat terrain and Soledad Mountain in the background, to mountains in the distance. Low and mounded desert shrubs cover the foreground and middle ground. Existing cultural modifications in the view consist of paved roads in the foreground, wind turbines and transmission lines throughout the foreground and middle ground, and solar facilities in the background. The post-development view from KOP 5 (see Figure 4.1-6) would be similar. Where the project is visible, faint views of dark solar modules would be located in the background of this viewpoint as well as the gen-tie line and support structures located in the middle ground and background of this viewpoint. As discussed in **Table 4.1-8**, *Visual Quality Rating Analysis – KOP 5*, the pre-development score is 15 (high visual quality class), and the post-development score is 15 (high visual quality class); therefore, the view would remain in the same visual class. In addition, where the contrast can be seen, it does not attract attention. With no change in the score, visual impacts from KOP 5 are less than significant.

TABLE 4.1-8: VISUAL QUALITY RATING ANALYSIS – KOP 5

Sensitive Receptor: Hikers on PCT looking Southeast Towards Project.
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	**4**	**4**	**0**	**Less than Significant**
Explanation:	Hilly terrain in the foreground and middle ground, to flat terrain and Soledad Mountain in the background, to mountains in the distance.	The flat topography of the project area would not be noticeably modified by project development as effects would be obscured by distance.		
Detail:	Hilly terrain in the foreground and middle-ground landscape and Soledad Mountain in the background adds interest to the low and flat landscape. There would be no impact to these landforms resulting from project operations.			
Vegetation	**3**	**3**	**0**	**Less than Significant**
Explanation:	Low and mounded desert shrubs cover the foreground and middle ground.	The development of solar modules and other components would replace existing desert vegetation. However, the effects of vegetation removal would be obscured by distance.		

Sensitive Receptor: Hikers on PCT looking Southeast Towards Project.
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
Detail:	Both the pre- and post-development views depict low, mounded desert shrub vegetation within the foreground and middle ground. Removal of vegetation in the middle ground due to project development would not be noticeable due to distance. Contrast associated with vegetation removal would not be prominent, and as viewed from KOP 5, low and mounded desert shrub vegetation would continue to cover the landscape. Less than significant impacts to vegetation would occur.			
Water	**0**	**0**	**0**	**No Impact**
Explanation:	No water is visible on site or in the surrounding area.	Project development would not introduce water to or remove water from the visible landscape.		
Detail:	Water features are not included in pre- or post-development views. No impacts to water features would occur.			
Color	**3**	**3**	**0**	**Less than Significant**
Explanation:	Foreground and middle-ground vegetation and terrain display shades of tan and green. Soledad Mountain and hills in the background are tan and brown with dark mountains with some snow caps detectable in the background. The white of Rogers dry lakebed is also visible in the distance. Development is grey (paved road, solar arrays, transmission lines), and white (wind turbines).	Solar arrays would display a low and thin black horizontal band in the background. The lightly colored, vertical lines of gen-tie structures in the middle ground would blend in with the existing transmission lines. These colors would contrast with the muted earth tones in the foreground and middle ground but be consistent with other solar facilities.		
Detail:	Muted earth tones of tan and green co-dominate the foreground and middle ground with the white of the wind turbines. Where visible, project solar arrays would introduce a simple horizontal band of black color to the background that would be easy to overlook. The lightly colored, vertical lines of gen-tie structures in the middle ground would blend in with the existing transmission lines. Background colors would not be altered or substantially obstructed from view. Impacts associated with color would be less than significant.			

Sensitive Receptor: Hikers on PCT looking Southeast Towards Project.
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	**4**	**4**	**0**	**No Impact**
Explanation:	Views are enhanced by the hilly terrain in the in the foreground and middle ground, to flat terrain and Soledad Mountain in the background, and mountains in the distance.	Hills and mountains would remain visible and would not be obstructed by project components.		
Detail:	The project would not modify, obstruct, or interrupt views of adjacent scenery. No impact to views of adjacent scenery would result.			
Scarcity	**3**	**3**	**0**	**Less than Significant**
Explanation:	The available view is broad and valued though similar views exist throughout the region.	Views would be slightly modified by industrial development in the background; however, the effects would be obscured by distance.		
Detail:	The view from the PCT is valued though typical of views available throughout the area. Landscape modification resulting from project development, which are only faintly visible, would result in less than significant impacts to view scarcity.			
Cultural Modifications	**-2**	**-2**	**0**	**Less than Significant**
Explanation:	The landscape contains numerous cultural modifications, especially with wind turbines.	The project would introduce dark blue/grey solar modules and lightly colored, vertical lines of gen-tie structures; however, the effects would be obscured by distance.		
Detail:	Cultural modifications are visually prominent in the foreground and middle ground. The hilly to mountainous terrain and low and mounded desert vegetation are also prominent. Where visible, the project would introduce dark solar modules to the background and lightly colored, vertical lines of gen-tie structures to the middle ground and background, but due to the low form and dark color of solar arrays and the faint lines associated with the gen-tie, the addition of cultural modifications to the background of KOP 5 would result in less-than-significant impacts.			
Totals:	**15**	**15**	**0**	**Less Than Significant**

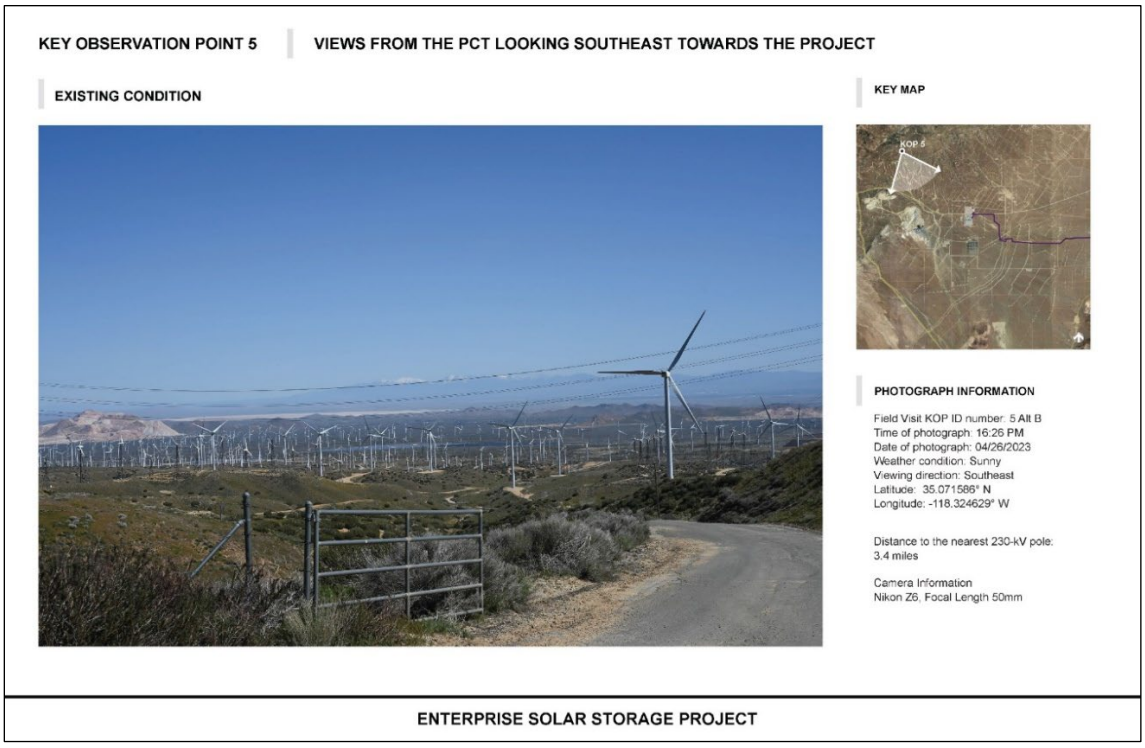


Figure 4.1-6a KOP 5 - Existing View From the PCT Looking Southeast Towards the Project

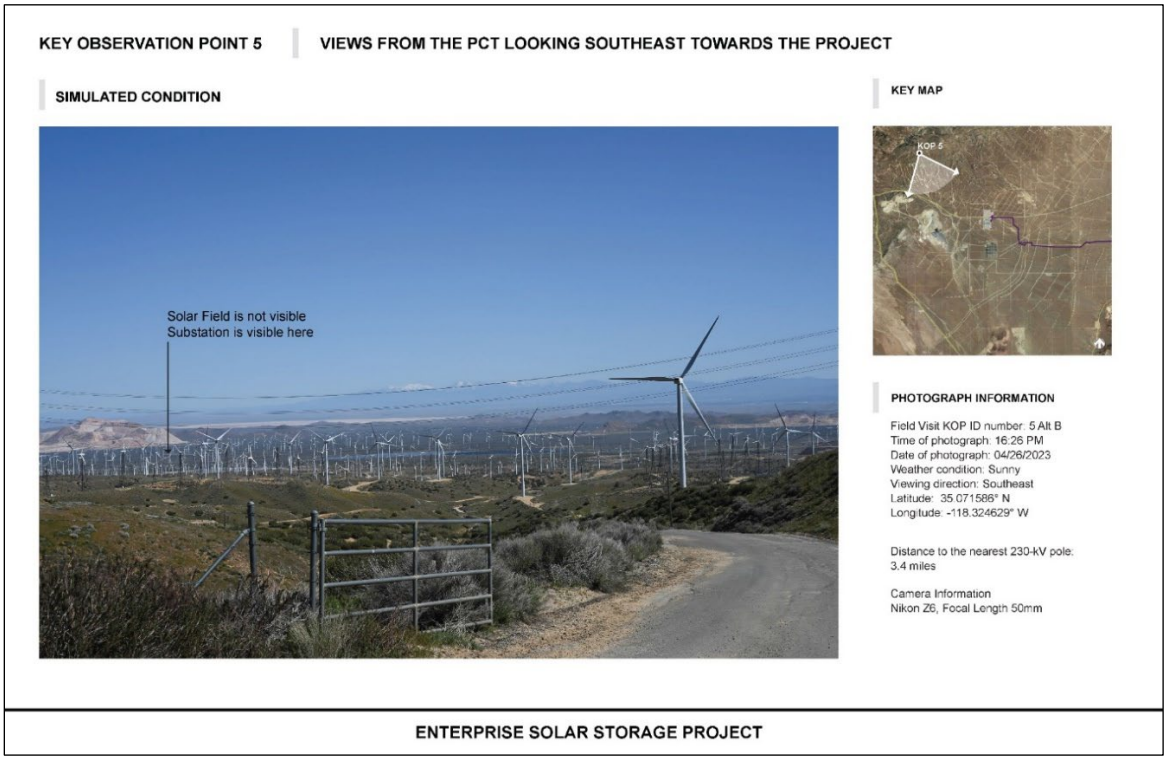


Figure 4.1-6b KOP 5 - Simulated View From the PCT Looking Southeast Towards the Project

Factors Reducing Visual Impacts

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

- The project site is generally flat and limits the need for grading and visible alteration of landforms.
- The lack of scenic designation of local roads in the immediate project vicinity indicates that viewer sensitivity and expectations for scenic landscapes is reduced compared to areas with higher visual quality.
- Solar panels, the primary feature of the project, would cover most of the land on the site and would generally be 12 feet in height or less. Because the solar panels occur in the foreground of most local roadways, solar panels would not block long-distance views or diminish the overall visual quality.
- The gen-tie line would appear as a similar element to all the existing distribution and transmission power lines traversing the area and would not diminish the overall visual quality. In addition, the project will use "weathering steel" for the gen-tie poles which would display rusty brown colors that would be consistent with the characteristic drab color of desert terrain and vegetation.
- Solar panels do not create significant levels of glare, as explained in Impact 4.1-3, below.
- Minimal onsite lighting would be required during operations, as explained in Impact 4.1-4, below. The panels would stow horizontally overnight and reset to the east in the evening or early morning to receive sunlight at sunrise. No regular nighttime staffing would be required.

Summary

As shown in **Tables 4.1-4,** *Visual Quality Rating Analysis – KOP 1,* through **4.1-8,** *Visual Quality Rating Analysis – KOP 5,* implementation of the project would result in potentially significant visual impacts to the existing visual quality or character of the site and surrounding area. As shown in the visual simulations, the visual change associated with project development would be somewhat muted when viewed from greater distances. With distance, the effects associated with removal of vegetation from the project site would be masked by dense groupings of solar arrays. Similarly, thousands of solar arrays viewed from a distance would begin to appear similar to other dark tones associated with distant terrain in the landscape. However, visual change would be evident from SR-58 and SR-14. Even with distance and diminished visibility, the visual change associated with the introduction of approximately 2,320 acres of solar development and associated infrastructure on currently undeveloped desert terrain would likely attract attention. Further, the introduction of thousands of solar panels, a collector substation, an energy storage facility, a step-up substation, and the gen-tie line supported by up to 185-foot-high transmission poles would increase the footprint of solar and electrical transmission development in the Mojave area. More importantly, development of the project would expand existing industrial development (i.e., solar and wind developments) present south of SR-58 and east and west of SR-14. Because solar and other renewable energy developments are generally concentrated to the west of SR-14, the project would introduce manufactured elements where they do not currently dominate the landscape, resulting in significant aesthetic impacts.

Mitigation Measures **MM 4.1-1** through **MM 4.1-5** would reduce visual impacts associated with the proposed project by limiting vegetation removal, planting native vegetation, providing privacy fencing, reducing the visibility of project features, and ensuring that the site is kept free of debris and trash. Native

vegetation would be left in place around the project area where feasible, allowing for a natural screening of project components. However, because there are no feasible mitigation measures that can be implemented to maintain the existing open and undeveloped desert landscape character of the project site, impacts to visual resources would remain significant and unavoidable.

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 for review and approval 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 twice 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, operation, and decommissioning 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: Prior to the issuance of the building permit for the solar facility, the project proponent/operator shall submit a proposed color scheme and treatment plan, for review and approval by the Kern County Panning and Natural Resources Department, that will ensure all project facilities including operations and maintenance buildings, gen-tie poles, array facilities, etc. blend in with the colors found in the natural landscape. All color treatments shall result in matte or nonglossy/non-reflective finishes.

MM 4.1-3: Wherever possible, within the proposed project boundary, the native vegetation shall remain undisturbed unless mowing is necessary for placement of the project components. All native vegetation adjacent to the proposed project boundary shall remain in place as permitted by Fire Code. 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.

a. 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 topsoil where possible to establish revegetation. Areas that contain permanent features such as perimeter roads, maintenance roads or under arrays do not require revegetation.

b. 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.

c. 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).

d. Vegetation/ground cover shall be continuously maintained on the site by the project operator.

e. 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 achieves native plant diversity, establishes perennials, and is consistent with conditions prior to implementation of the proposed project, where feasible.

MM 4.1-4: 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.

MM 4.1-5: For portions of the project that abut residentially zoned parcels, an additional aesthetics setback of 100 feet shall be required from the project property boundary line, which includes the centerline of any public roadway. If a public roadway does not exist between the project site and the residentially zoned property, the 100 foot setback shall be measured from the edge of the shared property line. The project proponent shall be responsible for continued dust control and weed maintenance within this additional setback area. No solar panels, substations or operating equipment shall be located in or stored in the identified setback area.

Level of Significance after Mitigation

Despite implementation of Mitigation Measures MM 4.1-1 through MM 4.1-5, impacts would be significant and unavoidable.

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

Regarding night lighting and daytime glare 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 (IES, 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 6:00 AM to 9:00 PM Monday through Friday and 8:00 AM to 9:00 PM 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. In the event that work is performed between the hours of 9:00 PM to 6:00 AM, 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. Per Mitigation Measure **MM 4.1-6**, 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 and impacts would be less than significant.

Operation

Lighting

As described in Chapter 3, *Project Description*, 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 Requirements*, as required with implementation of Mitigation Measure MM 4.1-6, 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 4.1-6 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

Potential new sources of glare would be produced by sunlight reflecting off the glass surfaces of the solar modules, that would be installed under the project.

Glare can result in visual hazards and temporary loss of vision. The hazard level of glare depends on the ocular impacts to the observer. Unlike solar thermal facilities, which rely on large fields of mirrors to reflect light, the potential reflection from solar PV modules is inherently low since they are designed to capture and not to reflect sunlight. PV panels have a lower index of refraction/reflectivity than common sources of glare in residential environments. The glare and reflectance levels from a given PV system are lower than the glare and reflectance levels of steel, snow, standard glass, plexiglass, and smooth water (Shields, 2010). The glare and reflectance levels of modules are further reduced with the application of anti-reflective coatings. PV suppliers typically use stippled glass for panels as the "texturing" of the glass to allow more light energy to be channeled/transmitted through the glass while weakening the reflected light. With the application of anti-reflective coatings and use of modern glass technology, project PV panels would display overall low reflectivity. In addition, because tracker systems follow the sun, the underside of the PV panels and most of the structure supporting them are shadowed throughout the day.

Moreover, light reflected from the PV panels would travel above the line of sight of most, if not all, viewers. PV tracking systems position the array so that the sun's rays are always perpendicular to the face of the panel. What light is reflected from the panels is reflected back towards the sun. During midday conditions, when the sun is high in the sky, the rays of the sun are reflected directly upwards. For example, when the sun is low on the horizon (near dawn or dusk), the sun's angle in the sky is low; however, reflected rays

would still be directed away from ground-level receptors because the maximum downward angle of the arrays would not be below 30 degrees.

The results of the glare analysis provided as Appendix B of this EIR indicate that the Project would not result in hazardous glare in the green, yellow, or red ocular impact categories for any of the six flight approach paths or the single air traffic control tower associated with MASP. The analysis also showed that the Project would not result in hazardous glare in the green, yellow, or red ocular impact categories for any of the 31 point receptors or 33 routes receptors.

The project would also implement Mitigation Measure **MM 4.1-7**, which requires the project proponent to demonstrate the solar panels and hardware are designed to minimize glare. Based on this analysis, operation of the solar sites would result in less-than-significant impacts related to substantial adverse effects to daytime views due to new sources of glare.

The energy storage facilities and collector substation could also generate glare that could be received by motorists during project operations. As described in Chapter 3, *Project Description*, the energy storage facilities would incorporate non-reflective materials and would not generate glare during daytime hours. To further reduce glare potential, the project would be required to implement Mitigation Measure **MM 4.1-7,** which requires the use of non-reflective materials when feasible. The collector substation would include vertical steel components of low potential reflectivity.

Therefore, based on the analysis presented above and with implementation of Mitigation Measures MM 4.1-4 through MM 4.1-7, potential glare effects generate by the solar panels, energy storage facilities, and optional collector substation would be less than significant.

Mitigation Measures

MM 4.1-6: Prior to the issuance of building permits, the project proponent shall demonstrate to Kern County Planning and Natural Resources Staff, through the submittal of a lighting plan, 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 properties and roadways. Lenses and bulbs shall not be exposed or extend below the shields.

MM 4.1-7: 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.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-4 through MM 4.1-7, impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

Southern California Edison (SCE) will relocate an existing 66 kilovolt (kV) transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the transmission line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. The relocated transmission line and interconnection work would result in less than significant aesthetic impacts and would result in minimal changes to the appearance of existing SCE facilities, producing no noticeable change to existing views. The SCE work would not increase the amount of lighting on-site or result in glare during construction and operation. SCE would implement best management practices during construction and operation, and impacts would be less than significant.

4.1.5 Cumulative Setting Impacts and Mitigation Measures

As presented in Chapter 3, *Project Description*, of this Draft EIR, there are 18 cumulative projects. These have the potential to result in cumulative impacts to aesthetics when considered together with the project. The "scarcity" rating criterion is likely to be impacted by widespread 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, wind energy projects, and new transmission lines.

As discussed above, the project would have less than significant impacts as it relates to scenic vistas as project distance, topography, and intervening development would reduce the visual prominence of the proposed solar development. Due to the developed nature of the landscape visible from the PCT (i.e. existing solar facilities, wind energy facilities and transmission line infrastructure) in the general project area, project development would not have a substantial adverse effect on existing views from the PCT. As such, cumulative impacts would be less than significant and not cumulatively considerable.

With regard to impacts related to damaging scenic resources within a scenic highway, the project would not be visible from any Officially Designated State or County Scenic Highway as there are no Officially Designated State or County Scenic Highways in the vicinity of the project site. SR-58 and SR-14, which are in proximity to the project site, are eligible state scenic highways. With the exception of Site 2 (Western) and the gen-tie line, most of the project site would not be clearly visible from the eligible scenic segment of SR-14. Views to the project are available from SR-58, particularly Site 3 (Eastern) located immediately to the south. Components of the project would not substantially alter existing long-distance views of the mountain and valley landscape or other natural features visible from the designated scenic segments of SR-

58 or SR-14. In addition, significant trees, rock outcroppings, and historic buildings are not located on the project solar sites or within the proposed gen-tie line corridor. As such, cumulative impacts would be less than significant and not cumulatively considerable.

The project would result in significant and unavoidable impacts related to visual character despite implementation of mitigation. As shown in Figure 3-5, *Surrounding Solar Projects*, provided in Chapter 3, *Project Description,* the Edwards Solar Project and Sanborn Solar Project are located south of the Site 1 (Northern), west of Site 3 (Eastern), and southeast of Site 4 (Southern), and several other solar projects, including RE Columbia Two Solar Project, RE Columbia Three Solar Project, RE Camelot Solar Project, and RE Grande Solar Project, and the Windhub Solar Project are immediately adjacent to Site 2 (Western) and the gen-tie study area. Other nearby solar projects include SERV Mojave West, RE Rosamond One Solar Project, RE Rosamond Solar Project, and Catalina Solar Project. 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 in which impacts are no longer significant. Even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-5, the project's contribution to significant cumulative impacts associated with visual character in the Antelope Valley would be significant and unavoidable.

The project would result in less than significant impacts related to light and glare with the implementation of Mitigation Measures MM 4.1-4 through MM 4.1-7. Similarly, cumulative projects in the region would also be required to implement various mitigation measures to reduce lighting impacts, such that cumulative impacts related to light and glare would be less than significant with mitigation.

Mitigation Measures

Implementation of Mitigation Measures MM 4.1-1 through MM 4.1-7.

Level of Significance after Mitigation

Despite implementation of Mitigation Measures MM 4.1-1 through MM 4.1-7, cumulative impacts related to visual character would be significant and unavoidable. Cumulative impacts related to light and glare, and scenic vistas and scenic resources would be less than significant.

Section 4.2
Agriculture and Forestry Resources

4.2.1 Introduction

This section of the EIR describes the affected environment and regulatory settings for agriculture and forestry resources for the project. It also describes potential impacts on agricultural and forestry resources that could result from implementation of the project, and includes mitigation measures that would reduce these impacts, if applicable. This section is based, in part, on information provided in the 2021 Kern County Agricultural Crop Report prepared by the Kern County Department of Agriculture and Measurement Standards (County of Kern, 2022) and a *10-year Farming History Memorandum* (Jacobs, 2023), which was prepared by Jacobs Engineering Group, located in Appendix C of this EIR and incorporated by reference herein.

4.2.2 Environmental Setting

Regional Setting

Kern County (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 2021 Kern County Agricultural Crop Report, agriculture in Kern County was worth approximately $8.3 billion in 2021, which is an increase of 9 percent from the 2020 crop value. The top five commodities for 2021 were grapes, citrus, pistachios, almonds, and milk, which made up more than $6.3 billion (75 percent) of the total value, with the top 20 commodities making up 95 percent of the total value (County of Kern, 2022).

Kern County has a growing population and, like many agricultural-based jurisdictions, must balance urbanization and the loss of farmland. As shown in **Table 4.2-1,** *2016–2018 Farmland Conversion in Kern County*, the California Department of Conservation (DOC) found that 6,078 acres of Important Farmland, including all of the categories of important farmland, were converted to grazing or non-agricultural uses between 2016 to 2018. Approximately 5,906 net acres were converted from agricultural and other uses to urban/built-up land from 2016 to 2018 (DOC, 2023a). 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 1,127,871 individuals in 2040 (KEDC, 2022), growing from a population of approximately 917,673 as of July 1, 2021 (U.S. Census Bureau, 2023). 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 which crops are grown and which lands go in and out of production. Most conversion of Prime or Farmland of

Statewide Importance agricultural lands to non-agricultural uses 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: 2016–2018 FARMLAND CONVERSION IN KERN COUNTY

Land Use Category	Total Acres 2016	Total Acres 2018	Net Acreage Changed
Prime Farmland	579,297	573,935	-5,362
Farmland of Statewide Importance	209,484	208,323	-1,161
Unique Farmland	91,323	91,768	447
Farmland of Local Importance	0	0	0
IMPORTANT FARMLAND SUBTOTAL	880,102	874,026	-6,076
Grazing Land	1,849,266	1,854,641	5,374
AGRICULTURAL LAND TOTAL	**2,729,368**	**2,728,667**	**-702**

SOURCE: DOC, 2023a.

Local Setting

The project and project site are defined in Chapter 3, *Project Description*. The project site is located in the southeastern portion of Kern County within the administrative boundaries of the Kern County General Plan, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, and Soledad Mountain Elephant Butte Specific Plan. The project site is primarily designated for resources management and zoned agricultural as shown on **Figure 3-8a** through **Figure 3-8e**, *Existing General and Specific Plan Designations*, **Figure 3-9a** through **Figure 3-9e**, *Existing Zoning Classifications*, and as listed in **Table 3-3,** *Project Assessor Parcel Numbers, Existing and Proposed Land Uses, and Acreages* of Chapter 3, *Project Description.*

The project site is currently undeveloped and has mostly been used for grazing. As shown in **Figure 4.2-1** *Farmland Mapping*, the project site is not designated by the DOC as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland; the DOC designates the project site as Grazing Land or Nonagricultural or Natural Vegetation. Additionally, none of the proposed project's parcels are subjected to a Williamson Act Land Use contract or within an Agriculture Preserve boundary. No farming has occurred within the last 10 years on the project site, based on review of historic publicly available aerial imagery dating back to 2012 (Appendix C of this EIR). In addition, the available Kern County Department of Agricultural and Measurement Standards published permit and use data indicates that no agricultural-related permits have been issued for the project site since 2016 (Appendix C of this EIR).

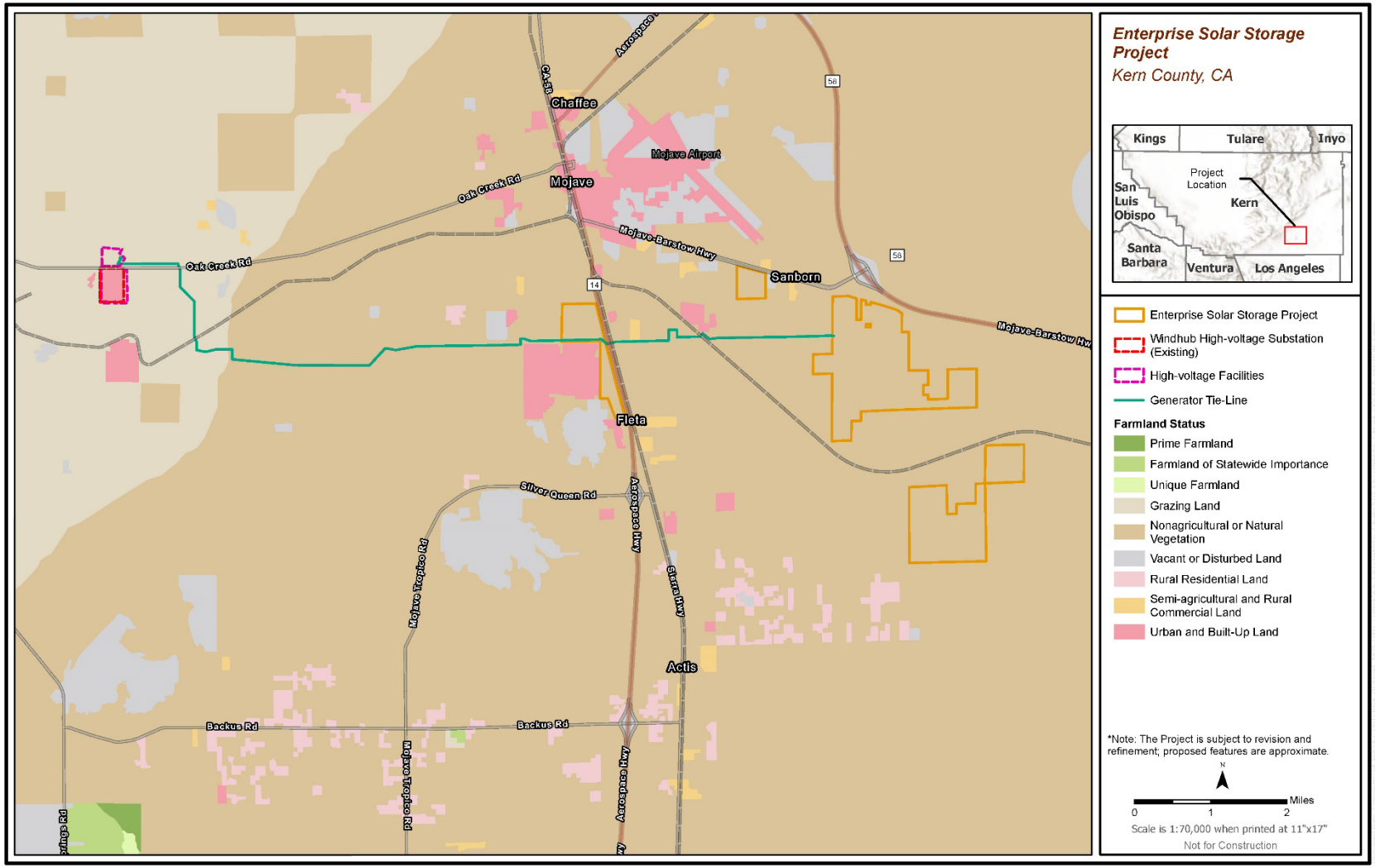


Figure 4.2-1 Farmland Mapping

4.2.3 Regulatory Setting

Federal

Farmland Protection Policy Act (7 United States Code 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. The 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 (NRCS, 2023).

State

California Department of Conservation, Division of Land Resource Protection

The DOC applies the Natural Resources Conservation Service (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, 2023b) through the Farmland Mapping and Monitoring Program. 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 4 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 4 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 4 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 waterbodies 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, open-space, or other compatible 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, 2023c).

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, 2023c).

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. Section 51238 also states that a 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

Construction and operation of the project would be subject to policies and regulations contained within the County's general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to agricultural resources. The policies, goals, and implementation measures in the Kern County General Plan related to agricultural resources 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.

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 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.

The only agricultural land use designation within the project site is the 8.5 Resource Management designation.

- **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 and forestry resources applicable to the project are provided below (County of Kern, 2009). 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 (Kern County, 2009).

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 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.

Mojave and West Edwards Road Settlement Specific Plans

The project is within the boundaries of the Mojave Specific Plan and the West Edwards Road Settlement Specific Plan. The Mojave Specific Plan was adopted in October 2003 and the West Edwards Road Settlement Specific Plan was adopted on February 24, 1992, and both contain goals, policies, and standards that are compatible with those in the Kern County General Plan, but are unique to the specific needs of the Mojave and West Edwards Road Settlement Specific Plans area. There are no specific agriculture-related policies and measures contained in the Mojave and West Edwards Road Settlement Specific Plans 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. Since there are no applicable goals, policies, or implementation measures within the Mojave Specific Plan and West Edwards Road Settlement Specific Plan, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

Soledad Mountain Elephant Butte Specific Plan

The project is within the boundaries of the Soledad Mountain Elephant Butte Specific Plan. The Soledad Mountain Elephant Butte Specific Plan was adopted in 1973 and addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. The recommendations, analysis, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan for agricultural resources applicable to the project are provided below. The Soledad Mountain Elephant Butte Specific Plan does not contain any recommendations, analysis, and implementation measures for forestry resources (County of Kern, 1973). The Soledad Mountain Elephant Butte Specific Plan contains additional recommendations, analysis, 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 Soledad Mountain Elephant Butte Specific Plan are incorporated by reference.

Item 5. Agriculture

Recommendation -	Grazing shall be allowed only in accordance with the Zoning Ordinance and where permitted by right.
Analysis -	Two-thirds of the land within the Plan area is zoned either A-1 or A-2, which allows grazing. Approximately one half of this would have grazing capabilities. Grazing should be kept to a minimum to protect the desert ecosystem.
Implementation -	Compliance with the existing Zoning Ordinance.

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 Kern County Zoning Ordinance designates the project site as zoned A (Exclusive Agriculture), A-1 (Limited Agriculture), C-2 (General Commercial), CH (Highway Commercial), CO (Commercial Office), E(1/4) (Estate 0.25 Acres), OS (Open Space), R-1 (Low Density Residential), and R-2 (Medium Density Residential. Many parcels also have a Floodplain Secondary Combining (FPS), Precise Development Combining (PD), and/or Airport Approach Height Combining District (H) overlay.

The project includes a request for a zone change to A, A FPS, or A H for all parcels that are not already in the A Zone District. According to the Kern County Zoning Ordinance Section 19.12.030 G, a commercial

solar facility is a compatible use in the A district. The construction and operation of a solar energy generating facility on the project site would require the approval of a Conditional Use Permit (CUP).

Williamson Act Standard Uniform Rules

The 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. Therefore, a proposed solar project on contracted land would be required by the County to petition for an early cancellation of the contract. However, the project site does not contain lands under an active Williamson Act contract and, therefore, is not subject to these rules.

4.2.4 Impacts and Mitigation Measures

Methodology

The project's potential impacts on agriculture and forestry resources have been evaluated on a qualitative basis through review of Appendix C of this EIR, the DOC Farmland Mapping and Monitoring Program, the Kern County General Plan, and the Kern County Zoning Ordinance. A change in land use would normally be determined to be significant if the effects described in the thresholds of significance were to occur (see California Code of Regulations Title 14, Section 15064.7(a)). The evaluation of project impacts is based on a thorough analysis of the Kern County General Plan's applicable goals and policies related to agricultural resources, professional judgment, and the significance criteria established by the California Environmental Quality Act (CEQA).

Thresholds of Significance

The Kern County CEQA Implementation Document and Kern County Environmental Checklist identify, per Appendix G of the CEQA *Guidelines*, that a project would have a significant impact on agriculture and forestry 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 use;*

b. *Conflict with existing zoning for agricultural use or Williamson Act Contract;*

c. *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined in 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 forest land 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 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 Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code).

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 use.

The project would not directly or indirectly impact farmland. As mentioned above, the entire project site is vacant, undeveloped, open space and is not being used for agricultural purposes. There has been no farming on any of the parcels within the project site over the last ten years. The project site is not under a Williamson Act Land Use contract. The project site is not designated by the DOC as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The DOC designates the project site as Grazing Land or Nonagricultural or Natural Vegetation (Appendix C of this EIR). Surrounding properties are also designated as Grazing Land or Nonagricultural or Natural Vegetation, with small areas of Semi-Agricultural and Rural Commercial Land and Vacant or Disturbed Land scattered throughout the vicinity. Construction and/or operation of the project would not convert prime, unique, or important farmland to nonagricultural uses and, therefore, no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact.

Impact 4.2-2: The project would conflict with existing zoning for agricultural use or Williamson Act Contract.

There are no parcels within the project site that are under Williamson Act contract or being used for agriculture (Appendix C of this EIR). There has been no farming on any of the parcels within the project site over the last 10 years, and the parcels are unlikely to be farmed in the future. Accordingly, the project would not conflict with an existing Williamson Act contract.

The Kern County Zoning Ordinance designates the project site as zoned A (Exclusive Agriculture), A-1 (Limited Agriculture), C-2 (General Commercial), CH (Highway Commercial), CO (Commercial Office), E(1/4) (Estate 0.25 Acres), OS (Open Space), R-1 (Low Density Residential), and R-2 (Medium Density Residential. Many parcels also have a Floodplain Secondary Combining (FPS), Precise Development Combining (PD), and/or Airport Approach Height Combining District (H) overlay.

The Project includes a request for a zone change to A, A FPS, or A H for all parcels which are not already in the A Zone District. According to the Kern County Zoning Ordinance Section 19.12.030 G a commercial solar facility is a compatible use in the A district subject to the approval of a CUP. The Kern County General Plan encourages the development of alternative sources of energy, such as solar energy, while protecting

the environment (See Section 4.10, *Land Use and Planning*, of this EIR, for additional goals and policies that promote solar energy development). Thus, solar facilities are considered to be a compatible use.

Upon approval of the listed CUPs, the proposed project would not conflict with agricultural zoning of the project site. Therefore, development of the project site for use as a solar energy facility is expected to result in a less than significant impact related to conflicts with existing zoning. The project site is not under a Williamson Act contract and, therefore, there would be no impact resulting from a conflict with a contract.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.2-3: The project would conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined in Public Resources Code Section 4526) or timberland zoned Timberland Production (as defined by Government Code Section 51104 (g).

The project site is not located on land zoned as forest land, timberland, or timberland production. It is located on private land zoned A (Exclusive Agriculture), A-1 (Limited Agriculture), C-2 (General Commercial), CH (Highway Commercial), CO (Commercial Office), E(1/4) (Estate 0.25 Acres), OS (Open Space), R-1 (Low Density Residential), and R-2 (Medium Density Residential. Many parcels also have a Floodplain Secondary Combining (FPS), Precise Development Combining (PD), and/or Airport Approach Height Combining District (H) overlay. Given that the project site is not zoned for forest land, timberland, or timberland production, the project would not conflict with existing zoning for forest land, timberland, or timberland production and no impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact.

Impact 4.2-4: The project would result in the loss of forestland or conversion of forest land to non-forest use.

The project is not situated on forest land and would not convert forest land to non-forest uses. There is no land in the vicinity of the project that is zoned as forest land, timberland, or lands zoned for timberland production. Therefore, the project would not result in the loss of forestland or the conversion of forest land to non-forest uses, and no impact would occur.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

No impact.

Impact 4.2-5: The project would involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use.

Currently, there are no existing agricultural or forest lands on the project site or within the vicinity. The project site consists of largely undeveloped desert land, with scattered residential uses in the project vicinity. The project site is primarily zoned for agriculture and has mostly been used for grazing; however, no farming on any of the parcels within the project site has occurred over the last 10 years. Therefore, the conversion of the undeveloped project site to a solar facility would not result in the conversion of farmland to a nonagricultural use nor the conversion of forest land to non-forest use. Operation of the solar facility on the project site would not preclude the surrounding areas from being improved with agricultural uses. Further, the project site could be used for agricultural uses following project decommissioning. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.2-6: The project would 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 (Section 15206(b)(3) Public Resources Code.

The project site is not subject to an open space contract made pursuant to the California Land Conservation Act of 1965 or the Farmland Security Zone Contract. As stated above, the project site is not under a Williamson Act contract. No impact would occur.

Mitigation Measures

No mitigation would be required.

Level of Significance

No impact.

SCE Transmission Line Relocation and Interconnection Work

Southern California Edison (SCE) will relocate an existing 66 kilovolt (kV) transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way (ROW) to facilitate construction and future maintenance of the transmission line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. Impacts associated with construction of the relocated transmission line and interconnection work would be similar to those described above for the rest of the project. The relocated SCE transmission line and interconnection work would be constructed within an existing SCE ROW that is not used for agricultural purposes. The SCE work would not conflict with agricultural zoning or affect any land under a Williamson Act contract, and it would not result in the conversion of farmland to a non-agricultural use. Accordingly, impacts related to agriculture and forestry resources associated with the SCE work would be less than significant.

4.2.5 Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative agricultural and forestry impacts is Kern County As shown in **Table 3-4**, *Cumulative Projects List*, of Chapter 3, *Project Description*, there are 18 cumulative projects proposed or approved in Kern County.

Although the project would develop a solar facility on land zoned for agricultural uses, the proposed project would not result in the loss of farmland, as the project site has not been used for agricultural purposes in the last 10 years. Further, the project site could be used for agricultural uses following project decommissioning, and 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 Kern County. Therefore, the proposed project's contribution to cumulative impacts related to agriculture would be less than cumulatively considerable.

Mitigation Measures

No mitigation would be required.

Level of Significance

Cumulative impacts would be less than significant.

Section 4.3
Air Quality

4.3.1 Introduction

This section of the 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 *Enterprise Solar Storage Project Air Quality and Greenhouse Gas Technical Report* (Air Quality and GHG Technical Report) (Jacobs, 2023), which was prepared by Jacobs Engineering Group, located in Appendix D of this EIR and incorporated by reference herein. 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) (EKAPCD, 1999) and Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports.*

4.3.2 Environmental Setting

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 the 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. It is separated from the South Coast Air Basin to the south by the San Gabriel and San Bernardino Mountains. It is separated from the San Joaquin Valley to the northwest by the Tehachapi Mountains and the south end of the Sierra Nevada.

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 affect ambient air quality.

The project is located in an unincorporated area in southeastern Kern County, California, at the western edge of the Antelope Valley and south of the community of Mojave. The project is generally located on undeveloped land, some of which has been used for grazing, and consists entirely of privately owned parcels. The project consists of five non-contiguous site locations. Site 1 (Northern) is directly south of State Route (SR)-58, generally west of 10th Street and north of Purdy Avenue. Site 2 (Western) is directly west of SR-14, east of 25th Street West, south of Camelot Boulevard, and generally north of Purdy Avenue with one small portion extending south of Purdy Avenue and north of Sunset Avenue. Site 3 (Eastern) is

east of 10th Street, south of SR-58, and north of Silver Queen Road. Site 4 (Southern) is south of the BNSF Railway with a large portion of the site being located south of Silver Queen Road. Site 5 (Step-up Substation) is located immediately north of the existing Windhub substation across Oak Creek Road.

The project is south of SR- 58 and the Mojave Air and Space Port and north of Edwards Air Force Base (AFB). The project is adjacent to various solar projects and a network of unnamed dirt roads surround the project. The project can be accessed by Silver Queen Road, Camelot Boulevard, Purdy Avenue, Decatur Avenue, 10th Street via East Proteus Road, and Lone Butte Road.

Elevations across the project site are relatively flat, ranging from approximately 2,520 feet above mean sea level (amsl) in the southeast corner to approximately 2,715 feet amsl in the northwest portion of the site.

The weather in the MDAB is characterized by hot summers, cold winters, large diurnal ranges in temperature, low relative humidity, and irregular rainfall. The topography in 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-pressure 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. Average temperatures recently recorded in the nearby City of Lancaster in eastern Los Angeles County range from a low of 29 degrees Fahrenheit (°F) in December to highs of 95°F in July. Annual rainfall averages approximately 5.1 inches per year. 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 3 months have maximum average temperatures over 100.4°F.

Sensitive Receptors

Sensitive receptors are land uses or people considered to be more sensitive than others to air pollutants. The reasons for higher-than-average sensitivity include preexisting health problems, genetic predilection, age, and prolonged 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 is located at the western edge of the Antelope Valley and south of the community of Mojave. The region surrounding the project is currently used for rural residential, agricultural, undeveloped land, and large-scale renewable energy purposes. Unpaved rural roads cross undeveloped areas to provide access to scattered single-family residences, agriculture and sheep grazing operations, and energy facilities. As

stated above, the project is generally located on undeveloped land, some of which has been used for grazing, and consists entirely of privately owned land largely zoned for agricultural use. The community of Mojave is directly north of the project, with the nearest residences approximately 0.4-mile north of Site 2 (Western). There is a single rural residence located approximately 0.3 mile east of Site 1 (Northern). Other sensitive receptors in the vicinity of the project include Mojave High School and Mojave East Park, located approximately 1.2 miles and 1 mile north of Site 2 (Western), respectively. There are no sensitive receptors within the vicinity of the step-up substation site near the existing Windhub Substation.

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 U.S. Environmental Protection Agency (USEPA) 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 (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM) (specifically PM_{10} 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, the USEPA 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 project and, thus, these pollutants are not addressed further in this EIR.

Table 4.3-1, *National and State Criteria Pollutant Standards and EKAPCD 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 is 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**, *National and State Criteria Pollutant Standards and EKAPCD Attainment Status*, the southern portion of the EKAPCD, where the project is located, is currently classified as nonattainment for the California 1-hour and 8-hour O_3 standards and PM_{10} standards, severe nonattainment for the national

8-hour O_3, and attainment and/or unclassified for the California and national standards of all of the other criteria pollutants (EKAPCD, 2022).

TABLE 4.3-1: NATIONAL AND STATE CRITERIA POLLUTANT STANDARDS AND EKAPCD ATTAINMENT STATUS

		California Standards		National Standards	
Pollutant	**Averaging Time**	**Concentration**	**Attainment Status**	**Primary**	**Attainment Status**
Ozone (O_3)	1-hour	0.09 ppm	Non-Attainment	–	Attainment
	8-hour	0.070 ppm		0.070 ppm	Severe Nonattainment
Particulate Matter (PM_{10})	AAM	20 µg/m^3	Non-Attainment	–	Unclassifiable/ Attainment
	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	—	Unclassified
	24-hour	0.04 ppm		—	
	3-hour	–		–	
	1-hour	0.25 ppm		0.075 ppm	
Lead (Pb)	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/km-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.	Unclassified		

Notes:
AAM = annual arithmetic mean; km = kilometer; ppm = parts per million; µg/m^3 = micrograms per cubic meter
Sources: CARB, 2016; EKAPCD, 2022.

Local Air Quality

To assess local air quality impacts, the significance thresholds are based on the State CO standards, shown previously in **Table 4.3-1**, *National and State Criteria Pollutant Standards and EKAPCD Attainment Status*, 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 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.

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. Of the ambient air monitoring stations operating in the MDAB, air quality data statistics from the Mojave – 923 Poole Street ambient air monitoring station were used as representative of the project area's environmental setting due to the proximity of the monitoring station to the project (about 0.75-mile north). For pollutants not monitored at the Mojave – 923 Poole Street ambient air monitoring station, data from the next nearest ambient air monitoring location within the MDAB were selected. This station, Lancaster – 43301 Division Street, is located 24 miles south of the project. There are no monitoring stations within the project vicinity that have available measurements for SO_2 for the past three years. Ambient monitoring data obtained for the most recent and available 3-year period (2018 through 2020) is summarized below in **Table 4.3-2***, Air Quality Data Summary (2018–2020)*.

TABLE 4.3-2: AIR QUALITY DATA SUMMARY (2018–2020)[a]

Pollutant	Averaging Time	2018	2019	2020	Days Exceeding Standard During 2018-2020 Period (days/year)	
					State	Federal
O_3 (ppm) [b]	1-hour	0.111	0.085	0.108	0 to 8	--
	8-hour	0.094	0.077	0.100	10 to 56	10-53
PM_{10} (µg/m³) [b]	24-hour	93.1	248.7	111.9	8 to 19	0 to 2
	Annual Arithmetic Mean	26.7	23.7	26.0	--	--
$PM_{2.5}$ (µg/m³) [b]	24-hour	39.0	19.8	72.8	--	0 to 4
	Annual Arithmetic Mean	7.1	6.5	9.3 [d]	--	--
CO (ppm) [c]	1-hour	1.2	1.4	1.6	--	--
	8-hour	1.0	0.9	1.1	--	--
NO_2 (ppm) [d]	1-hour	0.048	0.050	0.052	--	--
	Annual Arithmetic Mean	0.009	0.008	0.008	--	--

NOTES:
ppm= parts per million by volume, µg/m³ = micrograms per cubic meter
[a] Concentration data presented in this table represent the maximum observed concentration of the federal and State concentration values. Monitored data for SO_2 were not available within the project area.
[b] Data from the Mojave – 923 Poole Street ambient air monitoring station located at 923 Poole Street, Mojave, Kern County, California. Air quality data statistics obtained from CARB's iADAM database (CARB, 2021).
[c] Data from the Lancaster – 43301 Division Street ambient air monitoring station located at 43301 Division Street, Lancaster, Los Angeles County, California. Air quality data statistics obtained from the USEPA's Monitor Values Report (USEPA, 2021).
[d] Data from the Lancaster – 43301 Division Street ambient air monitoring station located at 43301 Division Street, Lancaster, Los Angeles County, California. Air quality data statistics obtained from CARB's iADAM database (CARB, 2021).

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**, *National and State Criteria Pollutant Standards and EKAPCD Attainment Status*.

Ozone

O_3 occurs in two layers of the atmosphere. 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 the combination of reactive organic gas (ROG) and oxides of nitrogen (NO_X) in the presence of sunlight to form. ROG and NO_X are emitted from various sources throughout Kern County. Significant 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. High concentrations of ozone (above the current ambient air quality standard) lead 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 American Lung Association of California, 2007).

Reactive Organic Gases and Volatile Organic Compounds

Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases, including ROGs and volatile organic compounds (VOC), 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 fossil-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 (TAC). The health effects of individual ROGs are described under the *Toxic Air Contaminants* heading below.

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 gasoline-powered 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 weaken the heart's contractions and lower the amount of oxygen carried by the blood. Health effects observed may include an early onset of cardiovascular disease; behavioral impairment; decreased exercise performance in young healthy men; reduced birth weight; sudden infant death syndrome; and increased daily mortality rate (Fierro et al., 2001).

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 react in the atmosphere to form acid rain. NO_X is emitted from 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 NO_2, with the 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 which 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,

including 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 preexisting 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 include 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, can also 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 (CAPCOA, 2023a).

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 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.

SO_2 is a colorless irritating gas with a "rotten egg" smell that is formed primarily by the combustion of sulfur-containing fossil fuels. Historically, SO_2 was a pollutant of concern in Kern County, but with the successful implementation of regulations, levels have been reduced significantly and the area is in attainment, as shown in **Table 4.3-1,** *National and State Criteria Pollutant Standards and EKAPCD Attainment Status*.

Health Effects

High concentrations of SO_2 can result in temporary breathing impairment for asthmatic children and adults who are active outdoors. Health effects from exposure to emissions of SO_2 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 SO_2 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 SO_2, in conjunction with high levels of

particulate matter, include aggravation of existing cardiovascular disease, respiratory illness, and alterations in the lungs' defenses. SO_2 also is a major precursor to $PM_{2.5}$, which is a significant health concern and a main contributor to poor visibility (see also the discussion of health effects of particulate matter).

SO_2 not only has a bad odor but 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. SO_2 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).

SO_2 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 SO_2 and acid aerosols; and
- Subjective symptoms, such as headaches and nausea, in the absence of pathological abnormalities due to long-term exposure.

SO_2 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 8 hours;
- Visible injury to many other plant types of intermediate sensitivity at exposures of 0.30 ppm for 8 hours; and
- Positive benefits from low levels in a very few species growing in sulfur-deficient soils.

Increases in SO_2 concentrations accelerate the corrosion of metals, probably through the formation of acids. SO_2 is a major precursor to acidic deposition. Sulfur oxides may also damage stone and masonry, paint, various fibers, paper, leather, and electrical components.

Increased SO_2 also contributes to impaired visibility. Particulate sulfate, much of which is derived from SO_2 emissions, is a major component of the complex total suspended particulate mixture.

Particulate Matter (PM_{10} and $PM_{2.5}$)

PM 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. PM is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. PM

also forms when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. PM 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 (PM_{10}) and 2.5 microns or less in diameter ($PM_{2.5}$). Thus, $PM_{2.5}$ is a subset of PM_{10}. PM_{10} and $PM_{2.5}$ 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 PM_{10} 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 PM_{10} and $PM_{2.5}$. In addition to those listed previously, secondary particles can also be formed as precipitates from photochemical reactions of gaseous SO_2 and NO_X in the atmosphere to create sulfates (SO_4) and nitrates (NO_3), 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 PM_{10} and $PM_{2.5}$ in both urban and rural areas. PM_{10} 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

PM_{10} 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 PM_{10} and $PM_{2.5}$ occur when 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 PM in the air. PM_{10} 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 effects of PM. Of greatest concern are recent studies that link PM exposure to the premature death of people who already have heart and lung disease, especially the elderly. Acidic PM can also damage humanmade 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 PM are now at levels comparable to deaths from traffic accidents and secondhand smoke. One of the most dangerous pollutants, fine PM (e.g., from diesel exhaust) not only bypasses the body's defense mechanisms and becomes embedded in the deepest recesses of the lungs, 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 American Lung Association of California, 2007).

A 2006 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 PM causes about 250 excess cancer cases per year in California (Kern County, 2006).

Sulfates

Sulfates (SO_4^{2-}) are a 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 manufactured 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 (CAPCOA, 2023b).

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. The 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 (USEPA, 2022).

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.

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, and adults with high levels of lead in their bodies 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 (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. H_2S in the atmosphere would likely oxidize into SO_2 that can cause acid rain. At low concentrations, H_2S, 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. The Occupational Safety and Health Administration (OSHA) has the primary responsibility for regulating workplace exposure to H_2S.

Health Effects

Exposure to low concentrations of H_2S 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 H_2S (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 H_2S (0.00011 to 0.00033 ppm). Deaths due to breathing in large amounts of H_2S 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 (USEPA, 2020):

- 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 (USEPA, 2020):

- 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 (USEPA, 2020):

- 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 spouses' 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, as known under the California Clean Air Act of 1988 (CCAA), are 10 pollutants that 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 project would not emit TACs with the exception of diesel particulate matter, which, therefore, is the only TAC described further in this analysis.

Diesel Particulate Matter

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).

In its comprehensive assessment of diesel exhaust, the 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 the 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 1 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 the 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 (OEHHA 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 lay 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.

Mild symptoms of Valley Fever can include a slight cold, which quickly goes away. The most common symptoms are described as flu-like and include a cough, fever, headache, chills, sweats, chest pain, and fatigue. Other symptoms that could occur with Valley Fever include rashes on lower legs and joint pain similar to arthritis. Chest X-rays of persons with Valley Fever typically show fluid in one or both lungs, enlarged glands behind the lungs, or fluid buildup around the lungs.

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 from person to person. Most of those who are infected recover without treatment within 6 months and have a lifelong 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 (2018).

TABLE 4.3-3: RANGE OF VALLEY FEVER CASES

Infection Classification	Percentage 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, 2018.

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, Division of Mines and Geology, the project is not located in an area where naturally occurring asbestos is likely to be present (California Department of Conservation, 2011).

4.3.3 Regulatory Setting

In California, air quality is regulated by several agencies, including USEPA, 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 USEPA 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

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 O_3, CO, NO_2 (which is a form of NO_X), SO_2 (which is a form of SO_X), PM_{10}, $PM_{2.5}$, and Pb. The USEPA 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 aircrafts, locomotives, and interstate trucking. The USEPA'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 provides research and guidance for air pollution programs. The SIP is a state level document that identifies all air pollution control programs within California that are designed to meet NAAQS.

USEPA has also adopted technology-based standards that limit the emissions of criteria pollutants from new or modified facilities in specific source categories. These standards are referred to as New Source Performance Standards and are found in 40 Code of Federal Regulations (CFR) Part 60. The applicability of these standards depends on the equipment size or rating; material or fuel process rate; and/or the date of construction, modification, or reconstruction. In the event that emergency backup generators are required

for project facilities by the Authority Having Jurisdiction (AHJ), the project's diesel-powered emergency generators would be subject to Subpart IIII, which establishes emission and operational limits of criteria pollutants for new stationary compression ignition engines. The project's natural gas-fired emergency generators would be subject to Subpart JJJJ, which establishes emission and operational limits of criteria pollutants for new stationary spark ignition engines. To comply with the requirements of Subpart IIII, the project's diesel-fired emergency generators would be operated and maintained as per the manufacturer specifications and would be certified to comply with Tier 4 emission rates. The project's natural gas-fired generators would be confirmed by the manufacturer to meet the respective Subpart JJJJ emission requirements and would be operated and maintained as required by the Subpart.

In addition to criteria pollutants, the USEPA also regulates emissions of hazardous air pollutants (HAP). HAPs, or air toxics, are pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects or adverse environmental effects. Controlling air toxic emissions became a national priority with the passage of the CAA amendments in 1990, when the U.S. Congress mandated that the USEPA regulate 188 air toxics. National Emission Standards for Hazardous Air Pollutants (NESHAP) regulate HAPs at major emission sources, aiming to protect public health with an ample margin of safety and to prevent any significant and adverse environmental effects. As stated previously, the project does not include large stationary sources; therefore, it is not considered a "major" source of emissions and NESHAP requirements would generally not apply.

Corporate Average Fuel Economy 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 USEPA jointly administer the CAFE standards. 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 (NHTSA, 2020). Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by USEPA 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. USEPA 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 (USEPA and NHTSA, 2016). On April 1, 2022, the NHTSA announced new fuel economy standards that require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks in model year 2026. The new standards will increase fuel efficiency 8 percent annually for model years 2024-2025 and 10 percent annually for model year 2026. They will also increase the estimated fleetwide average by nearly 10 miles per gallon for model year 2026, relative to model year 2021 (NHTSA, 2022). Pursuant to the National Environmental Policy Act, NHTSA is currently analyzing the potential environmental impacts of new fuel efficiency standards for model years 2030 and beyond medium- and heavy-duty on-highway vehicles and some work trucks, and new CAFE standards for model years 2027 and beyond passenger cars and light trucks, and new fuel efficiency standards for model years 2029 and beyond heavy-duty pickup trucks and vans.

State

California Air Resources Board

CARB, a department of the California Environmental Protection Agency (Cal/EPA), oversees air quality planning and control throughout California by administering the 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 NO_2 and SO_2 can 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) 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 APCD and air quality management districts (AQMD) in the state rank 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. Diesel particulate matter (DPM) is considered a TAC under AB 2588; therefore, the project may be subject to AB 2588 due to its DPM-emitting emergency backup generators (natural gas generators are expected to have minimal TAC emissions). However, DPM emissions from the emergency backup generators will be intermittent and minimal, with operations estimated at approximately 50 hours per year for maintenance and testing purposes. Emissions will be further controlled based on the engines being Tier 4. Any reporting required by AB 2588, if applicable, will be completed through annual reporting to the EKAPCD.

In an effort to reduce DPM emissions throughout the state, CARB has established the Airborne Toxic Control Measures (ATCM) for DPM from Portable Engines Rated at 50 Horsepower and Greater (13 California Code of Regulations [CCR] Section 93116). This ATCM requires portable diesel-fueled engines having a maximum rating of 50 hp and greater to meet fleet-average DPM emissions standards. 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.

CARB has also established the ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115) to reduce DPM and criteria pollutant emissions from stationary diesel-fueled compression ignition engines through fuel requirements, operational restrictions, and emission limits. The ATCM applies to points of sale of stationary compression ignition engines for use in California except portable engines, engines for motive power, auxiliary engines on marine vessels, and agricultural wind machines.

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. 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 PM 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 possess 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 USEPA participation in the permitting process and requires additional recordkeeping and reporting by businesses, which results in significant administrative requirements.

California Renewables Portfolio Standard Program

California's Renewables Portfolio Standard Program was enacted in 2002 with Senate Bill (SB) 1078 and accelerated in 2006, requiring investor-owned utilities to obtain 20 percent of their electric supply from renewable energy sources, such as solar, by 2010. On April 12, 2011, Governor Brown signed SB 2X, requiring California retail electric providers to procure 33 percent of their retail energy sales from eligible renewable sources by 2020. In October 2015, Governor Brown signed into legislation SB 350, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030 (CPUC, 2023).

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also created new standards for the RPS goals that were established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned and publicly owned utilities from 50 percent to 60 percent by 2030. Incrementally, these energy providers also are required to have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. The updated RPS goals are considered achievable, since many California energy providers are already meeting or exceeding the RPS goals established by SB 350. Governor Brown signed Executive Order B-55-18 with a new statewide goal to achieve carbon neutrality (zero-net GHG emissions) by 2045 and to maintain net negative emissions thereafter.

On September 16, 2022, Governor Newsom signed SB 1020, the Clean Energy, Jobs, and Affordability Act, which adds interim targets to the policy framework originally established in SB 100. The interim targets require renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent of all retail electricity sales by 2040. The bill also requires all state agencies to rely on 100 percent renewable energy and zero-carbon resources to power their own facilities by 2035 and encourages better information sharing and coordination between agencies for transmission planning.

California State Implementation Plan

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all State Implementation Plans to determine if they conform to the requirements of the CAA. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the EPA for approval and publication in the Federal Register.

Local

Construction and operation of the project would be subject to policies and regulations contained within the Kern County General Plan (2009), Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to air quality. The policies and implementation measures in the Kern County General Plan related to air quality 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.

Kern County General Plan

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

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:

(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 PM_{10} 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 PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits.

Chapter 5. Energy Element

Solar Energy 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.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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. The objective, policy, and implementation measure in the Mojave Specific Plan for air quality applicable to the project is provided below. The Mojave 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 Mojave Specific Plan are incorporated by reference.

Chapter 4. Conservation Element

Objective 4.6 Promote the improvement of air quality and the maintenance of State and Federal air quality standards in the Mojave area.

Policy 4.6.3 Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.

Chapter 10. Implementation

Measure N-2b) Air Quality studies will be required for industrial zone changes and conditional use permit projects which may emit affected pollutants, or toxic air contaminants. Prior to the approval of any industrial zone changes and/or conditional use permits, a level of impact determination shall be made, at which time the appropriate air quality analysis will be conducted.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan addresses issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. There are no goals, policies, or implementation measures in the West Edwards Road Settlement Specific Plan that are applicable to air quality. In Kern County, specific plans are used to implement goals, objectives, and policies of the Kern County General Plan in a more detailed and refined manner unique to a smaller area of the County. Since there are no applicable goals, policies, or implementation measures within the West Edwards Road Settlement Specific Plan, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. There are no recommendations, analysis, or implementation measures in the Soledad Mountain Elephant Butte Specific Plan that are applicable to air quality. In Kern County, specific plans are used to implement goals, objectives, and policies of the Kern County General Plan in a more detailed and refined manner unique to a smaller area of the County. Since there are no applicable goals, policies, or implementation measures within the Soledad Mountain Elephant Butte Specific Plan, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

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 management practices (BMP) 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 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 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 miles per hour (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 also identifies thresholds of significance against which project impacts are analyzed to determine whether a project will have a significant impact on air quality. The EKAPCD is responsible for managing and permitting existing, new, and modified sources of air emissions within the Mojave Desert portion of Kern County and has established the following rules and regulations to ensure compliance with local, state, and federal air quality regulations:

Rule 106 – Land Use

As part of his responsibility to protect the public health and property from the damaging effects of air pollution, it shall be the duty of the Air Pollution Control Officer to review and advise the appropriate planning authorities within the EKAPCD on all new construction or changes in land use which the Air Pollution Control Officer believes could become a source of air pollution problems.

Rule 201 (Permits Required)

Rule 201 establishes permitting requirements for stationary sources, including the project's backup generators. The EKAPCD also 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 EKAPCD is requiring a Fugitive Dust Emissions Monitoring Plan through which 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 – New and Modified Stationary Source Review [NSR]

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 tons per year;
- SO_X (as SO_2): 27 tons per year;
- VOCs: 25 tons per year; and
- NO_X (as NO_2): 25 tons per year.

Rule 401 – Visible Emissions

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 1 hour which is:

- As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the U.S. 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 – Fugitive Dust

Rule 402 of the EKAPCD's rules and regulations addresses significant human-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, earth-moving, construction and demolition, and human-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 earth-moving 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."
- The 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 above upwind concentrations as determined by utilizing high-volume particulate matter samplers or other USEPA-approved equivalent method(s).

Rule 404.1 – Particulate Matter Concentrations – Desert Basin

Rule 404.1 pertains to *Particulate Matter Concentrations – Desert Basin* and states:

- Particulate matter emissions shall not exceed 0.1-grains per standard cubic foot of gas at standard conditions (gr/scf)

Rule 412 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels and Bulk Plants

Rule 412 applies to the transfer of gasoline into stationary storage tanks, gasoline delivery vessels and gasoline bulk plants. The rule requires CARB Phase I Vapor Recovery systems among other provisions.

Rule 412.1 – Gasoline Transfer into Vehicle Fuel Tanks

Rule 412.1 applies to the transfer of gasoline into vehicle fuel tanks from stationary storage containers subject to the requirements of Rule 412 (Gasoline Transfer into Stationary Storage Containers, Delivery Vessels and Bulk Plants). The rule requires CARB Certified Phase II Vapor Recovery Systems.

Rule 419 – Nuisance

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 422 – New Source Performance Standards

Rule 422 incorporates performance standard provisions of 40 CFR Part 60 for implementation delegation by EKCAPCD. The standards include provisions for storage of petroleum liquids, among others.

Rule 423- National Emission Standards for Hazardous Air Pollutants and Source Categories (NESHAPs).

Rule 423 adopts the USEPA's National Emissions Standards for Hazardous Air Pollutants by reference, which grants the 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 CFR that are in effect as of October 10, 2017.

2017 Ozone Attainment Plan

In 2008, USEPA adopted a more stringent 8-hour ozone NAAQS of 0.075 ppm. Although 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, 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, 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).

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 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," EKAPCD requested CARB

formally submit a request to USEPA asking for voluntary reclassification of EKAPCD from "moderate" to "serious" nonattainment for the 2008, 8-hour ozone NAAQS, and revise the attainment date to December 31, 2020 (EKAPCD, 2017). USEPA reclassified EKAPCD (except for the Indian Wells Valley planning area) as "serious" nonattainment on August 6, 2018 (USEPA, 2018).

The 2017 Ozone Attainment Plan was adopted by EKAPCD on July 27, 2017, which addresses all required elements, emissions reductions, and control measures necessary to demonstrate attainment with the 2008 8-hour ozone NAAQS by 2020. CARB approved the 2017 Ozone Attainment Plan as a revision to the SIP and submitted it to USEPA on October 25, 2017 (CARB, 2017). In response to court decisions, some elements included in the 2017 Plan required updates. CARB staff prepared the 2018 Updates to the California State Implementation Plan (2018 SIP Update) to update SIP elements for nonattainment areas throughout the State as needed. CARB adopted the 2018 SIP Update on October 25, 2018 (CARB, 2018). CARB adopted another update to the SIP (2022 SIP Update) on September 22, 2022. The 2022 SIP Update includes measures and commitments to reduce emissions from State-regulated sources to support attainment of the 70 ppb 8-hour ozone standard in all nonattainment areas across California (CARB, 2022). In 2023, EKAPCD adopted the 2023 Ozone Attainment Plan to satisfy both the 2008, 8-hour Ozone (O3) National Ambient Air Quality Standards (NAAQS) of 75 parts per billion (ppb) and 2015, 8-hour O3 NAAQS (70 ppb) (EKAPCD, 2023).

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 the USEPA 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.

The Federal Transportation Improvement Program (FTIP) for the Kern County region is a 6-year schedule of multimodal transportation improvements, and the RTP is a long-range, 26-year transportation plan. 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, NOX, and PM10 (Kern COG, 2022).

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 air quality significance criteria were developed considering the CEQA significance criteria developed by the local air quality district in the project area, approved CEQA air quality checklists, and other federal criteria. 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. The findings in the Air Quality and GHG Technical Report prepared for the project (located in Appendix D of this EIR), which was prepared in accordance with the EKAPCD's *Guidelines for Implementation of the California Environmental Quality Act* and Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (County Air Quality Assessment guidance) documents, were used to assess the project's impacts related to air quality.

Air Quality Plan Consistency

As a component of the cumulative impact analysis, the Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* 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 (TAZ); and
- 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.

Pollutant Emissions

Project construction and operational emissions were estimated from several emissions models and associated spreadsheet calculations, depending on the source type and data availability. The primary emissions models used included CARB's on-road vehicle emission factor model (EMFAC) version 2017 and the California Emissions Estimator Model (CalEEMod). Short-term and annual emissions were estimated using project-specific data and schedules within the models. Refer to Appendix D of this EIR for details on equipment fleet, hours of operation, vehicle miles traveled, and other assumptions used.

Construction

Construction of the project would generate emissions of ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ that could result in short-term air quality effects during the construction period. Emissions would originate from offroad equipment exhaust, employee and haul truck vehicle exhaust (on-road vehicles), and fugitive dust from site grading and earth movement.

County guidance states that an air quality assessment should include estimates of short-term construction emissions in tons per year (Kern County, 2006). 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.

The California Emissions Estimator Model (CalEEMod) Version 2021 was used to estimate emissions from construction of the project (BREEZE Software, 2021). CalEEMod is a statewide computer model developed

in cooperation with air districts throughout the state to quantify criteria air pollutant emissions associated with construction activities from a variety of land use projects, such as residential, commercial, and industrial facilities. CalEEMod input parameters, including the land use type used to represent the project and size, construction schedule, and anticipated construction equipment utilization, were based on information provided by project applicant, or default model assumptions if project specifics were unavailable and default assumptions reasonable for the project, as described in Appendix D of this EIR.

Construction scenario assumptions including schedule, equipment mix, and vehicle trips, were based on information provided by the project applicant (See Appendix D of this EIR for a complete list of construction assumptions, including equipment, and vehicles). For purposes of this analysis, and in order to conservatively estimate project emissions during construction, it was assumed that construction of the project would commence in 2022, would last approximately 28 months (with the first four months dedicated to realignment of the Southern California Edison [SCE] transmission line), and that 2021 model year equipment would be utilized during construction activities. Assuming an early start date for construction this analysis represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years. Details regarding the methods and activity assumptions by source type are provided below.

- **Off-road Equipment**: Off-road equipment would be required for several construction activities, including grading and structure construction. Based on assumptions provided in Appendix D of this EIR, several construction phases will run concurrently. For this analysis, it was conservatively assumed that heavy construction equipment would be operating at the site for approximately 10 hours per day during project construction. Emission factors for off-road construction equipment (e.g., loaders, graders, and bulldozers) were obtained from the CalEEMod 2021 User's Guide appendix, which provides values per unit of activity (in grams per horsepower-hour) by calendar year (BREEZE Software, 2021). Criteria pollutants were estimated by multiplying the CalEEMod emission factors by the equipment inventory and activity assumptions (e.g., horsepower and hours of use per day) provided by the project applicant.
- **On-road Vehicles:** On-road vehicles (e.g., pickup trucks, flatbed trucks, and passenger vehicles) would be required for material deliveries to the project site, material and equipment hauling within the project site, onsite crew and material movement, and employee commuting. As provided in Appendix D of this EIR, up to 50 construction workers per week would be required to support the transmission line realignment. During the remainder of construction, the analysis conservatively assumes a construction peak workforce of approximately 800 workers (760 trips), though the actual peak workforce is expected to be 550 workers per day. For the purposes of analysis, the average daily workforce is assumed to be approximately 475 construction, supervisory, support, and construction management personnel, despite actual projections being closer to 250 workers per day. Delivery of material and supplies would reach the site via on-road truck delivery via SR-14 or SR-58. Most of the truck deliveries would be for the photovoltaic (PV) system installation, as well as any aggregate material that may be required for road base.
- **Water Trucks:** During construction of the Project, water would be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading, with as many as three water trucks expected on a given day. Water consumption during construction is estimated to be approximately 335 acre-feet during the construction period. Water

usage was assumed to be evenly distributed over the construction period. Construction water would be provided by local water purveyors, with existing or new onsite water wells used as a secondary source.

- **Fugitive Dust**: Fugitive dust emission factors for grading, bulldozing, truck loading/dumping, and paved and unpaved road travel are from the *CalEEMod User's Guide* (BREEZE Software, 2021), which incorporates portions of *AP-42* (USEPA 2006 and 2007)
- **Site Grading and Earth Movement**: Fugitive dust emissions from earth movement (e.g., site grading, and bulldozing) were quantified using emission factors from CalEEMod. Data on the total graded acreage were provided by the project applicant and the graded acreage was assumed to be 95 total acres. Per the applicant, it was assumed that all material would be balanced on site and therefore no material import or export is expected.

Operation

Operation of the project would generate emissions of ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ that could result in long-term impacts on ambient air quality. During operation of the project, there would be daily operational and site maintenance activities, weekly potable water deliveries, and periodic water hauling for panel cleaning. Panel cleaning is expected to be conducted one to four times annually as performance testing and weather and site conditions dictate. Given a 600-megawatt (MW) solar facility, with four panel cleaning cycles per year, the annual water usage is expected to be up to approximately 25 acre-feet of water. During operations, the water used is anticipated to be purchased from a local water purveyor or provided from the existing or new onsite water wells.

Emissions would result from off-road equipment exhaust from pressure washers and on-road vehicle trip generation for water trucks, vendor trucks, and employee trips. Long-term operational emissions associated with the project were calculated using CalEEMod (BREEZE Software, 2021). Please see Appendix D of this EIR for a complete list of operational assumptions.

- **Energy Source:** Energy sources include emissions associated with project electricity usage and onsite power generation. Electricity use would contribute indirectly to criteria air pollutant emissions. Energy use was provided by the applicant for security lighting and any ancillary use for the battery energy storage facility. The groundwater well pumps are operated by a diesel generator. The generator emits pollutants from the combustion of diesel fuel. The generator will be regulated by an operating permit under the EKAPCD's Rule 1160 for Internal Combustion Engines.
- **Mobile Source:** Mobile sources for the project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the project site. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. Based on conservative estimates for vehicular travel, the project is anticipated to have up to 5,220 trips per year during operation, accounting for the commutes and performance of regular inspection and maintenance activities by six full-time equivalent staff, plus up to 10 additional workers for periodic panel washing activities, and on and offsite material delivery trucks.

In the event emergency backup generators are required by the AHJ for project facilities such as project substations and battery energy storage systems, appropriate air permits will be obtained from EKAPCD. It is also expected that these diesel-powered emergency backup generators, if required, would meet applicable best available control technology and be operated in accordance with applicable CARB and EKAPCD rules

and regulations. If required, the generators would be powered by diesel fuel and would need to be intermittently run for maintenance and testing purposes and in a manner consistent with CARB's ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115). Accordingly, the amount of operational emissions released by the backup generators would be minimal.

Decommissioning

At such time as the project is decommissioned, equipment operation and site restoration activities would result in impacts to air quality. Given the assumption 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. It should be noted that this does not take into account any future improvement in technology or subsequent reductions in air emissions. Project decommissioning is projected to be approximately the same time in duration as construction. Therefore, decommissioning is assumed to be the same as the predicted construction emissions.

Health Risk Assessment

Dispersion modeling and a Health Risk Assessment (HRA) associated with construction and operational emissions was prepared and follows the methodologies prescribed in the California Environmental Protection Agency/Office of Environmental Health Hazard Assessment's (OEHHA's) *Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments* (OEHHA, 2015), which was adopted in 2015 replacing the previous 2003 guidance manual. Appendix D, *Air Quality and Greenhouse Gas Technical Report*, of this EIR details the methodology and results of the following evaluations:

- Maximum 24-hour concentrations of $PM_{2.5}$ and PM_{10}, resulting from mitigated construction emissions associated with onsite combustion and fugitive dust; and
- HRA estimating the potential risk attributed from mitigated DPM emissions from project construction and operation.

For risk assessment purposes, PM_{10} in diesel exhaust is considered DPM, originating mainly from offroad equipment and maintenance and testing operations of emergency generators operating at a defined location for a given length of time at a given distance from sensitive receptors. Less-intensive, more-dispersed emissions result from on-road vehicle exhaust (e.g., heavy-duty diesel trucks). These emissions could result in elevated concentrations of DPM at nearby receptors, which could lead to an increase in the risk of cancer or other health impacts. Consequently, an HRA was performed to determine the extent of increased cancer risks and chronic health indices at the maximally exposed receptors from project construction and operation. HRA assumptions and results are provided in Appendix D of this EIR.

Ambient Air Quality Analysis

Kern County Planning Department's *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County, 2006) requires a dispersion modeling analysis of the maximum 24-hour average concentrations of PM_{10} 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. Air dispersion modeling was not performed for the operational emissions as they are below the EKAPCD thresholds of significance and would be intermittent

sources estimated at approximately 50 hours per year, likely to have negligible impacts. 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 D 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. Kern County's suggested criteria recommends performing a localized CO impact analysis for the following project conditions: a) Level of Service (LOS) of an intersection or roadway identified LOS E or worse; b) signalization and/or channelization is added to an intersection; and c) sensitive receptors such as residences, schools, hospitals, etc. are located in the vicinity of the affected intersection or signalization. The project would not cause the LOS of any studied intersection or roadway to operate at LOS E or worse during construction or operation or require adding signalization or channelization to an intersection. Further, as construction is only expected to last 28 months, it would be considered temporary and would not result in a long-term source of CO emissions. Also, the project would create minimal emission sources during operation. As such, a CO hotspot analysis is not required.

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 is 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 CFR. Among other requirements, the National Standards for Hazardous Air Pollutants specify work practices to ensure safe handling of asbestos during demolitions and renovations of all facilities, including, but not limited to, structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units).

Thresholds of Significance

Kern County Environmental Checklist Thresholds

The Kern County CEQA Implementation Document and Kern County Environmental Checklist (updated in May 2019) identify the following criteria, as established in Appendix G of the State CEQA Guidelines, to determine if a project could potentially have a significant adverse effect related to air quality. The Kern County Environmental Checklist states that a project would normally be considered to have a significant impact related 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, would implementation of the project (in a specific location) exceed any of the following adopted thresholds:*
    i. *Eastern Kern Air Pollution Control District:*

    Operational and Area Sources

    - *25 tons per year for ROG*
    - *25 tons per year for NO_X*
    - *15 tons per year for PM_{10}.*

c. *Expose sensitive receptors to substantial pollutant concentrations; or*
d. *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.*

Eastern Kern Air Pollution Control District

As discussed in the EKAPCD's *Guidelines for Implementation of the CEQA*, 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 (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);*
2. *Emit less than 137 pounds per day of NOx or Reactive Organic Compounds (ROG) from motor vehicle trips (indirect sources only);*
3. *Not cause or contribute to an exceedance of any California or National Ambient Air Quality Standard;*
4. *Not exceed the District health risk public notification thresholds adopted by the EKAPCD Board;*
5. *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.])*
6. *Expose sensitive receptors to substantial pollutant concentrations:*
    - *Cancer risk impacts – Maximum Exposed Individual (MEI) exceeds 10 in one million*
    - *Chronic non-cancer risk impacts – Chronic Hazard Index (HIC) exceeds 1.0;*
7. *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 air pollution control districts 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:

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).

The project must be consistent with the growth assumptions of the applicable AQMP. The project, as a solar facility, is consistent with Kern County's General Plan and 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 and therefore incorporated into the AQAP.

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, as described in Section 4.3.3 above.

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 Traffic Analysis Zones (TAZ) show that sufficient employment increase is planned for the project area such that new employment opportunities afforded by the project were included in the growth assumptions used to develop the AQAP.
- The primary source of emissions from the project would be from construction and operation vehicles that are licensed through the State and whose emissions are already incorporated into CARB's emissions inventory

Consistency with the Kern Council of Government's Regional Conformity Analysis

The Kern Council of Governments (Kern COG) Regional Conformity Analysis Determination demonstrates that the regional transportation expenditure plans (2022 Regional Transportation Plan) in the

Kern County portion of the Mojave Desert air quality attainment areas would not hinder the efforts set out in the CARB's SIP for each area's non-attainment pollutants (CO, O_3 and PM_{10}) (Kern COG, 2022). The analysis uses an adopted regional growth forecast, governed by both the adopted Kern COG Policy and Procedure Manual and a Memorandum of Understanding between the County of Kern and Kern COG (representing itself and outlying municipal member agencies).

The Kern COG Regional Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Kern County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Regional Conformity Analysis were not incorporated into the Kern COG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast.

Item 2 under Section 3 – Model Maintenance Procedure, of the Kern COG Regional Transportation Modeling Policy and Procedure Manual states "Land Use Data – General Plan land capacity data or "Build-out capacity" is used to distribute the forecasted County totals, and may be updated as new information becomes available, and is revised in regular consultation with local planning departments," (Kern COG, 2023).

Under the current Kern County Zoning, the project site is designated as various industrial, agricultural, and residential estate districts. In addition, a review of Kern COG regional forecast was prepared to evaluate if the proposed project area growth forecast would be sufficient to account for the project's projected employment increase. The adopted growth forecasts are assigned to TAZs; a review of the growth forecast one mile from a project presents a conservative assessment of the project area. Given there are only six full time employees as a result of the proposed project the current growth forecast accounts for the proposed employment increase, therefore, the proposed project is consistent with the regional growth forecast. Additionally, although traffic associated with the project site may increase during construction, those increases would be temporary. There are no intersections or roadways identified as LOS E or worse associated with the project. Additionally, there would be no signalization or channelization added to an intersection as part of this project. Therefore, project construction would be consistent with the TAZs.

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. The project's short-term construction emissions are a result of construction equipment and vehicle exhaust, paving, water usage, and fugitive dust associated with vehicle travel on paved and unpaved roads and earth-moving activities. Construction traffic would consist of worker passenger vehicles and heavy trucks delivering parts, equipment, and materials to the project site. Up to 50 construction workers per week would be required to support the transmission line realignment. During the remainder of construction, the analysis conservatively assumes a construction peak workforce of approximately 800 workers (760 trips), though the actual peak workforce is expected to be 550 workers per day. For the purposes of analysis, the average daily workforce is assumed to be approximately 475 construction, supervisory, support, and construction management personnel, despite actual projections being closer to 250 workers per day. Major sources of emissions during site preparation, grading, and solar panel construction include: (1) exhaust emissions from construction equipment and vehicles; (2) fugitive

dust generated by construction vehicles and equipment traveling over exposed surfaces; and (3) soil disturbances from grading, bulldozing, and excavating/backfilling.

As stated in Section 4.3.4 above, for conservative emission estimation purposes, it is assumed that construction activities will overlap and that construction would commence in 2022 and last approximately 28 months, with the first 4 months dedicated to realignment of the SCE transmission line. Construction would primarily occur during daylight hours, Monday through Friday. Unmitigated construction emissions are shown in **Table 4.3-4**, *Construction Criteria Pollutant Emissions Without Mitigation*, and include implementation of BMPs for dust control. Mitigated construction emissions are shown in **Table 4.3-5**, *Construction Criteria Pollutant Emissions With Mitigation*, and include implementation of BMPs and Mitigation Measure **MM 4.3-2** for dust control and Mitigation Measure **MM 4.3-3** for controlling NO_X, PM_{10}, and $PM_{2.5}$ exhaust emissions from construction equipment. Detailed emissions calculations are provided in Appendix D of this EIR. As shown in **Table 4.3-5**, *Construction Criteria Pollutant Emissions With Mitigation*, the Project's construction emissions would exceed the EKAPCD's annual significance threshold for PM_{10}, even with mitigation.

TABLE 4.3-4: CONSTRUCTION CRITERIA POLLUTANT EMISSIONS WITHOUT MITIGATION [A]

Construction Period	VOC	CO	NOx	SO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions (lb/day) [b]	9.39	157	109	0.37	434	50.2
EKAPCD Daily Thresholds (lb/day)	137	--	137	--	--	--
Exceeds Daily Thresholds (Y/N)?	N	NA	N	NA	NA	NA
Annual Average Emissions (tpy) [d]	0.64	10.5	7.47	0.03	38.6	4.34
EKAPCD Annual Thresholds (tpy) [e]	25	--	25	--	15	--
Exceeds Annual Thresholds (Y/N)?	N	NA	N	NA	**Y**	NA

NOTES:

NA -- = Not applicable (i.e., no significance threshold exists for this pollutant)

[a] The unmitigated emissions scenario accounts for emission reductions achieved through implementation of BMPs for dust control, as described in Section 4.1, because these are required by existing regulations.

[b] Maximum daily emissions reflect the maximum emissions possible on any given day during the 28-month construction duration, based on the schedule of expected overlapping activities, and assuming all construction equipment and vehicles within a phase could operate simultaneously on any given day during the project.

[c] The EKAPCD Daily Thresholds were taken from the *Guidelines for Implementation of the California Environmental Quality Act (CEQA) of 1970, as Amended* (EKAPCD, 1999). Although these thresholds are intended for project operations only, they were applied to construction emissions for comparison purposes.

TABLE 4.3-5: CONSTRUCTION CRITERIA POLLUTANT EMISSIONS WITH MITIGATION [A]

Construction Period	VOC	CO	NOx	SO	PM_{10}	$PM_{2.5}$
Maximum Daily Emissions (lb/day) [b]	9.39	157	109	0.37	381	44.5
EKAPCD Daily Thresholds (lb/day)	137	--	137	--	--	--
Exceeds Daily Thresholds (Y/N)?	N	NA	N	NA	NA	NA
Annual Average Emissions (tpy) [d]	0.64	10.5	7.47	0.03	33.9	3.83
EKAPCD Annual Thresholds (tpy) [e]	25	--	25	--	15	--
Exceeds Annual Thresholds (Y/N)?	N	NA	N	NA	**Y**	NA

NOTES:

NA -- = Not applicable (i.e., no significance threshold exists for this pollutant)

[a] The mitigated emissions scenario accounts for emission reductions achieved through implementation of best management practices and MM 4.3-2 for dust control and MM 4.3-3 for controlling construction equipment exhaust.

[b] Maximum daily emissions reflect the maximum emissions possible on any given day during the 28-month construction duration, based on the schedule of expected overlapping activities, and assuming all construction equipment and vehicles within a phase could operate simultaneously on any given day during the project.

[c] The EKAPCD Daily Thresholds were taken from the *Guidelines for Implementation of the California Environmental Quality Act (CEQA) of 1970, as Amended* (EKAPCD, 1999). Although these thresholds are intended for project operations only, they were applied to construction emissions for comparison purposes.

[d] To facilitate comparison to the EKAPCD Annual Thresholds, total construction emissions were scaled by a factor of 12 months to 28 months, reflecting an adjustment from the 28-month construction duration.

[e] The EKAPCD Annual Thresholds were taken from Attachment A of the *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County, 2006). Although EKAPCD Rule 210.1 does provide offset thresholds for CO and SO, those thresholds only apply to new stationary sources or modifications to existing stationary sources. As a result, they are not appropriate for comparison to the mobile-oriented construction emission sources.

The results of this analysis indicate project construction may cause or significantly contribute to an exceedance of the NAAQS, with or without mitigation. Therefore, project construction would result in a significant and unavoidable impact after implementation of mitigation measures. The project will implement all applicable BMPs outlined in EKAPCD Rule 402 to minimize its ambient air quality potential impacts during construction. Implementation of these BMPs, along with Mitigation Measure MM 4.3-2, will minimize any potential visibility impacts at the project site's perimeter during construction. The project must comply with CARB's ATCMs for emergency standby diesel-fueled compression ignition engines, which are identified as key stationary control measures identified in the EKAPCD's 2017 Ozone Attainment Plan for 2008 Federal 75 ppb 8-Hour Ozone Standard (EKAPCD, 2017). Through implementation of the construction BMPs and Mitigation Measures **MM 4.3-1** through **MM 4.3-5,** the project is expected to comply with CARB's ATCMs for diesel-fueled, heavy-duty, off-road equipment, which are identified as key mobile source control measures in the EKAPCD's Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) for the 2015 Ozone National Ambient Air Quality Standards (NAAQS*)* (EKAPCD, 2020). Therefore, construction of the project would be consistent with this plan. Project construction workforce would be temporary, requiring approximately 28 months of employment. Temporary construction jobs required for the project would be well within the annual growth projection presented in the KCOG's 2022 Regional Transportation Plan and Sustainable Communities Strategy in Section 3. Therefore, project construction would be consistent with this plan.

Although the project construction generally would be consistent with applicable air quality plans, construction of the project on an annual basis would exceed the EKAPCD significance thresholds for PM_{10}. As such, the project would implement Mitigation Measure MM 4.3-3, which would require implementation of EPA Tier 4 or higher engines, among other measures and to the extent feasible. The project would also implement Mitigation Measure MM 4.3-2, which would require implementation of a Fugitive Dust Control

Plan during construction of the project. While the implementation of these mitigation measures would reduce emissions of PM_{10} during construction of the project, these emissions would not be reduced below the EKACPD significance threshold. As the MDAB is in non-attainment for PM_{10} and the project would result in significant temporary levels of PM_{10} emissions during construction, the project could conflict with or delay the attainment of the standard. Therefore, the project would result in a significant and unavoidable temporary impact.

Operation

Long-term air emission impacts are associated with any change in permanent use of the project site by onsite stationary and onsite or offsite mobile sources that substantially increase emissions. As stated previously, the project includes mobile source emissions resulting from vehicle trips associated with the project operations and maintenance.

In the event diesel-powered emergency backup generators are required by the AHJ for project facilities such as project substations and battery energy storage systems, appropriate air permits will be obtained from EKAPCD. It is also expected that these emergency backup generators, if required, would be CARB-certified Tier 4 engines, as dictated by EKAPCD requirements at the time of permitting, and operated in accordance with applicable federal, state, regional, and local ordinances and regulations. If required, the generators would be powered by diesel fuel but would only need to be intermittently run for maintenance and testing purposes and in a manner consistent with CARB's ATCM for Stationary Compression Ignition Engines (17 CCR Section 93115). Accordingly, the amount of operational emissions released by the backup generators would be minimal. The project does not include large stationary sources; therefore, it is not considered a major source of emissions. Even with this conservative assumption, the project's operational emissions would be well below EKAPCD's significance thresholds.

Long-term operational emissions from mobile sources associated with the project would be limited to vehicle travel by project employees to the site and around the site for routine maintenance and monitoring activities, material delivery truck trips to the site, and water consumption. Project operations are anticipated to require six full-time positions to maintain the infrastructure, with each employee traveling to the site daily. Additional staff would also be needed for certain activities, such as solar panel washing and solid and nonhazardous waste removal; however, these activities would not occur daily. The solar panel washing is expected to occur 1 to 4 times per year, requiring up to 10 workers. Waste removal is assumed to occur on a regular basis, but not daily. Up to 10 material delivery truck trips per month are expected throughout the year. Water consumption would include washing of the solar panels and water used for operations, fire suppression, and other maintenance activities. Unmitigated operational emissions are shown in **Table 4.3-6**, *Operation Criteria Pollutant Emissions Without Mitigation*, and include implementation of BMPs for dust control. Detailed emissions calculations are provided in Appendix D of this EIR. While the model of backup generators has not been selected at this time, Appendix D includes conservative emissions estimates using typical generators on the market today. . As shown, the project's operational emissions would not exceed the EKAPCD's significance thresholds even without mitigation.

TABLE 4.3-6: OPERATION CRITERIA POLLUTANT EMISSIONS WITHOUT MITIGATION [a]

Operations	VOC	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$
Mobile Source Maximum Daily Emissions (lb/day)	0.03	1.31	0.18	0.004	65.4	6.62
Emergency Generator Maximum Daily Emissions (lb/day)	3.37	61.8	12.2	0.12	0.53	0.53

Operations	VOC	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$
Total Operational Maximum Daily Emissions (lb/day)[b]	3.40	63.1	12.4	0.13	65.9	7.15
EKAPCD Daily Thresholds (lb/day)[c]	137	--	137	--	--	--
Exceeds Daily Thresholds (Y/N)?	N	NA	N	NA	NA	NA
Mobile Source Annual Emissions (tpy)	0.003	0.13	0.01	0.0004	11.9	1.19
Emergency Generator Annual Emissions (tpy)	0.08	1.54	0.30	0.003	0.01	0.01
Total Operational Annual Emissions (tpy)	0.09	1.67	0.31	0.0034	11.9	1.20
EKAPCD Annual Thresholds (tpy)[d]	25	--	25	--	15	--
Exceeds Annual Thresholds (Y/N)?	N	NA	N	NA	N	NA

NOTES:

NA - = Not applicable (i.e., no significance threshold exists for this pollutant)

[a] The unmitigated emissions scenario accounts for emission reductions achieved through implementation of best management practices for dust control, because these are required by existing regulations.

[b] Maximum daily generator emissions assume each generator operates one hour within a single day.

[c] The EKAPCD Daily Thresholds were taken from the *Guidelines for Implementation of the California Environmental Quality Act (CEQA) of 1970, as Amended* (EKAPCD 1999).

[d]The EKAPCD Annual Thresholds were taken from Attachment A of the *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* (Kern County, 2006). Although EKAPCD Rule 210.1 does provide an offset threshold for SO_2, this threshold only applies to new stationary sources or modifications to existing stationary sources and emergency equipment operating less than 200 hours per year are exempt. As a result, it is not appropriate for comparison to the Project's mobile-oriented operation emission sources or the emergency backup generators.

Table 4.3-7, *Ozone Precursors Emissions Comparison*, includes a comparison of the 2021 ozone precursor emissions projections for the EKAPCD's jurisdiction and the project's unmitigated operation emissions. This comparison shows that project operations would emit less than 0.4 percent of the total ozone precursor emissions in the EKAPCD's jurisdiction without mitigation.

TABLE 4.3-7: OZONE PRECURSORS EMISSIONS COMPARISON

Source	VOC Emissions (tpd)	NO_x Emissions (tpd)
2021 EKAPCD District-wide On-road Sources	0.986	3.046
2021 EKAPCD District-wide Off-road Sources	3.607	5.679
2021 EKAPCD District-wide Total Mobile Sources	4.593	8.725
2021 EKAPCD District-Wide Total Stationary Sources	1.027	19.633
2021 EKAPCD District-Wide Total Mobile and Stationary Sources	5.620	28.358
Enterprise Solar Storage Project Operation (Unmitigated)	0.00017	0.0062
Enterprise Solar Storage Project % of EKAPCD District-wide Mobile Source Emissions	0.037%	0.071%
Enterprise Solar Storage Project % of EKAPCD District-Wide Stationary Source Emissions	0.017%	0.032%

Source: EKAPCD, 2017

NOTE: tpd = tons per day

Additionally, the project's unmitigated operation emissions would represent a small portion (less than 0.01 percent) of both the EKAPCD's baseline emissions and transportation conformity budget, as shown in **Table 4.3-8**, *Transportation Conformity Emissions Comparison*.

TABLE 4.3-8: TRANSPORTATION CONFORMITY EMISSIONS COMPARISON

Source	VOC Emissions (summer tpd)	Nox Emissions (summer tpd)
2020 EKAPCD Baseline Emissions	1.05	3.36
EKAPCD Conformity Budget	2	4
Enterprise Solar Storage Project Operation (Unmitigated)	0.0017	0.0062
Enterprise Solar Storage Project % of EKAPCD 2020 Baseline Emissions	0.16%	0.18%
Enterprise Solar Storage Project % of EKAPCD Conformity Budget	0.085%	0.16%

Source: EKAPCD, 2017
NOTE: tpd = tons per day

The project's operation as a solar facility is not expected to generate significant dust or particulate emissions, and as described above, would result in emissions less than the operational significance criteria. Therefore, project operational emissions would be less than significant.

Furthermore, the solar power generated from 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 30 to 35 years, after which the land could be converted to other uses in accordance with applicable land use regulations in effect at that time if its conditional use permit is not extended. The project would 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 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. However, impacts would be less than those of construction, as no grading would occur. Even though no grading would occur during decommissioning of the project, it is conservatively assumed that decommissioning would similarly have a potentially significant and unavoidable temporary impact related to emissions of PM_{10} as with construction of the project. As with construction of the project, while emissions are considered temporary and not a long-term emissions source, short-term exceedances during decommissioning could

obstruct the EKAPCD's ability to achieve further progress toward attainment of ambient air quality standards. Therefore, similar to construction, the project would conflict with or obstruct the air quality planning goals set forth by the EKAPCD, and decommissioning would result in a significant and unavoidable temporary impact.

Mitigation Measures

MM 4.3-1: The project shall continuously comply with applicable rules and regulations set forth by the East Kern Air Pollution Control District.

MM 4.3-2: Prior to issuance of any grading permit, the project proponent shall submit a Site-Specific Dust Control Plan for review and approval by the Kern County Planning and Natural Resources Department. The Site-Specific Dust Control Plan shall serve to minimize fugitive dust emissions during project construction. The Site-Specific Dust Control Plan shall take into consideration grading and construction schedule, seasonal winds, site-specific wind patterns and soil conditions to ensure adequate measures are implemented to manage fugitive dust. The Site-Specific Dust Control Plan shall:

a. Identify a comprehensive grading schedule for the entire project site. When feasible, grading activities shall be phased and minimized to those areas necessary for project access and installation of solar panels and other areas of infrastructure associated with the solar facility.

b. The Site-Specific Dust Control Plan shall identify, in addition to those measures required by the air district, all measures being undertaken during construction activities and operational activities to ensure fugitive dust being blown off site is minimized. Measures may include, but are not limited to:
    1. Use of water trucks as required for the expected level of winds in the area.
    2. Use of dust suppressant (i.e., soil binders or mulch).
    3. Pre-seeding and irrigating prior to construction to create vegetation with useful root structures.
    4. Construction of dust screening in appropriate locations around the project site (i.e., fence slats or mesh screening).
    5. A copy of the approved Site-Specific Dust Control Plan shall be kept at the on-site construction office and all measures included in the Site-Specific Dust Control Plan shall be included on all Grading Plans issued for the project by the Kern County Public Works Department.

MM 4.3-3: The project proponent and/or its contractors shall continuously implement the following measures during construction and operation of the project to control emissions from the on-site equipment:

a. All equipment shall be maintained in accordance with the manufacture's specifications.

b. All equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for extended periods of time. Engine idling of all equipment shall be minimized.

c. Construction equipment shall not operate longer than eight cumulative hours per day.

d. All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NO_X emissions.

e. On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines.

f. All on-site off-road equipment and on-road vehicles shall meet the recent California Air Resources Board engine emission standards or alternatively fueled equipment, such as compressed natural gas, liquefied natural gas, or electric, as appropriate.

MM 4.3-4: Prior to commencement of any onsite construction activities (i.e., fence construction, mobilization of construction equipment, initial grading), including decommissioning, the project proponent shall provide written notice to the public through mailing a notice to all parcels within 1,000 feet of the project site, no sooner than 15 days prior to construction activities. The notices shall include the construction schedule, a telephone number and email address where complaints and questions can be registered. Additionally, a minimum of one sign, legible at a distance of 50 feet, shall also be posted at the construction sites or adjacent to the nearest public access to the main construction entrances throughout construction activities which include the construction schedule (updated as needed) and a telephone number where complaints can be registered. 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.

MM 4.3-5: 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

Impacts would be temporary, significant, and unavoidable during construction and decommissioning of the project even with implementation of mitigation. Impacts related to operation would be less than significant.

Impact 4.3-2: The project would expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors are particularly sensitive to air pollution because they are persons who 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, the community of Mojave is directly north of the project, with the nearest residences approximately 0.4 mile north of Site 2 (Western). There is a single rural residence located approximately 0.3 mile east of Site 1 (Northern). Other sensitive receptors in the vicinity of the project include Mojave High School and Mojave East Park, located 1.2 miles and 1 mile north of Site 2 (Western), respectively. These sensitive receptors, located within the project vicinity could be exposed to criteria air pollutants and TACs emitted during project construction and operation. Of note is the possibility for localized CO hotspots, reduced visibility, and increased health risks in the project vicinity, including exposure to Valley Fever. There are no sensitive receptors within the vicinity of the step-up substation site near the existing Windhub Substation.

Table 4.3-9, *Screening HRA for Mitigated Construction Emissions*, summarizes the mitigated construction emissions screening HRA results at the point of maximum impact (PMI), maximally exposed individual resident (MEIR), maximally exposed individual worker (MEIW), and maximally exposed individual sensitive receptor. As shown in **Table 4.3-9,** *Screening HRA for Mitigated Construction Emissions*, all cancer risks are below the EKAPCD's significance threshold of 1 in 1 million and all non-cancer chronic hazard indexes are below the EKAPCD's significance threshold of 0.2. Unmitigated construction emissions are shown in **Table 4.3-4,** *Construction Criteria Pollutant Emissions Without Mitigation*, and include implementation of BMPs for dust control because they are required by existing regulations. The unmitigated construction emissions would result in health risk estimates that would exceed the EKAPCD thresholds. Mitigated construction emissions are shown in **Table 4.3-5,** *Construction Criteria Pollutant Emissions With Mitigation*, and include implementation of BMPs and Mitigation Measure MM 4.3-2 for dust control and Mitigation Measure MM 4.3-3 for controlling NO_X, PM_{10}, and $PM_{2.5}$ exhaust emissions from construction equipment. Details of the screening HRA for construction DPM are included in Appendix D of this EIR.

TABLE 4.3-9: SCREENING HRA FOR MITIGATED CONSTRUCTION EMISSIONS

Risk	Value	EKAPCD Thresholds	Exceeds EKAPCD Thresholds (Y/N)?	Receptor Coordinates (UTM NAD 83 Zone 11)	
				Easting (meters)	Northing (meters)
Cancer PMI Risk (in 1 million)	0.87	1	N	398,957	3,874,880
Cancer Maximally Exposed Individual Resident Risk (in 1 million)	0.87	1	N	398,957	3,874,880
Cancer Sensitive Risk (in 1 million)	0.87	1	N	398,957	3,874,880
Cancer Maximally Exposed Individual Worker Risk (in 1 million)	0.02	1	N	398,957	3,874,880
Chronic Point of Maximum Impact HI	<0.001	0.2	N	398,957	3,874,880

Risk	Value	EKAPCD Thresholds	Exceeds EKAPCD Thresholds (Y/N)?	Receptor Coordinates (UTM NAD 83 Zone 11)	
				Easting (meters)	Northing (meters)
Chronic Maximally Exposed Individual Resident Hazard Index	<0.001	0.2	N	398,957	3,874,880
Chronic Sensitive Hazard Index	<0.001	0.2	N	398,957	3,874,880
Chronic Maximally Exposed Individual Worker Hazard Index	<0.001	0.2	N	398,957	3,874,880

NOTES:
NAD = North American Datum; UTM = Universal Transverse Mercator

Table 4.3-10, *Screening HRA for Mitigated Operation Emissions*, summarizes the mitigated operation emissions screening HRA results at the PMI, MEIR, MEIW, and maximally exposed individual sensitive receptor. As shown, residential, sensitive, and worker cancer risks are below the EKAPCD's significance threshold of 1 in 1 million and all non-cancer chronic hazard indexes are below the EKAPCD's significance threshold of 0.2. Although the cancer risk at the PMI exceeds the EKAPCD's significance threshold of 1 in 1 million, this point of maximum impact occurs at the strip of land north of the battery energy storage system parcel and the adjacent solar array. There are no sensitive receptors in this area. While workers may travel through this area, no long-term exposure would occur during the project's operational life. When these receptors are removed from the analysis, the PMI cancer risk would be reduced to 0.86 in 1 million, which is below the EKAPCD's significance threshold. Details of the screening HRA for operation DPM are included in Appendix D.

TABLE 4.3-10: SCREENING HRA FOR MITIGATED OPERATION EMISSIONS

Risk	Value	EKAPCD Thresholds	Exceeds EKAPCD Thresholds (Y/N)?	Receptor Coordinates (UTM NAD 83 Zone 11)	
				Easting (meters)	Northing (meters)
Cancer PMI Risk (in 1 million)	2.58	1	Y	398,519	3,874,880
Cancer Maximally Exposed Individual Resident Risk (in 1 million)	0.01	1	N	402,000	3,874,880
Cancer Sensitive Risk (in 1 million)	0.01	1	N	402,000	3,874,880
Cancer Maximally Exposed Individual Worker Risk (in 1 million)	0.23	1	N	398,519	3,874,880
Chronic Point of Maximum Impact HI	<0.001	0.2	N	398,519	3,874,880
Chronic Maximally Exposed Individual Resident Hazard Index	<0.001	0.2	N	402,000	3,874,880
Chronic Sensitive Hazard Index	<0.001	0.2	N	402,000	3,874,880
Chronic Maximally Exposed Individual Worker Hazard Index	<0.001	0.2	N	398,519	3,874,880

NOTES:

Risk	Value	EKAPCD Thresholds	Exceeds EKAPCD Thresholds (Y/N)?	Receptor Coordinates (UTM NAD 83 Zone 11) Easting (meters)	Northing (meters)
NAD = North American Datum; UTM = Universal Transverse Mercator					

The project's operation as a solar facility is not expected to generate dust or emissions related to visibility, such that a visibility assessment is not warranted. Additionally, compliance with the EKAPCD's Rule 402, including implementation of a dust control plan consistent with Mitigation Measure MM 4.3-2, would sufficiently reduce PM emissions to ensure a less than significant visibility impact during construction. This dust control plan would have the added benefit of controlling the release of *Coccidioides* spores, thus limiting exposure to Valley Fever during construction activities. These less than significant impacts would be further reduced through implementation of Mitigation Measu**res** MM 4.3-1, and MM 4.3-3 through MM 4.3-5.

Toxic Air Contaminants

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 within the project site from the construction and operation phases of the project.

DPM would be the primary TAC emitted during construction activities as a result of construction equipment and heavy-duty diesel vehicles traveling to/from and around the project site and diesel-fired emergency generators, respectively. TACs emitted from vehicles during project operation would not be noticeably distinguishable from those emitted from existing regional activities. **Table 4.3-9,** *Screening HRA for Mitigated Construction Emissions*, and **Table 4.3-10,** *Screening HRA for Mitigated Operation Emissions*, show that DPM emitted during mitigated construction and operation of the project would not result in cancer risk or a chronic health index above the EKAPCD's significance thresholds of 1 in 1 million and 0.2, respectively, after removal of receptors that would not constitute a point of chronic exposure as discussed. Decommissioning activities are anticipated to occur 30 to 35 years after the initial start-up of the facilities and therefore diesel vehicles would be subject to greater restrictions and newer technologies that would reduce future diesel emissions. However, it is conservatively assumed in this analysis that the decommissioning health risk will be equivalent to that of the construction health risk. As a result, the project's health risk impacts would be less than significant with mitigation.

The project's operation emissions do not exceed EKAPCD's significance thresholds for any criteria pollutant and are not expected to be a source of any toxic air contaminants except for DPM from diesel-fueled trucks and diesel-powered emergency backup generators, if required by the AHJ for project facilities such as project substations and battery energy storage systems. The generators would be the project's only expected stationary source of toxic air contaminant emissions. The emergency generators would need to be intermittently run for maintenance and testing purposes. As stated above, appropriate air permits will be obtained from EKAPCD. It is also expected that these emergency backup generators, if required, would be CARB-certified Tier 4 engines, as dictated by EKAPCD requirements at the time of permitting, and operated in accordance with applicable federal, state, regional, and local ordinances and regulations. The project does not include large stationary sources; therefore, it is not considered a major source of emissions. Even with this conservative assumption, the project's operational emissions would be well below EKAPCD's significance thresholds. Therefore, the project's associated health risk impacts would be considered less than significant during operation of the project.

Ambient Air Quality Analysis and Criteria Air Pollutants

An AAQA, as provided in Appendix D of this EIR, was performed to determine whether the project's construction emissions would cause or contribute to exceedances of any CAAQS or NAAQS during construction. As provided in **Table 4.3-11**, *24-Hour PM_{10} and PM2.5 Construction Impacts*, construction of the project would result in construction activities that could generate ambient constructions of PM_{10} and $PM_{2.5}$ above the applicable thresholds.

TABLE 4.3-11. 24-HOUR PM_{10} AND $PM_{2.5}$ CONSTRUCTION IMPACTS

Pollutant	Modeled Impact ($\mu g/m^3$)	Significant Impact Level ($\mu g/m^3$)	Above the Significant Impact Level (Y/N)
24-hour PM_{10}[a]	120	5	Y
24-hour $PM_{2.5}$[b]	8.1	1.2	Y

NOTES:
[a] Modeled result represents the high-first-high 24-hour modeled concentration
[b] Modeled result represents the high-first-high five-year average 24-hour modeled concentration

The project would implement Mitigation Measure MM 4.3-1, which would serve to reduce emissions of PM_{10} and $PM_{2.5}$ during construction of the project through compliance with EKAPCD Rules and Regulations for dust control measures. While the implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would reduce emissions of PM_{10} and $PM_{2.5}$ during construction of the project, these emissions would not be reduced below the EKACPD significance threshold, as shown in **Table 4.3-5,** *Construction Criteria Pollutant Emissions With Mitigation*. Therefore, the project would result in a significant and unavoidable temporary impact.

Operational activities emitting PM would include onsite work trucks and diesel-fueled trucks making infrequent material deliveries to the Project site during operation and maintenance and potential use of emergency backup generators at project substations or the battery energy storage systems which would need to be intermittently run for maintenance and testing purposes. These emissions are assumed to be negligible and less impactful than the construction-related emissions, as illustrated in **Table 4.3-6,** *Operation Criteria Pollutant Emissions Without Mitigation*. The project is considered less than significant for impacts to ambient air quality standards during operation of the project.

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* (Kern County, 2006) states that CO hotspots must be analyzed when one of the following conditions occur: (1) a project increases traffic at an intersection or roadway that operates at an LOS E or worse; (2) a project involves adding signalization and/or channelization to an intersection; or (3) sensitive receptors, such as residences, schools, hospitals, etc., are located in the vicinity of the affected intersection or signalization.

The project would have trip generation associated with construction worker vehicles and vendor trucks. Construction would be temporary and is expected to last approximately 28 months, such that construction would not result in a long-term source of CO emissions. Also, the project would create minimal emission sources during operation. As identified in Section 4.15, *Transportation*, project construction and operation would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including

the Kern COG Congestion Management Program. As such, a CO hotspot analysis is not required and the potential project-generated impacts associated with CO hotspots would be less than significant.

Valley Fever

The project has the potential to generate fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. It is possible that onsite workers could be exposed to Valley Fever as fugitive dust is generated during construction. CEQA does not require the analysis of project impacts on project workers; however, project workers are considered in this section for informational purposes. Because dust can be an indicator that increased efforts are needed to control other airborne particulates (including CI spores, if any), the project is required to control dust and the potential for exposure to any CI spores as well as provide training and awareness of Valley Fever via Mitigation Measures MM 4.3-6 and MM 4.3-7.

Mitigation Measure MM 4.3-2 requires the project to have comprehensive site construction controls in place to proactively control the generation of fugitive dust as required and regulated by the EKAPCD Rule 402. This rule also requires the site to have a designated dust monitor, as well as visible signage for nearby residents with the phone number for the site construction management and the EKAPKD for nearby residents use if they see blowing dust.

Mitigation Measure **MM 4.3-6** requires that training be provided to construction workers on measures they must take to proactively control and reduce fugitive dust and the potential for the release of CI spores during their ground disturbing activities, training on specific worker/task safety procedures, and general information regarding symptoms testing and treatment options for Valley Fever. All workers would be trained in and are expected to use their "stop work" authority if their activities are deemed to be causing the release of fugitive dust. This mitigation measure also requires that an educational Valley Fever Training Handout be developed for distribution to onsite workers and nearby residents. This handout contains general information about the causes, symptoms, and treatment instructions regarding Valley Fever, including contact information of local health departments and clinics knowledgeable about Valley Fever. Mitigation Measure **MM 4.3-7** would require a one-time fee of $3,200 to be paid to the Kern County Public Health Services Department 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.

With the implementation of Mitigation Measures MM 4.3-2, MM 4.3-6, and MM 4.3-7, the potential for the release of CI spores, if present, and the associated potential for workers or nearby residents to contract Valley Fever would be minimized; accordingly, the project would not add significantly to the existing exposure level of construction workers or nearby residences to the CI fungus.

Visibility Impacts

As discussed above under *Methodology*, Kern County has established criteria to determine if a project would potentially result in a visibility impact; however, the EKAPCD has not established guidance to address visibility in CEQA documents. Per the Kern County guidelines, a visibility analysis is not required since the project is not a large, industrial stationary source project or a mining project and it would not have long-term operational components that could generate dust or emissions plumes related to visibility. Compliance with EKAPCD Rule 402, including implementation of a dust control plan, is sufficient mitigation to reduce visibility effects from construction to a less than significant level. Therefore, the

project's potential to expose sensitive receptors to substantial pollutant concentrations associated with potential visibility impacts would be less than significant and no mitigation is required.

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.

Serpentine 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. However, according to information provided by the Department of Conservation Division of Mines and Geology, the project site is not in an area likely to contain ultramafic rock or naturally occurring asbestos (California Department of Conservation, 2011). Therefore, impacts associated with exposure of construction workers and nearby sensitive receptors to asbestos would be less than significant.

Health Effects of Criteria Pollutants

The USEPA and CARB have established AAQS 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 AAQS. 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 an attainment area for O3 (1-hour), PM_{10} and $PM_{2.5}$ and nonattainment for O3 (8-hour) under NAAQS, and nonattainment for O3, PM10, and PM2.5 under CAAQS.

Regarding health effects of criteria air pollutants, implementation of Mitigation Measure MM 4.3-3 would reduce the project's potential to result in regional health effects associated with ROG, NOX, PM_{10}, and $PM_{2.5}$; however, localized health effects associated with NOX, PM10, and PM2.5 could occur. However, implementation of the mitigation measures described in Impacts 4.3-1 and Impact 4.3-2 above, would reduce both localized and regional project-generated construction and operational emissions.

The accumulation and dispersion of air pollutant emissions within an air basin is dependent upon the size and distribution of emission sources in the region and meteorological factors such as wind, sunlight, temperature, humidity, rainfall, atmospheric pressure, and topography. The air districts, including EKAPCD, establish and recommend that the analyses of criteria air pollutants use CEQA significance thresholds that are set at emission levels tied to the region's attainment status and are based on emission levels at which stationary pollution sources permitted by the air district must offset their emissions. Such offset levels allow for growth while keeping the cumulative effects of new sources at a level that will not impede attainment of the NAAQS. The health risks associated with exposure to criteria pollutants are evaluated on a regional level, based on the region's attainment of the NAAQS. The mass emissions significance thresholds used in CEQA air quality analysis are set such that if a project's contribution is less than the threshold then the project would not make a cumulatively considerable contribution to regional emissions in a manner that would cause the region to exceed its NAAQS or CAAQS. The NAAQS and CAAQS thresholds are set at conservative levels to protect human health.

As shown in **Table 4.3-2,** *Air Quality Data Summary (2018–2020),* above, the MDAB is currently in state and federal nonattainment status for ozone and PM_{10}. Although ozone would not be directly emitted by construction equipment for the proposed project, the ozone precursors ROG and NO_X would be emitted, as well as the other criteria pollutants of CO, SO_X, PM_{10}, and $PM_{2.5}$. Given that ozone formation occurs through a complex photo-chemical reaction between NO_X and ROG in the atmosphere with the presence of sunlight, the impacts of ozone are typically considered on a basin-wide or regional basis and not on a localized basis. The health-based ambient air quality standards for ozone are established as concentrations of ozone and not as tonnages of their precursor pollutants (i.e., NO_X and ROG). It is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or particulate matter. 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 not practical to determine whether, or the extent to which, a single project's precursor (i.e., NO_X and ROG) emissions would potentially result in the formation of secondary ground-level ozone and the geographic and temporal distribution of such secondary formed emissions. Meteorology, the presence of sunlight, seasonal impacts, and other complex photochemical factors all combine to determine the ultimate concentration and location of ozone.

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 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 O_3 is extremely difficult because there is no established scientific method to perform such analysis. This conclusion is supported by both the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the South Coast Air Quality Management District (SCAQMD), who have determined that this type of analysis does not yield informative results for short-term construction related exceedances of air district thresholds. There are no unique issues for the EKAPCD that would make this analysis invalid.

The SJVAPCD explained that it assesses a project's potential to exceed AAQS by evaluating the project's compliance with district thresholds of significance, which are measured in mass emissions (SJVAPCD, 2015). As explained by the SJVAPCD, its thresholds are based on factual scientific data and have been set at a level that ensures AAQS 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 O_3 and its precursors NO_X, ROG, and VOC; O_3 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 O_3 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 O_3 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 SCAQMD agrees that it is very difficult to quantify health impacts with regard to O_3, 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). The amicus briefs filed by SJVAPCD and SCAQMD in *Sierra Club* are attached as part of Appendix D.

The project's operational emissions are less than EKAPCD's thresholds and thus would not contribute to an exceedance of the NAAQS or the CAAQS in the vicinity, which, as discussed above, are set at levels that protect human health. As such, it can be reasonable inferred that the project's operational emissions would not result in significant health impacts.

The project's construction emissions would not exceed the EKAPCD's thresholds except for particulate matter. This exceedance would occur on some days during the approximately 28 months of construction and would not be an ongoing operational issue. The short duration of exceedance is unlikely to result in chronic adverse health impacts. Further, models designed to determine health impacts from air pollution generally look at long-term exposures, making them not particularly informative of health impacts from short-term exposures such as would be experienced by people residing in the vicinity of a construction site. 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. During construction, the project would implement Mitigation Measures MM 4.3-1 through MM 4.3-7 to reduce the project's regional and localized health effects associated with criteria air pollutants, particularly particulate matter; however, the exact reduction from implementation of these mitigation measures cannot be quantified given existing scientific constraints. As such, the impacts are conservatively considered to be significant and unavoidable.

Mitigation Measures

Implementation of Mitigation Measures **MM 4.3-1** through **MM 4.3-7** would be required.

MM 4.3-6: **Minimize Exposure to Potential Valley Fever-containing Dust.** To minimize personnel and public exposure to potential Valley Fever-containing dust on and offsite, the following control measures shall be implemented during project construction:

a. Equipment, vehicles, and other items shall be thoroughly cleaned of dust before they are moved offsite to other work locations.

b. Wherever possible, grading and trenching work shall be phased so that earth-moving equipment is working well ahead or downwind of workers on the ground.

c. The area immediately behind grading or trenching equipment shall be sprayed with water before ground workers move into the area.

d. In the event that a water truck runs out of water before dust is sufficiently dampened, ground workers being exposed to dust shall leave the area until a truck can resume water spraying.

e. To the greatest extent feasible, heavy-duty earth-moving vehicles shall be closed-cab and equipped with HEP-filtered air system.

f. Workers shall receive training in procedures to minimize activities that may result in the release of airborne *Coccidioides immitis* (CI) spores, to recognize the symptoms of Valley Fever, and shall be instructed to promptly report suspected symptoms of work-related Valley Fever to a supervisor. Evidence of training shall be provided to the Kern County Planning and Natural Resources Department.

g. A Valley Fever informational handout shall be provided to all onsite construction personnel. The handout shall, at a minimum, provide information regarding the symptoms, health effects, preventative measures, and treatment. Additional information and handouts can be obtained by contacting the Kern County Public Health Services Department.

h. Onsite personnel shall be trained on the proper use of personal protective equipment, including respiratory equipment. National Institute for Occupational Safety and Health–approved respirators shall be provided to onsite personal upon request. When exposure to dust is unavoidable, provide appropriate National Institute for Occupational Safety & Health-approved respiratory protection to affected workers, if necessary. If respiratory protection is deemed necessary, employers must develop and implement a respiratory protection program in accordance with California Division of Occupational Safety and Health's Respiratory Protection standard (8 CCR 5144).

MM 4.3-7: 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 after Mitigation

Criteria Air Pollutants

With implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, temporary construction and decommissioning impacts would be significant, and unavoidable. Operational impacts would be less than significant.

Valley Fever

With implementation of Mitigation Measures MM 4.3-6 and MM 4.3-7, impacts would be less than significant.

Impact 4.3-3: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people)

Although emissions from project construction may result in temporary odors, they would be short term and have the potential to affect few people due to the distance between the project and any occupied areas, including schools and other sensitive receptors. Potential odor sources during construction activities may include diesel exhaust from heavy-duty equipment. Potential odor sources from project operations may include diesel exhaust from infrequent material delivery truck trips. Therefore, given the project's relatively

remote location and minimal emissions generated during facility operations, the Project would not result in other emissions, such as those leading to odor, that would adversely affect a substantial number of people.

The community of Mojave is directly north of Site 1 (Northern). There is also a single rural residence located less than 0.1 mile east of Site 1 (Northern). Other sensitive receptors in the vicinity of the project include Mojave High School and Mojave East Park, located 1.2 mile and 1 mile north of Site 2 (Western), respectively. Given the minimal activities required for project operations, temporary duration of construction, and spatially varying nature of construction emissions, impacts would be less-than-significant for construction or operations.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

SCE will relocate an existing 66 kilovolt transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way (ROW) to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be demolished using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation.

The equipment and vehicle use to support the SCE work was included in the air modeling conducted for the project and detailed in Appendix D of this EIR, *Air Quality and Greenhouse Gas Technical Report,* such that the air quality impacts for this work are included in the discussion of project impacts described above. The construction of the SCE transmission line is anticipated to take approximately four months, with approximately 50 workers, and does not involve any unique construction equipment. SCE's interconnection work will take between 3 to 8 months to complete using approximately 30 to 40 workers per week and does not involve any unique construction equipment. Operation would not involve substantial activity that could cause air emissions. Accordingly, both construction and operation of the SCE transmission line and interconnection work are not anticipated to conflict with any applicable air quality management plan, expose sensitive receptors to substantial pollutant concentrations, or result in emissions adversely affecting a substantial number of people. SCE's best management practices include compliance with all applicable state and federal laws and regulations during construction and operation, including those regulations that relate to the protection of air quality. Impacts would be less than significant for the SCE work.

4.3.5 Cumulative Setting, Impacts, and Mitigation Measures

Kern County's (2006) *Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports* requires three steps for estimating the potential significance of cumulative impacts: (1) evaluate localized impacts (Guideline Instruction 16a); (2) evaluate consistency with existing air quality plans (Guideline Instruction 16b); and (3) summarize CARB air basin emissions (Guideline Instruction 16c).

The geographic scope for cumulative air quality impacts is a 6-mile radius for regional impacts and a 1-mile radius for impacts on sensitive receptors. 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 3-6,** *Cumulative Projects*, in Chapter 3, *Project Description*, lists all of the currently approved and proposed renewable development projects within Kern County, which may have concurrent construction activities with the Project. While all of the renewable projects are presented, 10 or fewer are within 6 miles of the Project boundary.

Impact 4.3-4: The project would result in a cumulatively considerable net increase of criteria pollutant for which the projects' region is nonattainment under applicable federal or State ambient air quality standards.

Construction

Construction of the project would result in the temporary addition of pollutants to the local airshed caused by onsite sources (i.e., off-road construction equipment, soil disturbance) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the project applicant and is intended to represent a reasonable scenario based on the best information available. As shown in **Table 4.3-4,** *Construction Criteria Pollutant Emissions Without Mitigation*, and **Table 4.3-5,** *Construction Criteria Pollutant Emissions With Mitigation*, construction of the project would result in emissions of the following nonattainment pollutants: ozone precursors (NO_X and VOC) and PM_{10}. Although these emissions would be temporary (occurring over an approximately 28-month period), as shown in **Table 4.3-10**, *Screening HRA for Mitigated Operation Emissions*, PM_{10} and $PM_{2.5}$ emissions would exceed the EKAPCD's annual significance threshold even after mitigation. Implementation of BMPs for dust control and Mitigation Measures MM 4.3-1 and MM 4.3-2 minimize, to the extent feasible, PM_{10} and $PM_{2.5}$ emissions during construction. While the implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would reduce emissions of PM_{10} during construction of the project, the emissions for PM_{10} and $PM_{2.5}$ would not be reduced below the EKACPD significance threshold. Therefore, during construction, the project would result in a cumulatively considerable contribution to significant cumulative impacts related to PM_{10} and $PM_{2.5}$. Details of the construction emission estimates are provided in Appendix D of this EIR (As discussed below, the analysis of criteria air pollutants is inherently cumulative because the thresholds are set to account for existing significant cumulative impacts in the air basin).

Operations

The project involves development of a 600-MW photovoltaic solar energy facility with up to 4 gigawatt-hours of battery storage capacity and overhead gen-tie line. Operation of the project would result in minimal emissions of criteria air pollutants. As shown in **Table 4.3-6**, *Operation Criteria Pollutant Emissions Without Mitigation*, emissions associated with Project operations would not exceed applicable EKAPCD significance thresholds. Therefore, operational emissions would be less than significant, and no mitigation measures are required. Details of the operational emission estimates are provided in Appendix D of this EIR.

Localized Impacts

As previously discussed, there are 10 active developments within 6 miles of the project boundary. Significant cumulative impacts from the project, when considered with nearby, reasonably foreseeable planned projects, would potentially occur during project construction. Most project emissions would occur temporarily during the construction phase. Subsequent to construction activities, there would be minimal emissions and insignificant cumulative impacts during operation of the project.

The Kern County Planning and Natural Resources Department has determined that the previously listed project-level thresholds for criteria air pollutants are defined, for purposes of determining cumulative effects, as the baseline for "considerable." In other words, the thresholds are set at a level that accounts for existing and planned future air basin conditions. Thus, if a project's emissions do not exceed the project-level thresholds, the project would not make a cumulatively considerable contribution to significant cumulative impacts in the air basin. As noted above, project construction activities would generate emissions and modeled ambient impacts that exceed the EKAPCD's annual significance threshold for PM_{10} and the USEPA's Significant Impact Levels for PM_{10} and $PM_{2.5}$, respectively, even with mitigation, and the air basin is in nonattainment with its PM_{10} target. Therefore, the project would make a cumulatively considerable contribution to a significant cumulative air quality impact with respect to PM from construction emissions. Cumulative impacts during construction would be temporary, significant, and unavoidable. Cumulative impacts during operation would be less than significant.

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, since the MDAB is in nonattainment for PM_{10} and the project would result in significant temporary levels of PM_{10} emissions during construction, the project could potentially obstruct the EKAPCD's ability to achieve further progress toward attainment of the state PM_{10} standards. Impacts during construction were considered significant and unavoidable 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 the EKAPCD's Ozone Air Quality Management Plan, nor is the project expected to exceed thresholds for any nonattainment pollutant. Therefore, the project's incremental contribution to cumulative air quality impacts related to operation would not be cumulatively considerable and would not compromise existing air quality plans. Cumulative operational impacts would be less than significant.

Further, 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, and also by providing power to allow the displacement of fossil-fueled engines (such as agricultural pumps) with electrical power units. This power production is not projected within the existing air quality plans; thus, the project and other related solar facilities would further aid in reducing air pollutant emissions and increase the potential for attainment of the 2017 Ozone Attainment Plan.

California Air Resources Board Air Basin Emissions

The following tables (**Tables 4.3-12**, *Emissions Inventory for the MDAB, 2025 Projection – Tons per Day*; **4.3-13**, *Emissions Inventory for the Kern County Portion of the MDAB, 2025 Projection – Tons per Day;* and **4.3-14,** *2025 Emissions Projections for Enterprise Solar Storage Project, Kern County, and the MDAB – Tons Per Day*) show the MDAB emissions of nonattainment pollutants and their precursors, along with a composite showing the contribution from the project's unmitigated operation emissions. The Kern County and MDAB emissions were downloaded from the CARB website (CARB, 2023) and are based on 2025 projections. The most recent year of actual data published by CARB is for 2017, with all later years projected from the 2017 results. Given this, projected annual emissions for the year 2025 were used for comparison to the project's unmitigated emissions as they are the closest future year projections for the construction period.

TABLE 4.3-12: EMISSIONS INVENTORY FOR THE MDAB, 2025 PROJECTION – TONS PER DAY

Source	ROG	NO_X	PM_{10}
Total Emissions	210.7	107	135.5
Percent Stationary Sources	8%	42%	22%
Percent Area-wide Sources	7%	2%	54%
Percent Mobile Sources	9%	54%	5%
Percent Natural Sources	76%	2%	19%
Total Stationary Source Emissions	16.4	44.8	30.2
Total Area-Wide Source Emissions	15.1	1.8	73.4
Total Mobile Source Emissions	18.5	58.2	6.8
Total Natural Source Emissions	160.7	2.2	25.2

Source: CARB, 2023

TABLE 4.3-13. EMISSIONS INVENTORY FOR THE KERN COUNTY PORTION OF THE MDAB, 2025 PROJECTION – TONS PER DAY

Source	ROG	NO_X	PM_{10}
Total Emissions	116.8	28.4	33.7
Percent Stationary Sources	1%	68%	8%
Percent Area-wide Sources	2%	1%	22%
Percent Mobile Sources	5%	28%	9%
Percent Natural Sources	92%	4%	61%
Total Stationary Source Emissions	1.7	19.2	2.6
Total Area-wide Source Emissions	1.8	0.2	7.4
Total Mobile Source Emissions	6.1	8.0	3.2
Total Natural Source Emissions	107.2	1.0	20.4

Source: CARB, 2023

TABLE 4.3-14: 2025 EMISSIONS PROJECTIONS FOR ENTERPRISE SOLAR STORAGE PROJECT, KERN COUNTY, AND THE MDAB – TONS PER DAY

Source	ROG	NO_X	PM_{10}
Enterprise Solar Storage Project (Unmitigated)	0.00017	0.01	0.03
Kern County	116.8	28.4	33.7
MDAB	210.7	107	135.5
Enterprise Solar Storage Project % of Kern County	<0.1%	<0.1%	<0.1%
Enterprise Solar Storage Project % of MDAB	<0.1%	<0.1%	<0.1%
Kern County % of MDAB	55%	27%	25%

Compared to Kern County and MDAB emissions in 2025, operational emissions associated with the project would be negligible. In addition, as described above, 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. Thus, the project's incremental contribution from project operations to the MDAB Emissions Inventory would not be cumulatively considerable.

Cumulative Hazardous Air Pollutants

Combined HAPs emission impacts from the project and other existing and planned projects are considered cumulatively significant when air quality standards are exceeded. Because the project would not be a significant source of HAPs, it also would not make a cumulatively considerable contribution to significant HAPs impact.

Cumulative Carbon Monoxide (CO) – Mobile Sources

The proposed project would result in negligible traffic increases and congestion and would not substantially contribute or combine with existing conditions to cause a CO "Hotspot." Additionally, as the majority of the other projects and land uses in the vicinity consist of solar plants, undeveloped land, and rural residential uses, existing traffic is minimal. Accordingly, "Hotspot" modeling was not conducted for the proposed project and there would be no significant cumulative CO impacts. Impacts would be less than significant.

Cumulative Impacts Summary

The discussion provided 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's (2006) *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 4.3-5,** *Construction Criteria Pollutant Emissions With Mitigation*. While the implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would reduce emissions of PM_{10} and $PM_{2.5}$ during construction of the project, these emissions would not be reduced below the EKACPD significance threshold. In addition, implementation of these mitigation measures would also reduce annual emissions of PM_{10} during construction of the project, the emissions for PM_{10} would not be reduced below the EKACPD significance threshold, as illustrated in **Table 4.3-10,** *Screening HRA for Mitigated Operation Emissions*. Mitigation measures would ensure use of only Tier 4 off-road equipment to address exhaust emissions of PM_{10}.

While the project's emissions would be negligible in comparison to the air basin's total emissions, the project would still exceed the EKCAPD's annual threshold for PM_{10}. Therefore, the project could delay attainment of the standard. Additionally, construction of other projects in its proximity could further contribute to the exceedance of the PM_{10} threshold. Therefore, there would be a temporary cumulative impact during construction of the project.

Mitigation Measures

Implementation of Mitigation Measures MM 4.3-1 through MM 4.3-7 would be required.

Level of Significance after Mitigation

Cumulative impacts would be temporary, significant, and unavoidable during construction and decommissioning of the project after implementation of Mitigation Measures MM 4.3-1 through MM 4.3-7. Cumulative impacts related to operation would be less than significant.

Section 4.4
Biological Resources

4.4.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for biological resources either present, or with the potential to be present, on the project site. The section includes the physical and regulatory setting for the project; 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; the methods used in evaluating these potential impacts; an analysis of potential impacts; and project-specific mitigation.

The analysis presented in this section of the EIR is based on a multi-year effort to document existing biological resources within the project site and vicinity conducted by Jacobs Engineering Group Inc. (Jacobs), SWCA Environmental Consultants (SWCA), Bloom Biological, Inc. (BBI), and Tetra Tech, Inc. (Tetra Tech) in 2021, 2022, and 2023. Biologists conducted the following types of biological surveys for the project: site assessments; plant community and land cover mapping; general and focused plant surveys; general and focused wildlife surveys; Joshua tree (*Yucca brevifolia*) mapping; protocol desert tortoise (*Gopherus agassizii*) surveys; protocol Swainson's hawk (*Buteo swainsoni*) surveys; and jurisdictional delineation surveys. The analysis is supported by the following reports included in the Appendices of this EIR:

- Wildlife Report for the Enterprise Solar Storage Project (Jacobs, 2023a); Appendix E1 of this EIR.
- *Supplemental Wildlife Memorandum for the Enterprise Solar Storage Project* (Jacobs, 2023b); Appendix E1A of this EIR.
- *Wildlife Resource Memorandum for High Voltage Work near Windhub Substation* (Jacobs, 2023c); Appendix E1B of this EIR.
- *California Department of Fish & Wildlife Swainson's Hawk (Buteo swainsoni) Guideline Survey & Nesting Raptor Survey Report, Enterprise Solar Storage Project* (BBI, 2023); Appendix E1C of this EIR.
- *Botanical Inventory Report for the Enterprise Solar Storage Project, Kern County, California* (SWCA, 2022); Appendix E2 of this EIR.
- *Supplemental Botanical Inventory Memorandum for Enterprise Solar Storage Project* (Tetra Tech, 2023a); Appendix E2A of this EIR.
- *Botanical Inventory Memorandum for High Voltage Work near Windhub Station* (Tetra Tech, 2023b); Appendix E2B of this EIR.
- *Aquatic Resource and Other Watercourse Delineation Report* (Jacobs, 2023d); Appendix E3 of this EIR.

Between 2021 and 2023, the project site boundary was refined in certain areas due to progression of project design. Multiple surveys were required to capture all areas to be used for the project. Therefore, while

surveys covered the entire project site, individual field efforts and survey reports may reflect slightly different survey areas depending on the survey date and type. Each survey area is described in detail within each respective survey report prepared for this project.

Prior to conducting on-site surveys, literature reviews and database analyses were completed. The literature review included available information in relevant literature, databases, agency web sites, reports and management plans, Geographic Information System (GIS) data, maps, and aerial imagery. Resources reviewed included U.S. Geological Survey (USGS) 7.5-minute topographic maps; the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) (CDFW, 2023c); the United States Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation system (USFWS, 2023b); the California Native Plant Society's (CNPS) 9th online edition of the Inventory of Rare and Endangered Plants of California (CNPS, 2023a); Kern County's General Plan, ordinances, and municipal codes; CDFW's Biogeographic and Information Observation System (BIOS) (CDFW, 2023a); USFWS' National Wetlands Inventory (NWI) database and Wetlands Mapper (USFWS, 2023c); USGS National Hydrographic Dataset (NHD) maps (USGS, 2023); USFWS' Critical Habitat online mapper (USFWS, 2023a); National Oceanic and Atmospheric Administration's National ESA Critical Habitat Mapper (NOAA, 2023); CDFW's BIOS Habitat Connectivity Viewer (CDFW, 2023b); *California Essential Habitat Connectivity project: A Strategy for Conserving a Connected California* (Spencer et al., 2010); *A Linkage Network for the California Deserts* (Penrod et al., 2012); and finally Audubon California's Important Bird Areas interactive site map (Audubon California, 2023).

The purpose of the literature reviews was to provide information on the project site's location; land cover and land use; topography; soils; plant communities and plant cover; special-status plant and wildlife species; protected trees; hydrology, aquatic features, and jurisdictional areas; critical habitats; wildlife movement corridors; and other important biological resources and issues. The literature reviews were updated, as appropriate, throughout 2021, 2022, and 2023, and during preparation of this EIR.

4.4.2 Environmental Setting

Regional Setting

The project site is situated at the western edge of the Antelope Valley in the southeastern corner of the desert region in unincorporated Kern County. Kern County is divided into three distinct geographical regions: the eastern third of the county is in the Mojave Desert; the middle section straddles the southern Sierra Nevada Range and the Transverse Ranges of the Tehachapi and San Emidio Mountains; and the western third is in the southern San Joaquin Valley. The project site is generally located south of the desert community of Mojave, the Mojave Airport, and State Route (SR)-58; 9.5 miles southwest of the City of California City; 10 miles north of the unincorporated community of Rosamond; and 16 miles southeast of the City of Tehachapi.

There are several proposed, existing, and permitted solar energy and transmission projects in the region where the project is located. The Sanborn Solar project is located between Sites 1 (Northern), 2 (Western), and 3 (Eastern) and to the west and south of Site 4 (Southern). The Edwards Solar project is located approximately 1 mile south of Site 4 (Southern). The RE Camelot Solar project, RE Columbia Two Solar project, RE Columbia Three Solar project, and RE Rio Grande Solar project are operational and adjacent to Site 2 (Western). The Windhub Solar project and the SEPV Solar project, approximately 5 miles to the

west, are currently operational, as are the Rosamond One, Rosamond Two, and Catalina Solar projects to the southwest. Additional land uses in the vicinity of the project site consist of a mix of undeveloped land, scattered single-family rural residences, and utility-scale wind projects.

Climate

The climate within the Mojave Desert region is characterized by hot summers and cool winters with low year-round rainfall. Precipitation levels in the surrounding region are highly variable and average approximately 6 inches annually. According to U.S. Climate Data (USCD, 2022), the average annual precipitation for Mojave, California is 6.67 inches, with an average August high temperature of 96 degrees Fahrenheit (°F) and an average December low temperature of 33°F. Most of the precipitation falls between November and April, originating from large-scale Pacific storm systems, while the remainder is generated primarily by high-intensity monsoonal thunderstorms during the summer months.

Vegetation

Vegetation in the Mojave Desert region where the project site is located is influenced by arid climatic conditions, topography, desert soils, and past land uses. Vegetation in the region includes a predominance of plant morphological adaptations to extreme aridity (e.g., waxy or resinous leaf cuticles, drought deciduous or succulent plants, woolly leaf pubescence, deep tap root systems) and saline-alkali soils (e.g., salt excretion, active transport systems). Vegetation structure is characterized by short-statured and widely spaced shrubs, and arborescent shrubs resulting from a competition for soil water resources.

The predominant natural plant community within the project vicinity is creosote bush series on hills, pediments, and fans. Joshua tree series is common on pediments and fans; California juniper series predominates above about 3,000 feet above mean sea level (amsl) near the San Andreas Fault; mixed saltbush series is common on basin floor; iodine bush series and saltgrass series are present on wet basin-fill and lacustrine deposits; and greasewood series occurs in riparian areas and around saltmarsh (Miles and Goudey, 1997).

Desert-adapted plant species often show low resilience to disturbance, typically requiring long periods to recover. Often full recovery to a natural community fails, and the community follows successional pathways towards alternative stable states dominated by invasive species (Beisner et al., 2003; Chartier and Rostagno, 2006). Portions of the Mojave Desert and Antelope Valley that were at one time cleared for agricultural or other development currently consist of moderate to highly degraded conditions, and often contain a high proportion of associated invasive, nonnative species (Thomas et al., 2004).

Wildlife

The Mojave Desert supports a variety of reptile, bird, and mammal species. Reptile species commonly occurring in the desert portion of Kern County include the common side-blotched lizard (*Uta stansburiana*), western whiptail (=tiger whiptail) (*Aspidoscelis tigris*), desert spiny lizard (*Sceloporus magister*), gophersnake (*Pituophis catenifer*), glossy snake (*Arizona elegans*), and Mojave rattlesnake (*Crotalus scutulatus*). Bird species common to the region include common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), house finch (*Haemorhous mexicanus*), loggerhead shrike (*Lanius ludovicianus*), and red-tailed hawk (*Buteo jamaicensis*). 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 (*Otospermophilus*

beecheyi), 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 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 CNDDB. Plant communities with State Ranks of S1, S2, and S3 are considered sensitive.

Surface Hydrology and Jurisdictional Waters

Within the arid and semi-arid western United States, limited precipitation restricts wetland and riparian resources to 1-5 percent of the land surface, a relatively low proportion compared to other systems globally. The proportion of wetland resources is even lower (less than 1 percent) in extremely arid areas such as the Mojave Desert and the Great Basin (USACE, 2008).

The project site is in the South Lahontan Hydrologic Region, which represents about 17 percent of the land (26,732 square miles) area in California (DWR, 2004). The region includes Inyo County and portions of Mono, San Bernardino, Kern, and Los Angeles Counties. It is bounded to the north by the drainage divide between Mono Lake and East Walker River; to the west and south by the Sierra Nevada, Sierra Pelona, San Gabriel, San Bernardino, and Tehachapi Mountains; and to the east by the State of Nevada. Drainage for most of the watershed in the region is internal. Along with the arid climate, this accounts for the presence of many dry lakebeds or playas in the region.

Wildlife Movement Corridors

Wildlife can move freely through open landscapes with minimal impediments such as paved roads and development. In denser landscapes where cover is harder for larger animals to penetrate, wildlife will often utilize human-made movement corridors such as scarcely travelled dirt roads and trails, as well as natural paths such as washes and small drainages. Topography across the project site is relatively flat as the site is southeast of the Tehachapi Mountains on lands that gradually slope downward from the northwest to the southeast. The project site is largely undeveloped with an open landscape, and thus wildlife can move relatively freely through the area. In addition, wildlife can utilize dirt roads within the project site to move throughout the area. Constraints on the landscape that may influence wildlife movement include SR-14, SR-58, several other paved roads, an existing substation, wind turbines, the Burlington Northern Santa Fe (BNSF) Railroad, and scattered rural residential areas. Existing solar fields occur adjacent to much of the project site, including areas west and south of Site 2 (Western), areas west of Site 3 (Eastern), and areas west and south of Site 4 (Southern). The overall minimal development in this region of the Mojave Desert allows opportunities for wildlife movement between the desert areas and the Tehachapi Mountains to the northwest.

Local Setting

The project site and surrounding land are relatively flat and exhibit little topographic relief. Topography within and adjacent to the project site consists of mostly flat lower bajada sloped gently to the southeast with some protruding, steeply sloped rocky hills. Elevation in the project area ranges from approximately 2,510 feet amsl in the southeastern corner of Site 4 (Southern) to approximately 3,555 feet amsl at the western-most end of the generation tie (gen-tie) route around the Windhub Substation. The project is generally located on undeveloped land, some of which has been used for grazing and consists entirely of privately owned parcels. Existing solar fields occur adjacent to much of the project site, including areas west and south of Site 2 (Western), areas west of Site 3 (Eastern), and areas west and south of Site 4 (Southern). Site 5 (Step-Up Substation) and the gen-tie route occur in and along existing wind energy facilities and an existing substation, approximately 4 miles southeast of the Tehachapi Mountains. The BNSF rail line separates Site 3 (Eastern) and Site 4 (Southern) with an embankment.

The project site and vicinity have experienced varying levels of disturbance, including, but not limited to, rural development, encampments, off-road vehicle use, refuse/debris dumping, vegetation clearing, sheep grazing, and colonization by non-native and invasive plants. Existing developments in the vicinity include renewable energy facilities and supporting infrastructures, rural access roads, scattered rural residences, and a mix of undeveloped land and agricultural grazing. In addition to these disturbances, unauthorized encampments have been documented in Site 4 (Southern) and Site 3 (Eastern). As a result of all these disturbances, non-native and invasive plant species are widespread. Much of the gen-tie route and areas adjacent to roads in the project area were previously cleared of vegetation. Non-native and invasive and non-native plants were most prominent in the southern portion of Site 2 (Western) and in disturbed areas. Non-native species, such as cheatgrass (*Bromus tectorum*), Mediterranean grass (*Schismus barbatus*), red brome (*Bromus rubens*), and red-stem filaree (*Erodium cicutarium*), were ubiquitous throughout the project site.

Plant Communities

A total of 162 plant species were identified within survey areas during the 2021, 2022, and 2023 botanical field surveys. Three separate field mobilizations were conducted to survey for and map plant communities/habitats including:

1. In April and May of 2021 and 2022, SWCA conducted botanical surveys of the project site and buffer (2,412.82 acres) and results are documented in the *Botanical Inventory Report for the Enterprise Solar Storage Project, Kern County, California* (SWCA, 2022) included as Appendix E2 of this EIR;

2. In April 2023, Tetra Tech conducted supplemental botanical surveys on land within the project site not previously covered by SWCA during initial botanical surveys (approximately 586 acres) and results are documented in the *Supplemental Botanical Inventory Memorandum for Enterprise Solar Storage Project* (Tetra Tech, 2023a) included as Appendix E2A of this EIR; and

3. In April 2023, Tetra Tech conducted botanical surveys on land surrounding the existing Windhub Substation (approximately 210 acres) and results are documented in the *Botanical Inventory Memorandum for High Voltage Work near Windhub Station* (Tetra Tech, 2023b) included as Appendix E2B of this EIR.

SWCA surveyed an area on foot and via aerial imagery that is larger than the project site. SWCA's Botanical Survey Area overlaps portions of Tetra Tech's Windhub Survey Area.

A total of 12 plant communities and two land cover types were identified and mapped by SWCA and Tetra Tech within their respective survey areas. SWCA's mapping is depicted on the *Natural Communities* figures (Figure 4 - Sheets 1 through 44) within the SWCA (2022) botanical report. Tetra Tech's mapping is depicted on Figure 3, *Vegetation Communities*, within the Tetra Tech (2023a) memo and Figure 2, *Vegetation Communities*, within the Tetra Tech (2023b) memo. SWCA and Tetra Tech mapped plant communities and land cover types at the same level (alliance).

Table 4.4-1, *Mapped Plant Communities and Land Cover Types*, lists the land cover categories with approximate acreages that were mapped. **Table 4.4-1**, *Mapped Plant Communities and Land Cover Types*, also describes the corresponding alliance and association(s) name according to *A Manual of California Vegetation, Second Edition* (Sawyer et al., 2009; CNPS, 2023b) and CDFW's *California Natural Community List* (CDFW, 2022); and each community's State Rank. Finally, it states whether each community is considered sensitive or not by CDFW. Characteristics of each plant community and land cover as well as plant species associated with the communities are described after the table.

TABLE 4.4-1: MAPPED PLANT COMMUNITIES AND LAND COVER TYPES WITHIN THE SURVEY AREAS

Plant Community or Other Land Cover Type[a]	Alliance	Association	Association State Rank	Sensitive Community	Approximate Acreage
Plant Community					
allscale scrub	*Atriplex polycarpa* shrubland alliance	*Atriplex polycarpa* association	*	no	**1,937.91**
disturbed allscale scrub	*Atriplex polycarpa* shrubland alliance	*Atriplex polycarpa* association	*	no	**65.4**
creosote bush - white bursage scrub	*Larrea tridentata - Ambrosia dumosa* shrubland alliance	*Larrea tridentata - Ambrosia dumosa - Atriplex polycarpa* association	*	no	**489.78**
		Larrea tridentata - Ambrosia dumosa association	S5	no	
white bursage scrub	*Ambrosia dumosa* shrubland alliance	*Ambrosia dumosa* association	*	yes	**236.09**
Joshua tree woodland	*Yucca brevifolia* woodland alliance	*Yucca brevifolia / Larrea tridentata - Yucca schidigera / Pleuraphis rigida* association	*	yes	**126.17**
disturbed Joshua tree woodland	*Yucca brevifolia* woodland alliance	*Yucca brevifolia / Larrea tridentata - Yucca schidigera / Pleuraphis rigida* association	*	yes	**4.0**
creosote bush scrub	*Larrea tridentata* shrubland alliance	*Larrea tridentata* association	S5	no	**88.32**
disturbed rubber rabbitbrush scrub	*Ericameria nauseosa* shrubland alliance	*Ericameria nauseosa* association	*	no	**82.4**
spinescale scrub	*Atriplex spinifera* shrubland alliance	*Atriplex spinifera* association	*	yes	**16.91**
cheesebush - sweetbush scrub	*Ambrosia salsola - Bebbia juncea* shrubland alliance	*Ambrosia salsola - Eriogonum fasciculatum* association	*	no	**15.14**
		Ambrosia salsola - Larrea tridentata association	*	no	
non-native annual grassland[b]	*Amsinckia* (*menziesii, tessellata*) - *Phacelia* spp. herbaceous alliance	*Amsinckia tessellata - Erodium cicutarium* association	S4	no	**8.72**
	Bromus rubens - Schismus (*arabicus*, *barbatus*) herbaceous semi-natural alliance	*Bromus rubens - Erodium cicutarium - Chaenactis* spp. semi-natural association	N/A	no	
California buckwheat - Parish's goldeneye scrub	*Eriogonum fasciculatum - Viguiera parishii* shrubland alliance	*Eriogonum fasciculatum - Ericameria* (*laricifolia, linearifolia*) association	*	yes	**0.88**
Other Land Cover Type					
disturbed/barren	N/A	N/A	N/A	no	**99.97**
urban/developed	N/A	N/A	N/A	no	**17.16**

Notes:

[a] SWCA mapped the areas around the Windhub Substation by aerial imagery. These areas were later covered by Tetra Tech during their 2023 field surveys. SWCA mapped two plant communities (narrowleaf goldenbush - bladderpod scrub and four-wing saltbush scrub around the Windhub Substation) that was later verified by Tetra Tech biologists in the field as different plant communities; therefore, the narrowleaf goldenbush - bladderpod scrub and four-wing saltbush scrub that are described within the SWCA's report have not been included.

[b] Includes red brome or Mediterranean grass grasslands and fiddleneck - phacelia fields.

- Acreages exceed total project site acreage since surveys covered the project site plus buffer area
- Rarity ranks and vegetation alliances and associations are based on descriptions and classification methods in the online version of A Manual of California Vegetation and CDFW's June 2023 California Natural Community List.
- In the current version of the California Natural Community List, CDFW provides rarity ranks for all alliances; however, they do not provide state rarity ranks for all associations. Associations with no CDFW given rarity rank are presented with "*" in the column. Even though some associations are not given a rarity rank on the list, CDFW still indicates whether an association is sensitive or not.
- Non-native vegetation alliances/associations do not have rarity ranks.
- SWCA surveyed an area on foot and by aerial imagery that is larger than the project site boundary and SWCA's Botanical Survey Area overlaps portions of Tetra Tech's Windhub Survey Area.

State Rank: the state rank (S-rank) refers to the imperilment status within California's state boundaries.

- S4 = Apparently Secure: uncommon but not rare in the state; some cause for long-term concern due to declines or other factors.
- S5 = Secure: common, widespread, and abundant in the state.

Allscale Scrub

The most common plant community type in the project site was classified as allscale scrub (*Atriplex polycarpa* shrubland alliance) which is dominated by allscale (*Atriplex polycarpa*) in the shrub canopy. Other shrubs present include white bursage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), four-wing saltbush (*Atriplex canescens*), creosote bush (*Larrea tridentata*), winterfat (*Krascheninnikovia lanata*), Cooper's goldenbush (*Ericameria cooperi* var. *cooperi*), Anderson thorn-bush (*Lycium andersonii*) Cooper's box thorn (*Lycium cooperii*), and spiny hopsage (*Grayia spinosa*). Shrubs are generally less than 3 meters in height, and the canopy is open with patches of continuous cover. In this community, the herbaceous layer is generally sparse. Red-stem filaree is the most prevalent herb, with lesser amounts of bristly fiddleneck (*Amsinckia tessellata* var. *tessellata*), red brome, tumble mustard (*Sisymbrium altissimum*), and Mediterranean grass are also present. Much of this community has been grazed by sheep. Some areas contained unmaintained dirt roads. The onsite allscale scrub meets the membership rules for *Atriplex polycarpa* shrubland alliance and may be further classified as *Atriplex polycarpa* association. This association is not considered sensitive by CDFW.

Disturbed Allscale Scrub

This onsite disturbed allscale scrub plant community is similar in composition to the allscale scrub community described above. It is also dominated by allscale; however, the habitat is more open with large areas of open ground and annuals. These areas were likely disturbed by sheep grazing in the past. While this allscale scrub community is disturbed, it still meets the membership rules for *Atriplex polycarpa* shrubland alliance and may be further classified as *Atriplex polycarpa* association. This association is not considered sensitive by CDFW.

Creosote Bush - White Bursage Scrub

The second most encountered plant community was creosote bush - white bursage scrub which occurs across portions of the project site west of SR-14, as well as in rocky upland areas within Site 3 (Eastern) and Site 4 (Southern). This plant community is co-dominated by creosote bush and white bursage in the shrub canopy. This community contains a diverse array of subdominant shrubs, including allscale, winterfat, Cooper's goldenbush, Nevada ephedra (*Ephedra nevadensis*), boxthorns (*Lycium* sp.), spiny hopsage, California buckwheats (*Eriogonum fasciculatum* var. *foliolosum* and *Eriogonum fasciculatum* var. *polifolium*), and silver cholla (*Cylindropuntia echinocarpa*). Shrubs are generally less than 3 meters in height, and the canopy is open to intermittent and two tiered (herbaceous layer is absent to intermittent with seasonal annuals). Herbaceous species present include common red-stemmed filaree, bristly fiddleneck, red brome, tumble mustard, Mediterranean grass, and rose-and-white buckwheat (*Eriogonum gracillimum*). Joshua trees were also present at low cover in portions of this community, especially west of SR-14. The onsite creosote bush - white bursage scrub meets the membership rules for *Larrea tridentata - Ambrosia dumosa* shrubland alliance and may be further classified as *Larrea tridentata - Ambrosia dumosa - Atriplex polycarpa* association and also *Larrea tridentata - Ambrosia dumosa* association. Neither association is considered sensitive by CDFW.

White Bursage Scrub

White bursage scrub occurs in large patches on slopes and flats within Site 3 (Eastern) and Site 4 (Southern). This onsite plant community is dominated by white bursage. Other shrubs present in far lower abundance include allscale, winterfat, Cooper's goldenbush, Nevada ephedra, Cooper's box thorn, and creosote bush. Herbaceous plants, especially red-stemmed filaree, occur between the shrubs at less than 20 percent absolute cover. Other herbaceous species present include bristly fiddleneck, red brome, tumble mustard, and Mediterranean grass. Many of the areas mapped as white bursage scrub show evidence of grazing by sheep. The white bursage shrubs showed signs of drought stress (e.g., only small amounts of green foliage were observed on plants). The onsite white bursage scrub meets the membership rules for *Ambrosia dumosa* shrubland alliance, including the requirement that white bursage is dominant in the shrub overstory at greater than twice the cover of other shrubs (Evens et al., 2007; Sawyer et al., 2009). It may be further classified as *Ambrosia dumosa* association. This association is considered sensitive by CDFW.

Joshua Tree Woodland

Within the area surveyed for the project, Joshua tree woodland occurs only west of SR-14 along the far west portion of the gen-tie line and south of the existing Windhub Substation. This community is dominated by Joshua trees at just over 1 percent absolute cover and with an open to intermittent shrub layer. The shrub and herb layers in this community are diverse and similar to that found within the creosote bush - white bursage scrub community described above. Although Joshua trees were observed in several areas throughout the project site, their density did not meet the 1 percent cover threshold and were therefore not mapped as Joshua tree woodland. The mapped onsite Joshua tree woodland meets the membership rules for *Yucca brevifolia* woodland alliance, which requires Joshua trees to be present at 1 percent or greater absolute cover. It may further be classified as *Yucca brevifolia* / *Larrea tridentata* - *Yucca schidigera* / *Pleuraphis rigida* association under the current 2023 CDFW California Natural Community List; however, neither Mojave yucca (*Yucca schidigera*) nor big galleta (*Pleuraphis rigida*) are present within the onsite Joshua tree woodland. It may be more accurately classified *as Yucca brevifolia* / *Larrea tridentata* - *Ambrosia dumosa* - *Eriogonum fasciculatum* association. This association appeared on the 2010 California Natural Community List, but it no longer exists on the current list and is therefore, not included. This alliance and all associations within it are considered sensitive by CDFW.

Disturbed Joshua Tree Woodland

Disturbed Joshua tree woodland was mapped adjacent and east of Site 5 (Step-up Substation). This disturbed Joshua tree woodland plant community is similar in composition to the Joshua tree woodland plant community described above. It is also dominated by Joshua tree, which had more than 1 percent absolute cover, with an open to intermittent shrub layer. Disturbances from previous wind turbine installation and maintenance were observed. Shrub cover was less dense, and more annuals were present within this disturbed alliance. While this Joshua tree woodland community is disturbed, it still meets the membership rules for *Yucca brevifolia* woodland alliance and *Yucca brevifolia* / *Larrea tridentata* - *Yucca schidigera* / *Pleuraphis rigida* association. This alliance and all associations within it are considered sensitive by CDFW.

Creosote Bush Scrub

Creosote bush scrub is found along the rocky upper slopes of the hills that lie at the corners of the northwest and southwest corners of Site 4 (Southern) and along the MV collection line adjacent to Site 4. This community is dominated by an apparent monoculture of creosote bush in the shrub layer. Other shrubs observed within this community included white bursage and brittlebush, but their cover is less than 3 times the cover of creosote bush. Herbs are nearly absent. Turkey mullein (*Croton setiger*) and red-stemmed filaree were occasionally observed at low abundance. The creosote bush scrub present meets the membership rules for *Larrea tridentata* shrubland alliance and may be further classified as *Larrea tridentata* association. This association is not considered sensitive by CDFW.

Disturbed Rubber Rabbitbrush Scrub

Disturbed rubber rabbitbrush scrub is located around the Windhub Substation and within Site 5 (Step-up Substation). It is dominated by rubber rabbitbrush (*Ericameria nauseosa*), which comprised more than 50 percent of the shrub with some Joshua trees observed in low cover. It also contained patches of bristly fiddleneck. Disturbances from previous wind turbine installation and maintenance were observed and shrub cover was less dense, and more annuals were present. While this rubber rabbitbrush scrub community is disturbed, it still meets the membership rules for *Ericameria nauseosa* shrubland alliance and may be further classified as *Ericameria nauseosa* association. This association is not considered sensitive by CDFW.

Spinescale Scrub

Spinescale scrub occurs primarily within Site 4 (Southern) as well as within Site 3 (Eastern). Within Site 4 (Southern), the bulk of the spinescale scrub occur around the edges of an unvegetated clay pan. Spinescale (*Atriplex spinifera*) is the dominant shrub within this community. Allscale is present but not dominant. Herbaceous plant cover between the shrubs was estimated at about 20 percent absolute cover despite extensive grazing and was generally dominated by red-stemmed filaree. Other herbaceous species present include bristly fiddleneck, red brome, tumble mustard, and Mediterranean grass. Some areas contained unmaintained dirt roads. The onsite spinescale scrub meets the membership rules for *Atriplex spinifera* shrubland alliance and may be further classified as *Atriplex spinifera* association. This association is considered sensitive by the CDFW.

Cheesebush - Sweetbush Scrub

Cheesebush - sweetbush scrub is found at the western end of the gen-tie route, where it occurs both north and south of Oak Creek Road. Cheesebush is the dominant shrub in this community. Sweetbush (*Bebbia juncea*) is present but not dominant. Other shrubs present included narrowleaf goldenbush, California buckwheats, Cooper's goldenbush, Acton encelia (*Encelia actoni*), silver cholla, Nevada ephedra, and creosote bush. Desert needlegrass (*Achnatherum speciosum* (Trin. & Rupr.) Barkworth) is the dominant herbaceous plant within this community. Other herbaceous species present include red-stemmed filaree, bristly fiddleneck, red brome, tumble mustard, and Mediterranean grass. Much of this community has been grazed by sheep. Some areas contained unmaintained dirt roads. The onsite cheesebush - sweetbush scrub meets the membership rules for *Ambrosia salsola - Bebbia juncea* shrubland alliance and may be further classified as into two different associations: *Ambrosia salsola - Eriogonum fasciculatum* association and *Ambrosia salsola - Larrea tridentata* association. These two associations are distinguished by the

composition of the codominant plants in the shrub layer. Neither association is considered sensitive by CDFW.

Non-native Annual Grassland

Non-native annual grassland occurs in the western half of the project area, generally in and around the proposed utility pole and substation locations that make up the gen-tie route. This vegetation community is dominated by non-native grasses, including red brome and Mediterranean grass, along with herbaceous species, such as bristly fiddleneck and red-stemmed filaree. Other herbaceous species present included white mallow (*Eremalche exilis*) and woollystar (*Eriastrum* spp.). This community has likely experienced previous disturbance in association with existing infrastructure. The onsite non-native grassland meets the membership rules for two different vegetation alliances: fiddleneck - phacelia fields (*Amsinckia* [*menziesii*, *tessellata*] - *Phacelia* spp. herbaceous alliance) and red brome or Mediterranean grass grasslands (*Bromus rubens* - *Schismus* [*arabicus*, *barbatus*] herbaceous semi-natural alliance). These vegetation types may be further classified as *Amsinckia tessellata* - *Erodium cicutarium* association and *Bromus rubens* - *Erodium cicutarium* - *Chaenactis* spp. semi-natural association. Neither association is considered sensitive by CDFW.

California Buckwheat - Parish's Goldeneye Scrub

California buckwheat - Parish's goldeneye scrub is found in a small patch at the northwest end of the gen-tie route, at approximately 35.039°, -118.272° located adjacent to the Windhub Substation. California buckwheat is the dominant shrub in this community. Other shrubs present include narrowleaf goldenbush, Cooper's goldenbush, Acton encelia, and cheesebush. Desert needle grass is dominant in the herbaceous layer. Other herbaceous species observed included red-stemmed filaree, bristly fiddleneck, red brome, tumble mustard, and rose-and-white buckwheat. Parish's goldeneye (*Viguiera parishii*) is not present in this community, however the vegetation within this onsite community still meets the membership rules for *Eriogonum fasciculatum* - *Viguiera parishii* shrubland alliance and may be further classified as *Eriogonum fasciculatum* - *Ericameria* (*laricifolia*, *linearifolia*) association. This association is considered sensitive by CDFW.

Disturbed/Barren

Disturbed/barren land contained little to no vegetation and showed signs of past disturbance. These areas generally retain exposed native soil. These areas include both areas that naturally lack vegetation as well as areas where the native vegetation has been removed due to human activities, such as vehicle access, firebreaks, and grading.

Urban/Developed

Urban/developed areas consist of humanmade surfaces (such as asphalt, concrete, buildings, etc.) that cover native soil and generally preclude native vegetation. These areas include paved roads, building foundations, cleared wind turbine staging area used for maintenance and parking, other manufactured structures, trailers, tents, vehicles, and primitive shelters found within the homeless encampments.

Wildlife Species

A total of 46 wildlife species were observed or otherwise detected in the survey areas, including 8 reptile species, 26 bird species, and 12 mammal species during the 2021, 2022 and 2023 wildlife field surveys conducted for the project. Three separate field mobilizations were conducted to survey for wildlife species including:

1. In April 2021 and May 2022, Jacobs biologists surveyed 2,159 acres and 104 acres of the project site respectively, and results are documented in the *Wildlife Report for the Enterprise Solar Storage Project* (Jacobs, 2023a) included as Appendix E1 of this EIR;

2. In May 2023, Jacobs biologists surveyed 61.8 acres including a temporary laydown yard and areas that were later added to the project site and results are documented in the *Supplemental Wildlife Memorandum for the Enterprise Solar Storage Project* (Jacobs, 2023b) included as Appendix E1A of this EIR; and

3. In April 2023, Jacobs biologists surveyed 140.5 acres around the Windhub Substation and results are documented in the *Wildlife Resource Memorandum for High Voltage Work near Windhub Substation* (Jacobs, 2023c), included as Appendix E1B of this EIR.

The project site does not support fish, and amphibians were not observed or detected during the surveys. Reptiles observed on the project site included long-nosed leopard lizard (*Gambelia wislizenii*), southern desert horned lizard (*Phrynosoma platyrhinos calidiarum*), common side-blotched lizard, western whiptail, desert night lizard (*Xantusia vigilis*), red racer (*Coluber flagellum piceus*), gophersnake, and Mojave rattlesnake. Bird species that were observed included California quail (*Callipepla californica*), Eurasian collared-dove (*Streptopelia decaocto*), mourning dove (*Zenaida macroura*), lesser nighthawk (*Chordeiles acutipennis*), white-throated swift (*Aeronautes saxatalis*), white-faced ibis (*Plegadis chihi*), northern harrier (*Circus hudsonius*), burrowing owl (*Athene cunicularia*), ash-throated flycatcher (*Myiarchus cinerascens*), loggerhead shrike, American crow (*Corvus brachyrhynchos*), common raven, common horned lark, violet-green swallow (*Tachycineta thalassina*), cactus wren (*Campylorhynchus brunneicapillus*), Bewick's wren (*Thryomanes bewickii*), Le Conte's thrasher (*Toxostoma lecontei*), northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), black-chinned sparrow (*Spizella atrogularis*), sagebrush sparrow (*Artemisiospiza nevadensis*), Lincoln's sparrow (*Melospiza lincolnii*), western meadowlark, hooded oriole (*Icterus cucullatus*), and yellow-rumped warbler (*Setophaga coronata*). Mammal species that were identified on the site included white-tailed antelope squirrel (*Ammospermophilus leucurus*), California ground squirrel, kangaroo rat (*Dipodomys* sp.), San Joaquin pocket mouse (*Perognathus inornatus*), woodrat (*Neotoma* sp.), southern grasshopper mouse (*Onychomys torridus*), black-tailed jackrabbit, Audubon's cottontail (=desert cottontail) (*Sylvilagus audubonii*), coyote, domestic dog (=feral dog) (*Canis familiaris*), desert kit fox (*Vulpes macrotis arsipus*), and domestic sheep (*Ovis aries*). The wildlife observed during the field surveys are representative of the fauna in the surrounding area.

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. 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 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) or Sections 2062 and 2067 (CESA) of the California Fish and Game Code (CFGC), and are eligible for State listing.
- Species covered under an adopted National Community Conservation Planning Act/Habitat Conservation Plan (HCP).
- Species addressed by the Desert Renewable Energy Conservation Plan.
- Wildlife designated by CDFW as "Species of Special Concern" or "Watch List."
- Wildlife "fully protected" in California (CFGC Sections 3511, 4700, and 5050).
- Wildlife species protected as "fur-bearing mammals" (CFGC Section 4000 et seq.).
- Any local, State, or federal protected plant and wildlife species that are protected in the Kern County General Plan (Kern County, 2009)
- Avian species protected by the Migratory Bird Treaty Act (MBTA) and CFGC (Sections 3500–3516).

It should be noted that most avian species are afforded certain protections by the MBTA and CFGC (Sections 3500 – 3516); however, a majority of these, including some raptors, are common species and are not considered special status on that basis alone.

A complete list of special-status plant and wildlife species that have the potential to occur on the project site is provided in **Table 4.4-2**, *Special-Status Plants with the Potential to Occur Within the Project Site* and **Table 4.4-3**, *Special-status Wildlife with the Potential to Occur Within the Project Site*. Each species is discussed in the subsections below. The "Potential to Occur" categories are defined as follows:

- Not Expected: The project site and/or immediate area do not support suitable habitat for a particular species or is outside of the known species range; therefore, the proposed project is not expected to impact this species.
- Low: The project site or immediate region does not support suitable habitat, and the known range of the species is outside of the project site or immediate region, or the project site and immediate region support suitable habitat for the species and are located within the species' known distribution and elevational range, but protocol-level surveys were completed and the species was not observed.
- Moderate: The project site and immediate region support suitable habitat for the species and are located within this species' known distribution and elevational range.

- High: The project site and immediate region contain habitat for the species, and it is known to occur in the area.
- Present: Species observed on or near the project site during surveys or known to occur based on other site visits for the project.

Special-Status Plant Species

During the most recent 2023 literature review conducted by Tetra Tech, a list of 55 special-status plant species (plant inventory) was generated. Species were then assessed for their potential to occur within the project site by comparing their general plant range (if known), and their elevational range where the plant is known to occur and comparing those with the project site's location and elevational range. Biologists then evaluated whether the project site contains suitable habitats to support each species. For those species that have a potential to occur, biologists determined whether there is a high, moderate, or low potential for those species to occur within project site.

Western Joshua tree (*California Desert Native Plants Act; Candidate Species for CESA Listing*) was observed within the project site during field surveys. The rest of the listed species and a majority of the sensitive species in the plant inventory have little to no potential to occur within the project site due to the site being located outside the species' known distribution, elevational range, and/or because the project site lacks suitable habitats, meaning the project site lacks one or more essential features or conditions necessary to support the plants. Habitat conditions and location create a potential for 14 special-status plant species to occur within the project site, though none of these species were observed during protocol-level surveys. As such, the potential for the species to occur is considered low. **Table 4.4-2,** *Special-Status Plants with the Potential to Occur Within the Project Site*, includes the special-status plants observed and those species that have a low potential to occur within the project site. The table also includes their statuses within California. Descriptions of each plant follow the table.

TABLE 4.4-2: SPECIAL-STATUS PLANTS WITH THE POTENTIAL TO OCCUR WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status in California	Observed during Surveys	Potential to Occur within the Project Site
Cymopterus deserticola	desert cymopterus	CRPR: 1B.2	-	low
Eriophyllum mohavense	Barstow woolly sunflower	CRPR: 1B.2	-	low
Layia heterotricha	pale-yellow layia	CRPR: 1B.1	-	low
Syntrichopappus lemmonii	Lemmon's syntrichopappus	CRPR: 4.3	-	low
Nemacladus secundiflorus var. robbinsii	Robbins' nemacladus	CRPR: 1B.2	-	low
Loeflingia squarrosa var. artemisiarum	sagebrush loeflingia	CRPR: 2B.2	-	low
Mentzelia eremophila	solitary blazing star	CRPR: 4.2	-	low
Camissonia kernensis ssp. kernensis	Kern County evening primrose	CRPR: 4.3	-	low
Canbya candida	white pygmy-poppy	CRPR: 4.2	-	low
Leptosiphon aureus	bristly leptosiphon	CRPR: 4.2	-	low
Chorizanthe spinosa	Mojave spineflower	CRPR: 4.2	-	low

Scientific Name	Common Name	Status in California	Observed during Surveys	Potential to Occur within the Project Site
Goodmania luteola	golden goodmania	CRPR: 4.2	-	low
Delphinium recurvatum	recurved larkspur	CRPR: 1B.2	-	low
Yucca brevifolia	Joshua tree	SC	observed	present
Calochortus striatus	alkali mariposa lily	CRPR: 1B.2	-	low
Muilla coronata	crowned muilla	CRPR: 4.2	-	low

Notes:

California Endangered Species Act (CESA) and California Native Plant Protection Act (NPPA) Listing Designations

- **SC = state candidate for listing:** the classification provided to a native species or subspecies that the Fish and Game Commission has formally noticed as being under review by CDFW for addition to the list of endangered or threatened species, or a species for which the Commission has published a notice of proposed regulation to add the species to the list of endangered or threatened species.

California Rare Plant Ranks (CRPR) Designations

- **CRPR: 1B = California Rare Plant Rank 1B - plants rare, threatened, or endangered in California and elsewhere:** plants with a CRPR of 1B are rare throughout their range with most of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. All the plants constituting CRPR 1B meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code and are eligible for state listing.
- **CRPR: 2B = California Rare Plant Rank 2B - plants rare, threatened, or endangered in California, but more common elsewhere:** except for being common beyond the boundaries of California, plants with a CRPR of 2B would have been ranked 1B. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the ESA. All the plants constituting CRPR 2B meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code and are eligible for state listing.
- **CRPR: 4 = California Rare Plant Rank 4 - plants of limited distribution - a watch list**: the plants in this category are of limited distribution or infrequent throughout a broader area in California. While CNPS and CDFW cannot call these plants "rare" from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Should the degree of endangerment or rarity of a CRPR 4 plant change, CNPS and CDFW will transfer it to a more appropriate rank. Some of the plants constituting CRPR 4 meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and few, if any, are eligible for state listing.

CRPR Threat Rank Designations

- **x.1** = seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
- **x.2** = moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
- **x.3** = not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

While the project site supports desert habitats and soils that could potentially support sensitive plants, none of the 14 sensitive plant species listed in **Table 4.4-2,** *Special-Status Plants with the Potential to Occur Within the Project Site*, were observed during the numerous field surveys conducted in 2021, 2022, and 2023. For these reasons, if these species were to occur onsite, they would most likely occur in low numbers.

Desert Cymopterus (*Cymopterus deserticola*): Desert cymopterus has been designated by CNPS and CDFW as a CRPR 1B.2 plant. This plant is a perennial herb that is known to occur in deep, loose, well-drained, fine to coarse sandy soils of alluvial fans and basins, often in swales or stabilized low sand dune areas and occasionally on sandy slopes. It occurs in Mojave creosote bush scrub, desert saltbush scrub, and Joshua tree woodlands with creosote bush scrub or desert saltbush scrub understory. A few sites occur in areas lacking creosote bush or saltbush as common species; these areas may fit better in the Mojave mixed woody scrub community type. Desert cymopterus plants are typically widely scattered, usually growing in openings between shrubs. A diversity of annual species typically also occurs in these sandy habitats.

Blooming period: March to May. The project site is located within this species' known distribution and elevational range and contains suitable habitat and soils that could potentially support this plant onsite.

Barstow Woolly Sunflower (*Eriophyllum mohavense*): Barstow woolly sunflower is a CRPR 1B.2 plant. This plant is an annual herb that is found in sandy or rocky places Mojavean desert scrub. Also found in chenopod scrub and playas. Blooming period: March to May. The project site is located within this species' known distribution and elevational range and contains suitable habitat and soils that could potentially support this plant onsite.

Pale-yellow Layia (*Layia heterotricha*): Pale-yellow layia is a CRPR 1B.1 plant. This plant is an annual herb that grows in openings of cismontane woodlands, coastal scrub, pinyon and juniper woodlands, and valley and foothill grasslands. It usually grows in open areas in alkaline or clay soils. Blooming period: March to June. The project site is located within this species' known distribution and elevational range and contains suitable habitat that could potentially support this species.

Lemmon's Syntrichopappus (*Syntrichopappus lemmonii*): Lemmon's syntrichopappus is a CRPR 4.3 plant. This plant is an annual herb that grows within open, sandy to gravelly areas in chaparral or Joshua-tree or pinyon/juniper woodland. Blooming period: April to May (June). The project site is located within this species' known distribution and elevational range and contains suitable habitat and soils that could potentially support this plant onsite.

Robbins' Nemacladus (*Nemacladus secundiflorus* var. *robbinsii*): Robbins' nemacladus is a CRPR 1B.2 plant. This plant is an annual herb that grows in openings and on dry gravelly slopes of chaparral and valley and foothill grasslands. Blooming period: April to June. The project site is located within this species' known distribution and elevational range and contains suitable habitat that could potentially support this species.

Sagebrush Loeflingia (*Loeflingia squarrosa* var. *artemisiarum*): Sagebrush loeflingia is a CRPR 2B.2 plant. This plant is an annual herb that grows in sandy soils of desert dunes and flats in Great Basin sagebrush scrub and Sonoran Desert scrub. Also found in sandy areas around clay slicks with horsebrush (*Tetradymia* sp.), saltbush (*Atriplex* sp.) and greasewood (*Sarcobatus* sp.). Blooming period: April to May. The project site is located within this species' known distribution and elevational range and contains suitable habitat and soils that could potentially support this plant onsite.

Solitary Blazing Star (*Mentzelia eremophila*): Solitary blazing star is a CRPR 4.2 plant. This plant is an annual herb that grows in canyons, flats, rocky slopes, and sandy washes, and sometimes in disturbed areas such as roadsides, within creosote-bush scrub. Blooming period: March to May. The project site is located within this species' known distribution and elevational range and contains suitable habitat and soils that could potentially support this plant onsite.

Kern County Evening Primrose (*Camissonia kernensis* ssp. *kernensis*): Kern County evening primrose is a CRPR 4.3 plant. This plant is an annual herb that is found in chaparral, Joshua tree woodlands, and pinyon and juniper woodlands. It grows in sandy or gravelly, granitic substrates. Blooming period: March to May. The project site is located within this species' known distribution and elevational range and contains suitable habitat and soils that could potentially support this plant onsite.

White Pygmy-Poppy (*Canbya candida*): White pygmy-poppy is a CRPR 4.2 plant. This plant is an annual herb that occurs on sandy soils in Mojavean desert scrub, Joshua tree woodlands, and pinyon and juniper woodlands. It seems to prefer sandy washes as they empty out from the mountains onto the desert floor.

Blooming period: March to June. The project site is located within this species' known distribution and elevational range and contains suitable habitat and soils that could potentially support this plant onsite.

Bristly Leptosiphon (*Leptosiphon aureus*): Bristly leptosiphon is a CRPR 4.2 plant. This plant is an annual herb that grows in chaparral, cismontane woodland, coastal prairie, valley and foothill grasslands. Blooming period: April to July. The project site is located within this species' known distribution and elevational range and contains suitable habitat that could potentially support this plant onsite.

Mojave Spineflower (*Chorizanthe spinosa*): Mojave spineflower is a CRPR 4.2 plant. This plant is an annual herb that grows in dry, sandy, to gravelly flats and slopes within chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas. Blooming period: March to July. The project site is located within this species' known distribution and elevational range and contains suitable habitat and soils that could potentially support this plant onsite.

Golden Goodmania (*Goodmania luteola*): Golden goodmania is a CRPR 4.2 plant. This plant is an annual herb that is found on poorly drained alkaline or clay soils within alkaline valley and foothill grasslands, saltbush, creosote bush, and sagebrush communities, Mojavean desert scrub, dry lake beds, flats, sinks, basins, meadows, seeps, and playas. Blooming period: April to August. The project site is located within this species' known distribution and elevational range and contains suitable habitat that could potentially support this plant onsite.

Recurved Larkspur (*Delphinium recurvatum*): Recurved larkspur is a CRPR 1B.2 plant. This plant is a perennial herb that grows on sandy or clay alkaline soils, generally in annual grasslands or in association with saltbush scrub or valley sink scrub habitats. Found in poorly drained, fine alkaline soils. Blooming period: March to June. The project site is located within this species' known distribution and elevational range and contains suitable habitat that could potentially support this plant onsite.

Western Joshua Tree (*Yucca brevifolia*): Joshua tree is a state candidate for listing under CESA and is a species that is protected by the CDNPA. This plant is a perennial tree-like succulent that grows on desert flats, gentle slopes, mesas, and bajadas on a variety of substrates, but typically igneous, that are silty, loamy, or sandy, within many different plant communities. Joshua trees are evident and identifiable year-round based on distinct evergreen foliage and growth form. Joshua trees were most abundant (exceeding 1 percent absolute cover) in the areas mapped as Joshua tree woodland but were also frequently encountered (at less than 1 percent absolute cover) in the other plant communities including creosote bush - white bursage scrub and creosote bush scrub. Based on the Joshua tree cover surveys conducted by SWCA and Tetra Tech, the project site contains over 3,300 individual Joshua trees.

Alkali Mariposa Lily (*Calochortus striatus*): Alkali mariposa lily is a CRPR 1B.2 plant. This plant is a perennial herb (bulb) that is native to California. This elegant perennial blooms from April to June. Alkali mariposa lily grows in calcareous sandy soil in seasonally moist alkaline habitats such as alkali meadows, ephemeral washes, vernal moist depressions and at seeps within chenopod scrub and Mojavean desert scrub. These plants are not found in soils with surface salts, or wetter areas with permanent standing surface water. The bulb remains dormant and does not sprout in dry years.

Between 2017 and 2019, Dudek conducted botanical surveys for the nearby Sanborn Solar Project that covered portions of the project area. Dudek observed eight individual alkali mariposa lilies within their survey area, although no plants were observed on the Enterprise Solar Storage Project site. One individual alkali mariposa lily was observed in the northern portion of their study area within allscale scrub, and the remaining seven individuals were observed in the southern portion of Dudek's survey area within allscale

scrub. No other special-status plants were documented as observed by Dudek during their surveys (Dudek, 2019).

In 2022, SWCA biologists observed three plants resembling alkali mariposa lily in an area approximately 5 square feet in size between Site 2 (Western) and Site 3 (Eastern) along the proposed gen-tie alignment. More specifically, the location is east of SR-14 and the Union Pacific Railroad, and south of the TriCal Inc. plant and Purdy Avenue at approximately 35.025°, -118.159° (referred to as Pole 65 in *Botanical Inventory Report for the Enterprise Solar Storage Project, Kern County, California* (SWCA, 2022) included as Appendix E2 of this EIR). The plants occurred between tire tracks in a disturbed dirt road beneath an existing utility line. The three plants possessed only basal leaves. The plants were not in bloom and could not be confidently identified to genus or species. Other mariposa lily species are known to occur in the area, including desert mariposa lily (*Calochortus kennedyi*) a common species. Due to the lack of visible diagnostic characteristics, SWCA botanists could not positively confirm if the observed plants were indeed alkali mariposa lily. However, due to the presence of suitable habitat as well as the presence of nearby occurrences of this species, alkali mariposa lily is considered to have a low potential to occur on the project site.

Crowned Muilla (*Muilla coronata*): Crowned muilla is a CRPR 4.2 plant. This plant is a perennial bulbiferous herb that grows within open chenopod scrub, Joshua tree woodlands, Mojavean desert scrub, and pinyon and juniper woodlands. Blooming period: March to April (May). The project site is located within this species' known distribution and elevational range and contains suitable habitat that could potentially support this plant onsite.

Special-Status Wildlife

The most recent 2023 literature review conducted by Tetra Tech identified a total of 44 special-status wildlife species within the USGS quadrangles in and around the project site (wildlife inventory). Species were assessed for their potential to occur within the project site by comparing their general distribution (if known) with the project's location. Biologists then evaluated whether the project site contains suitable habitats to support each species. For those species that have a potential to occur, biologists determined whether there is a high, moderate, or low potential for those species to occur within project site.

Of the 44 species in the wildlife inventory, seven (7) sensitive wildlife species were observed and/or detected during the field surveys. A majority of the special-status species in the wildlife inventory have little to no potential to occur within the project site due to the site being located outside the species' known distribution and/or because the project site lacks suitable habitats, meaning the project site lacks one or more essential features or conditions necessary to support the wildlife. No listed wildlife species were observed during the field surveys; however, habitat conditions create a low potential for one listed and 10 special-status wildlife species to occur within the project site. **Table 4.4-3,** *Special-status Wildlife with the Potential to Occur Within the Project Site*, includes the special-status wildlife that have potential to occur within the project site. Species potential ranges from low to high. Some species were observed and are confirmed present. The definitions of potential are the same as those provided prior to the special-status plant discussion, earlier in this section. The table also includes their statuses within California. General California habitat descriptions for each species follow the table.

The potential for Crotch's bumble bee (*Bombus crotchii*) to occur cannot be determined at this time and Mohave ground squirrel (*Xerospermophilus mohavensis*) was determined to have a low potential to occur;

however, CDFW asked that the project evaluate impacts on these two species in their comments on the NOP, and so they are included in the table and descriptions below.

TABLE 4.4-3: SPECIAL-STATUS WILDLIFE WITH THE POTENTIAL TO OCCUR WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status in California	Observed/Detected during Surveys	Potential to Occur within the Project Site
Bombus crotchii	Crotch's bumble bee	SCE	-	undetermined
Gopherus agassizii	desert tortoise	FT and ST (SCE)	observed potential burrow	low
Plegadis chihi	white-faced ibis	WL	observed	low
Aquila chrysaetos	golden eagle	fully protected, WL and BGEPA	-	moderate (foraging activities)
Circus hudsonius	northern harrier	SSC and BCC	observed	present (foraging activities)
Accipiter cooperii	Cooper's hawk	WL	-	moderate (foraging activities)
Buteo swainsoni	Swainson's hawk	ST	-	moderate
Buteo regalis	ferruginous hawk	WL	-	moderate (foraging activities)
Athene cunicularia	burrowing owl	SSC and BCC	observed	present
Falco mexicanus	prairie falcon	WL	-	moderate (foraging activities)
Lanius ludovicianus	loggerhead shrike	SSC	observed	present
Eremophila alpestris actia	California horned lark	WL	-	moderate
Toxostoma lecontei	Le Conte's thrasher	BCC	observed	present
Xerospermophilus mohavensis	Mohave ground squirrel	ST	-	low
Onychomys torridus ramona	southern grasshopper mouse	SSC	observed dead individual	present
Eumops perotis californicus	western mastiff bat	SSC	-	moderate (foraging activities)
Corynorhinus townsendii	Townsend's big-eared bat	SSC	-	moderate (foraging activities)
Euderma maculatum	spotted bat	SSC	-	moderate (foraging activities)
Antrozous pallidus	pallid bat	SSC	-	moderate (foraging activities)
Vulpes macrotis arsipus	desert kit fox	14 CCR 460	observed scat and tracks	high
Taxidea taxus	American badger	SSC	-	moderate

Federal Status and/or Protection

- **FT = federally listed as threatened:** any species of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.

Scientific Name	Common Name	Status in California	Observed/Detected during Surveys	Potential to Occur within the Project Site

- **BCC = bird of conservation concern:** a bird of conservation concern is listed in the USFWS' 2021 Birds of Conservation Concern 2021 report. The report identifies bird taxa that, without additional conservation actions, are likely to become candidates for listing under the FESA. While all the bird species included in the report is priorities for conservation action, the list makes no finding with regard to whether they warrant consideration for FESA listing.
- **BGEPA = Bald and Golden Eagle Protection Act:** this law protects bald eagles and golden eagles from take.

State Status and/or Protection

- **ST = state-listed as threatened:** "threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts (Fish and Game Code § 2067).
- **SCE = state candidate for listing as endangered:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of endangered species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068).
- **SSC = species of special concern:** a species of special concern is a species, subspecies, or distinct population of an animal (fish, amphibian, reptile, bird and mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria: is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; is listed as federally-, but not state-, threatened or endangered; meets the state definition of threatened or endangered, but has not formally been listed; is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.
- **Fully protected:** fully protected animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Lists were created for fish (Fish and Game Code § 5515), amphibians and reptiles (Fish and Game Code § 5050), birds (Fish and Game Code § 3511) and mammals (Fish and Game Code § 4700).
- **WL = watch list:** watch list status is given to wildlife that are designated as "taxa to watch."
- **14 CCR 460:** section 460 of the California Code of Regulations [CCR], Title 14, states fisher, marten, river otter, desert kit fox and red fox may not be taken at any time.

Invertebrates

Crotch's Bumble Bee: Crotch's bumble bee (CBB) is a state candidate for listing as endangered under the CESA. In California, CBB inhabits open grassland and scrub habitats and requires a hotter and drier environment than other bumblebee species (Xerces, 2018). The CBB is generally found in multiple habitats including; flowering vegetation, potential preferred nectar plants, small mammal burrows, bunch grasses, thatch, brush piles, old bird nests, or dead trees. CBB, like most other species of bumble bees, primarily nest underground (Xerces, 2018). Very little is known about the hibernacula, or overwintering sites utilized by CBB; however, generally, bumble bees overwinter in soft, disturbed soil, or under leaf litter or other debris (Xerces, 2018). The nearest CNDDB occurrence of CBB was recorded approximately 0.42 miles to the north of the project site in 1953. The project site is located within this species' general distribution and contains open grassland and scrub habitats, food/nectar plants, and substrates known to be utilized by the species; however, due to the overly general habitat requirements for this species, and lack of definitive associations between habitat and nesting locations, the potential for the species to occur could not be determined.

Reptiles

Desert Tortoise: In California, desert tortoise is a federal and state threatened species. As of October 19, 2020, the California Fish and Game Commission listed this species as a candidate species for consideration as CESA endangered. The desert tortoise is found in the Mojave Desert in California, extreme southern Nevada, extreme southwest Utah, and extreme northwest Arizona. Desert tortoises inhabit a range of habitats including creosote bush scrub, blackbrush scrub, alluvial fans, and juniper woodlands. They are most often found on gentle slopes with sandy-gravel soils and sparse covering of shrubs that contains herbaceous plants that the tortoise feed upon. Soils must be friable enough for tortoises to dig burrows, and yet firm enough that burrows do not collapse. Tortoises remain in their burrows throughout the winter months, emerging in spring and remaining active through the fall, although activity decreases dramatically during the summer and is mainly restricted to cooler rainy periods. Tortoises feed on herbaceous vegetation, preferring grasses and flowers, and water is taken in opportunistically.

There are several CNDDB records of desert tortoise within 5 miles of the project site. The nearest CNDDB occurrence is a non-specific polygon directly east and adjacent to the project. No live desert tortoise or definite tortoise signs were observed during the protocol desert tortoise surveys, or any other surveys conducted within the project site. Jacobs biologists observed one Class 4 burrow within Site 2 (Western); a Class 4 burrow is a burrow that is in good condition. The burrow is potentially suitable for desert tortoise, but it may also be used by a variety of other species. At the time of the initial survey in 2021, the end of the burrow was visible (depth less than 1.5 feet). On June 22, 2022, the burrow site was revisited to look for signs of tortoise activity. During this visit, the burrow contained cobwebs at the entrance, as well as in the bush leading up to the burrow entrance. The end of the burrow was visible, and no live desert tortoises, or signs were present. Field data sheets and representative photographs of the Class 4 burrow are provided in the Jacobs (2022) wildlife report found in Appendix E1.

The project site is located at the western edge of desert tortoise range. Suitable desert tortoise habitat is present in the project site, notably west of SR-14. The project site has soils considered suitable habitat for the desert tortoise; however, most of the project site has been heavily grazed by domestic sheep which reduces the quality of suitable habitat. Based on CNDDB records, the presence of suitable habitat, and the species' known distribution, desert tortoise may be present within the project site; however, the potential for desert tortoise to occur on the site is low.

Birds

White-faced ibis: In California, white-faced ibis is a watch list species. They forage in shallow wetlands, usually among short plants such as sedges, spikerush, glasswort, saltgrass, and greasewood (Cornell, 2023). They also frequent flooded or irrigated agricultural fields with low plant cover, including alfalfa, barley, wheat, oats, and rice, along with livestock pastures and hayfields (Cornell, 2023). White-faced ibises breed in colonies (Audubon, 2023) and extensive marshes are required for nesting (CDFW, 2023c). The nest is normally set in emergent vegetation, low trees, or shrubs over shallow water, sometimes on the ground or on small islands (Cornell, 2023). The project site is located outside of this species' general distribution and it does not contain suitable foraging, roosting, or breeding habitats; however, white-faced ibis was observed during 2021 field surveys. Given that the project is located adjacent to sewage treatment ponds, this species was most likely passing through the project site for short-term use.

Golden eagle (*Aquila chrysaetos*): Golden eagle was not observed during any of the surveys conducted for the project in 2021, 2022 and 2023. In California, golden eagle is a fully protected and watch list species.

It is also protected by the Bald and Golden Eagle Protection Act. Golden eagles occur primarily in mountainous canyon land, rimrock terrain of open desert and grassland areas (Kochert et al., 2002). Habitat typically includes open rolling foothills of grasslands, oak savannas, oak and juniper woodlands, chaparral, mountain areas, and desert (CDFW, 2023c). Golden eagles require a large territory to forage for prey and they typically forage in open habitats including grasslands, deserts, savannahs, and shrublands (CDFW, 2023c). The project site does not contain suitable breeding sites to support nesting golden eagles; however, the project site and vicinity contain suitable habitats to potentially support foraging golden eagles.

Northern harrier: A northern harrier was incidentally observed by Jacobs during a field survey within the project site; however, no northern harrier nests or individuals were observed by BBI in 2023 within their 5-mile study area. In California, northern harrier is a species of special concern and bird of conservation concern. This species occurs in various habitats but requires water near meadows, grasslands, open rangeland, desert sinks, and fresh and saltwater emergent wetlands up to 10,000 feet amsl. This species nests on the ground in shrubby vegetation usually beside marshes. The project site is located within this species' known distribution and northern harriers are known to occur in the project vicinity. A northern harrier was observed by Jacobs during a field survey within the project site. The project site and vicinity contain suitable open desert scrub foraging habitats, prey items, and perch sites; however, the onsite habitats are not suitable to support breeding northern harriers. The project site is disturbed (grazed by sheep), contains open ground with no vegetation, and where there is ground vegetation, it is open, low growing and probably not of an adequate height to conceal a nest and incubating female. No northern harrier nests or individuals were observed by BBI in 2023 within their 5-mile study area.

Cooper's hawk (*Accipiter cooperii*): No Cooper's hawk nests or individuals were observed during any of the surveys conducted for the project in 2021, 2022 and 2023. In California, Cooper's hawk is a watch list species. Cooper's hawks breed in dense coniferous, deciduous, and mixed woods, typically those with tall trees and with openings or edge habitat nearby (Audubon, 2023). Nest sites are in a tree usually 25 to 50 feet above ground (Audubon, 2023). This species is seldom found in areas without dense tree stands or patchy woodland habitat; however, in winter and during migration, they may be observed briefly at any location throughout the state in a wide variety of habitats, even open country (BLM, 2005). The project site is located within this species' known distribution and Cooper's hawks are known to occur in the project vicinity. The project site does not contain suitable breeding woodland habitats to support breeding Cooper's hawks; however, the project site could potentially support foraging Cooper's hawk.

Swainson's hawk: In California, Swainson's hawk is a state threatened species. They prefer larger isolated trees or small woodlots for nesting, usually with grassland or dry-land grain fields nearby for foraging. Swainson's hawks forage in grassland, open scrub, pasture, and dryland grain agricultural habitats, primarily for rodents. Swainson's hawks exhibit a moderate to high nest site fidelity at successful nest sites. The project is located within this species' known distribution. The project site contains potential foraging and breeding habitats, prey items, and perch sites. The project site has been heavily grazed, which opens the vegetation canopy and provides moderately suitable small mammal foraging habitat.

From April to July in 2023, BBI conducted protocol level surveys for Swainson's hawk and other nesting raptors within the project site and surrounding 5-mile radius survey buffer, and results are documented in the *California Department of Fish & Wildlife Swainson's Hawk (Buteo swainsoni) Guideline Survey & Nesting Raptor Survey Report, Enterprise Solar Storage Project* (BBI, 2023) included as Appendix E1C of this EIR. No Swainson's hawk nests or individuals were observed by BBI in 2023 within their 5-mile study area or by Jacobs during their field surveys. Suitable nesting habitat is present within BBI's study area, particularly within Edwards Air Force Base (AFB) and in remnant stands of Joshua trees to the west of

Mojave (BBI 2023). With the exception of developed areas, the study area largely consists of potential Swainson's hawk foraging habitat, with large swaths of native desert within Edwards AFB and to the north of Edwards. Should this nesting population continue to expand, it is reasonable to assume that they could again occupy nest territories within this region of the Antelope Valley (BBI 2023).

CDFW provided comments on the project's Notice of Preparation (NOP) of a draft EIR in which they recommend measures for compensation for the loss of Swainson's hawk foraging habitat within a minimum distance of 10 miles from known nest sites. However, this recommendation was based on the CDFG 1994 Staff Report which was prepared for the Central Valley Swainson's Hawk population (CDFG 1994). CDFW has a guidance document for Antelope Valley where the project is located, *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* (CEC and CDFW, 2010). CDFW recommendations for Swainson's Hawk for the Antelope Valley includes compensation for the loss of Swainson's hawk foraging habitat within a five (5) mile radius of active nest sites. Based on CDFW's NOP comment letter, active Swainson's hawk nests within 10 miles of the project were documented in BBI's report (BBI 2023). According to BBI, there are two active Swainson's hawk nests within 10 miles of the project's proposed Site 5 (Step-Up Substation) and the western extension of the gen-tie line. These two nest territories are located in the Willow Springs Valley and were both active during the 2023 nesting season. As stated above, no active Swainson's hawk nests or individuals were observed within a 5-mile radius of the project site.

Ferruginous hawk (*Buteo regalis*): In California, ferruginous hawk is a watch list species and are found in large, open dry country such as grasslands, shrub-steppes, sagebrush flats, desert scrub, saltbush-greasewood shrublands, and outer edges of pinyon-pine/juniper and other forests (USFWS, 1998). In winter, these hawks prefer open terrain, grasslands of plains and foothills, agricultural, and arid areas with an abundance of prey species (USFWS, 1998). The project site is located within this species' known winter distribution and it contains suitable foraging habitat. Ferruginous hawks do not breed in California and are not expected to nest within the project site. No ferruginous hawk individuals were observed by BBI in 2023 within their 5-mile study area or by Jacobs during their field surveys.

Burrowing Owl: In California, burrowing owl is a state species of special concern and bird of conservation concern. The burrowing owl is broadly distributed and can be found throughout western North America and Mexico. This species can be found in a variety of habitat types including grasslands, deserts, or other open habitats where food resources are available and contain treeless areas with low vegetation cover and gently sloping terrain. Burrowing owls utilize earthen burrows, typically relying on other fossorial mammals to construct their burrows such as prairie dog (*Cynomys ssp*.), California ground squirrel, or American badger. While burrows are most often earthen, owls have been documented using atypical burrows such as pipes, culverts, and other man-made structures as shelter or artificial nest sites.

The project site is located within this species' known distribution and the habitat assessment determined that the project site and vicinity support suitable burrowing owl foraging and nesting habitat. Three live burrowing owls were observed within Site 3 (Eastern) and 10 occurrences of burrowing owl sign (burrows, whitewash, and pellets) were observed within Site 3 (Eastern) and Site 4 (Southern) during the Jacobs 2021 field surveys. One active burrowing owl nest was observed by BBI in 2023 within their 5-mile study area, to the south of E. Silver Queen Road along S. 10th St., approximately 1.0 mile west of the project site. This nest was incidentally detected as it is immediately roadside. When driving by, an adult male flushed from near the burrow entrance and landed in fiddleneck approximately 10 meters to the east. The adult female remained perched on a dirt mound adjacent to the burrow entrance. Whitewash was present at the burrow entrance. This territory was confirmed as occupied but was not revisited after the initial detection by BBI

on May 24, 2023 as it was in a location sensitive to disturbance when viewed. Burrowing owl summary nest data, the mapped nest location, and photos are provided in the BBI's report in Appendix E1C.

Prairie Falcon (*Falco mexicanus*): In California, prairie falcon is a watch list species. This species nests on cliffs in Great Basin grassland and scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland habitats. The project site is located within this species' known distribution and contains suitable open desert scrub and grassland foraging habitats, prey items, and perch sites; however, suitable breeding habitats and features are absent from the project site. Prairie falcon have become much less common in California's desert landscape over the course of the last several decades (BBI 2023).

No prairie falcon individuals were observed by Jacobs during their field surveys; however, one active prairie falcon nest was observed by BBI in 2023 within their 5-mile study area on a butte southeast of De Stazo Hill, near the intersection of Dalton Avenue and Mojave Boulevard, approximately 0.6 miles east of the project site (BBI 2023). This nesting location appears to be known by CDFW as there is signage posted stating that the butte is private property protected under Sec. 3503.5 of the Fish & Wildlife Code. An adult prairie falcon (presumed female) was observed by BBI on April 4th in an incubating posture on the nest with a second adult (presumed male) perched nearby and foraging. Three nestlings were present in the nest on May 23rd and the adults were observed feeding the young. During the final observation of this nest territory by BBI, recently fledged young were perched nearby indicating that this nesting attempt was successful. Prairie falcon summary nest data, the mapped nest location, and photos are provided in the BBI report in Appendix E1C.

Loggerhead shrike: In California, loggerhead shrike is a species of special concern. This species nests within trees and shrubs and uses broadleaved upland forest, desert wash, Joshua tree woodland, Mojavean Desert scrub, piñon and juniper woodlands, riparian woodland, and Sonoran Desert scrub habitats. The project site is located within this species' known distribution. Loggerhead shrike was observed during 2021 field surveys. The project site contains suitable nesting and foraging habitat for the loggerhead shrike.

California Horned Lark (*Eremophila alpestris actia*): In California, California horned lark is a CDFW watch list species. This species is known to occur in short-grass prairie, mountain meadow, open coastal plain, fallow grain land, and alkali flat habitats. This species nests on the ground and uses areas cleared by humans such as agricultural fields for nesting and foraging. The project site is located outside of this species' known distribution; however, a known occurrence of this species is located near the project site on Purdy Avenue. Biologists incidentally observed horned lark during the survey, which is a species that is closely related to California horned lark. Although California horned lark are recorded in the project vicinity, it is more likely that biologists observed the common horned lark variety. The project site contains suitable foraging habitat that could potentially support this species onsite. They could potentially nest within the project site; however, the onsite sheep grazing and other disturbances limit these opportunities.

Le Conte's thrasher: The San Joaquin Valley population of the Le Conte's thrasher is considered a State Species of Special Concern (Shuford and Gardali, 2008), but the species is tracked across its range in the CNDDB regardless of the location of the population. Several CNDDB observations documented Le Conte's thrasher within the 5-mile (8 kilometer) radius of the Project site. This species inhabits open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitat. This species commonly nests in dense, spiny shrub or densely branched cactus in desert wash habitat. Le Conte's thrasher has suitable nesting and foraging habitat in the project site and Le Conte's thrasher was incidentally observed during 2021 field surveys.

Mammals

Mohave Ground Squirrel: In California, Mohave ground squirrel is a state threatened species. They inhabit Mojave creosote scrub, desert saltbush scrub, desert sink scrub, desert greasewood scrub, shadscale scrub, and Joshua tree woodland. The species has been found most frequently in sandy, alluvial soils, but is also found in gravelly, and occasionally rocky soils (BLM, 2005).

The project site is within the generally accepted western edge of the geographic range of the Mohave ground squirrel. No individual Mohave ground squirrels were observed during the habitat assessment or wildlife surveys conducted for the project. Tetra Tech contacted Philip Leitner, a Mohave ground squirrel expert with extensive experience in the project region. Mr. Leitner recently evaluated the potential for Mohave ground squirrel to occur within the adjacent Sanborn 2.0 Solar Project site, which is located between Site 1 (Northern) and Site 2 (Western). The Sanborn 2.0 Solar Project site contains habitats similar to those found within the project site (allscale saltbush scrub and creosote bush scrub); and it contains the same types of stressors and disturbances as those found within the project site (extensive sheep grazing, non-native invasive plant species colonization, developed areas, etc.). According to the communication with Mr. Leitner, although Mohave ground squirrels are known to occur within allscale saltbush scrub and creosote bush scrub, habitat quality within the Sanborn 2.0 Solar Project site and vicinity is poor, with little shrub diversity and abundant non-native vegetation (P. Leitner, personal communication, July 11, 2023). Allscale scrub is the dominant plant community found within the project site. Mr. Leitner's assessment concluded that Mohave ground squirrels are known to consume saltbush leaves; however, there is no evidence that allscale saltbush is a favored food plant of the species. Further, a long-term population study indicated that Mohave ground squirrels have not previously been resident on a site dominated by allscale saltbush (P. Leitner, personal communication, July 11, 2023).

According to Mr. Leitner, protocol trapping surveys for Mohave ground squirrel have been conducted at 71 sites within 8 miles of the project site since 1998 and no Mohave ground squirrels have been detected during these surveys. In addition, 16 additional live-trapping and camera trapping efforts in this region also produced negative results. Mr. Leitner indicates that this strongly suggests that Mohave ground squirrel are absent throughout much of the region; however, a Mohave ground squirrel reproductive population was discovered in June 2023 approximately 2.56 miles northeast of the project site (P. Leitner, personal communication, July 11, 2023). This was the first and only detection of a reproductive population in this region. Radiotelemetry studies have shown that juvenile Mohave ground squirrel are capable of dispersing up to 5 miles from their birthplace, although most dispersal distances are much less (Harris and Leitner, 2005; Poessel et al., 2023). While this suggests the possibility that juvenile Mohave ground squirrel could disperse to the project site, there are a number of barriers between the project site and the juvenile population discovered 4 miles to the north that would make this type of movement very difficult—urban development associated with community of Mojave; the Mojave Airport; streets and freeways (i.e. SR-58 a four-lane divided freeway); existing solar fields; a sewage treatment plant; and other developed areas (P. Leitner, personal communication, July 11, 2023). For these reasons, there is a low potential for Mohave ground squirrel to occur within the project site.

Other special status species: In California, Southern grasshopper mouse (*Onychomys torridus ramona*), Western mastiff bat (*Eumops perotis californicus*), spotted bat (*Euderma maculatum*), and pallid bat (*Antrozous pallidus*) are species of special concern. The project site is located within the known distribution of these species and contains suitable foraging habitat; however, suitable breeding and roosting habitats are absent from the project site. None of these species was observed during any surveys conducted for the project.

The Townsend's big-eared bat is also a species of special concern in California. This species occurs in wide variety of mesic habitats excluding alpine and sub-alpine habitats. This species roosts in caves, mines, tunnels, buildings, and other human-made structures. The project site is located within this bat's known distribution and contains suitable foraging habitat; however, suitable breeding and roosting habitats are absent from the project site. Both CNDDB and surveys conducted for other projects recorded occurrences of Townsend's big-eared bat in the Soledad Mountain area Kern County 2020a). If these bats still roost at Soledad Mountain, they could potentially forage over the project site which supports suitable foraging habitat.

Desert Kit Fox: In California, desert kit fox has no sensitive status; however, is a protected species under Section 460 of the California Code of Regulations (CCR), Title 14. Desert kit foxes are found in the southeastern deserts of California and occur most often in open desert, creosote bush flats, and sand dunes. Desert kit foxes use subterranean dens year-round for shelter, pup-rearing, and protection from predators. They are nocturnal but may be visible above ground near their dens during the day. They feed primarily on Merriam's kangaroo rat (*Dipodomys merriami*), but also feed on black-tailed jackrabbits, desert cottontails (*Sylvilagus audubonii*), birds, lizards, and insects.

The CNDDB does not track this species because it is not listed as threatened or endangered by the federal government or by the State, and it is not a State Species of Concern or a Fully Protected species. The project site is located within this species' known distribution. No live desert kit foxes were observed, but positive desert kit fox signs (scat and tracks) were observed within the project site during the 2021 field surveys, and this species is presumed present. The project site contains suitable sparsely vegetated desert habitats with friable soils for dens and abundant rodent populations to support this species.

American Badger: In California, American badger is a state species of special concern. The American badger is an uncommon permanent resident throughout California except in alpine habitats and in the northern North Coast. They can be found in grasslands, deserts, and drier habitats. Badgers are generally nocturnal and hunt or forage at night while spending daylight hours below ground. Dens are usually found in friable soils, which are easier to dig in. American badgers spend most of their time near a den, and they may have multiple dens in an area that can be used interchangeably. American badgers primarily feed on small mammals that they capture from digging out the prey's burrows. Prey may include pocket gophers, mice, chipmunks, and ground squirrels. Other prey may include birds, bird eggs, reptiles, invertebrates, and carrion.

The project site is located within this species' known distribution. The project site contains suitable desert habitats, friable soils, level terrain, and adequate prey base to support this species onsite; however, no badgers, suitable badger burrows/dens or signs (claw marks, kills, tracks, scat, etc.) were observed during surveys conducted for the project.

Sensitive Natural Communities

Four sensitive plant communities were mapped during the field surveys: white bursage scrub, Joshua tree woodland/disturbed Joshua tree woodland, spinescale scrub, and California buckwheat - Parish's goldeneye scrub.

Critical Habitat

The project site is not located within designated final or proposed critical habitats for federally listed plant or wildlife species.

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 is not located within a designated Natural Landscape Block (NLB) or Essential Connectivity Area (ECA) as mapped by the *California Essential Habitat Connectivity project: A Strategy for Conserving a Connected California* (Spencer et al., 2010). The nearest NLB is an unnamed NLB (ID# 177) located approximately 7.1 miles north of Site 2 (Western) and 4.8 miles north of the Windhub Substation within the Tehachapi Mountains. The nearest ECA is the Tehachapi Mountains - Piute Mountains/Scodie Mountains ECA located approximately 2.0 miles west of the substation, also within the Tehachapi Mountains. Therefore, the project site is located outside of an identified essential regional wildlife linkage.

A Linkage Network for the California Deserts (Penrod, et al., 2012) is a report used in Desert Renewable Energy Conservation Plan (DRECP) analysis that mapped habitat linkages and wildlife movement corridors. According to that report, the project site is not within South Coast Missing Linkages Wildlife Corridors or Desert Linkage Networks. The closest linkage network is northeast of the project site and connects landscape blocks of Edwards AFB and the southern Sierra Nevada.

The project site is located at the edge of a vast area of generally undeveloped open space that facilitates unimpeded wildlife movement and provides "live-in habitat" for a variety of species. The open space present within and adjacent to the project site is expected to be used by a variety of wildlife species for local wildlife movement. Although the project site and vicinity are mostly undeveloped and contain areas of open space where wildlife movement could occur unimpeded, the project site does not contain or function as a wildlife movement corridor. The project site does not appear to constitute a concentrated wildlife movement corridor and does not connect larger core habitat areas that would otherwise be fragmented or isolated from one another.

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 U.S. Army Corps of Engineers (USACE), CDFW, and/or Lahontan Regional Water Quality Control Board (RWQCB). The definitions of the extent of regulatory agency jurisdictions are described in Subsection 4.4.3, *Regulatory Setting*.

The project site is located in the Antelope-Fremont Valley watershed, which straddles Kern and Los Angeles counties. This watershed is not tributary to any ocean or other water body. The floor of the Antelope Valley where the project is located generally lacks defined natural channels outside of the foothills and is subsequently subject to water traveling in unpredictable sheet flow patterns rather than within confined channels. Numerous streams originate in the mountains and foothills surrounding the valley and flow across the valley floor before eventually draining to the dry lakes to the southeast. The closest playa to the project site is Rosamond Lake, approximately 10 miles southeast of the project. The topography is

such that runoff will not be directed toward Rosamond Lake because most rainfall infiltrates into the immediate surrounding soils quickly.

In March and April 2023, Jacobs conducted jurisdictional delineation surveys within the project site and results are documented in the *Aquatic Resource and Other Watercourse Delineation Report* (Jacobs 2023d) included as Appendix E3 of this EIR. Drainage patterns within the project site are muted, with onsite drainages present but isolated from one another and lacking the hierarchical tributary structure found in more substantial stream systems. The site is located on a broad alluvial slope and consists of a network of alluvial fans, active channels, dormant channels, abandoned channels, braided streams, interfluves, and floodplains that emanate from the Tehachapi range. Existing onsite drainage consists primarily of wide, shallow sheet runoff that generally flows toward the southeast. Most surface water flows in this system are lost to evaporation and infiltration. According to the delineation report, eight (8) channels, two (2) playas, 24 swales, and one (1) wash were mapped during the jurisdictional delineation surveys (see Figure 5 within the Jacobs [2023d] delineation report in Appendix E3).

Potential USACE Jurisdiction

All drainages within the project site are ephemeral, non-navigable features that convey hydrologic flows only during, and for short durations, after high precipitation events. The drainages do not support interstate or foreign commerce or cross state lines. The USACE issued an Approved Jurisdictional Determination for the adjacent Sanborn 2.0 Solar Project in February 2022 (USACE, 2022). It determined that aquatic resources in the Sanborn 2.0 Solar Project site were not subject to Clean Water Act (CWA) section 404 regulation. This determination was made based on the fact that onsite features have no downstream connectivity to a traditionally navigable waterway (e.g., the Mojave River), and there is no recreation or interstate commerce related to fisheries or industry. The channels, playas, swales, and wash delineated by Jacobs in the project site meet the conditions defined in the Approved Jurisdictional Determination, and are therefore also not likely to be considered Waters of the U.S. and the USACE is not expected to assert jurisdiction over the delineated ephemeral drainages. **Note:** the USACE has ultimate discretion in the determination of their jurisdiction.

Potential RWQCB Jurisdiction

The Porter-Cologne Act Water Quality Control Act (Porter-Cologne Act) defines Waters of the State broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state." The project site does not contain wetland waters of the State subject to the jurisdiction of the RWQCB pursuant to the Porter-Cologne Act. The eight channels mapped within the project site are expected to be considered jurisdictional waters of the State, pursuant to Porter-Cologne. The playas, swales and wash are not likely to qualify as Waters of the State because they lack an Ordinary High Water Mark (OHWM), habitual flow, and/or development of stream bedforms.

Potential CDFW Jurisdiction

CFGC section 1600 et seq. establishes CDFW's jurisdiction over streams and lakes. Delineated drainages that contain evidence of a defined bed and bank or other OHWM indicators are likely subject to CDFW jurisdiction. A total area of 2.11 acres (measured at the top of bank) and 7,401 linear feet of potential CDFW jurisdictional areas were delineated within the project site using standard CDFW delineation practices (Jacobs 2023d). Riparian habitats are absent from the project site. **Note:** CDFW has ultimate discretion in the determination of their jurisdiction.

4.4.3 Regulatory Setting

Federal

Endangered Species Act of 1973 (Title 16 U.S.C. 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 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 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 (Title 16 U.S.C. Sections 703 through 711)

The 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" (United States Code [U.S.C.] 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.

Bald and Golden Eagle Protection Act of 1940 (Title 16 U.S.C. Section 668, enacted by 54 State. 250)

The Bald and Golden Eagle Protection Act of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles 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 (72 *Federal Register* [FR] 31132; 50 CFR 22.3).

Federal Clean Water Act (Title 33 U.S.C. Sections 1251 through 1376)

The federal CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Under section 404 of the CWA, the USACE, under the authority of the U.S. Environmental Protection Agency (USEPA), regulates the discharge of dredged and fill material into "Waters of the U.S., including wetlands." USACE implementation 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 USEPA in conjunction with the USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into waters of the U.S. only if there is no practicable alternative that would have less adverse impacts. 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. In California, the State Water Resource Control Board and each of its nine RWQCBs administer the Section 401 water quality certification program. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

State

California Endangered Species Act (CFGC 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 an Incidental Take Permit under Section 2081(b) to remain in compliance with the CESA.

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 regulate waters of the State under the Porter-Cologne 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. The RWQCB also has jurisdiction over certain waters deemed 'isolated' or not subject to Section 404 jurisdiction. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the State and prospective dischargers are required obtain authorization through an Order of Waste Discharge or waiver thereof from the applicable RWQCB and comply with other requirements of Porter-Cologne Act. The project site is located within the jurisdiction of the Lahontan RWQCB.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Act, waters of the State fall under the jurisdiction of the appropriate RWQCB. Waters of the State are broadly defined by the Porter-Cologne Act (§ 1305(e)) as "any surface water or groundwater, including saline waters, within the boundaries of the state." Under the Act, the RWQCB must prepare and periodically update water quality control 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 RWQCB 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 operator 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 Native Plant Protection Act, 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 unless authorized by rules or regulations approved by the Secretary of the Interior; 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 desert kit foxes, without prior authorization from 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 the 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 CNDDB 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 (CFGC Sections 1900 through 1913)

California's Native Plant Protection Act (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 10 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 800071 through 80075)

The California Desert Native Plant Protection Act affords protection to certain native desert plant species to make 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 gigantean*], 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 and candlewood family Fouquieriaceae, and
- Catclaw (*Acacia greggii*), desert-holly (*Atriplex hymenelytra*), smoke tree (*Dalea spinose*), and desert ironwood (*Olneya tesota*).

Western Joshua Tree Conservation Act

On July 10, 2023, California Governor Gavin Newsom signed into law the Western Joshua Tree Conservation Act (WJTCA). Passage of the WJTCA is the latest in a series of State actions addressing conservation of western Joshua trees since the Commission declared the species a candidate for listing under CESA in 2020. Under CESA, candidate species are afforded the same protection from "take" as listed species, meaning that take is prohibited unless authorized by CDFW through issuance of an incidental take permit.

Under the WJTCA, individuals and entities can obtain take authorization by avoiding and minimizing take to the maximum extent practicable and paying a fee established by the WJTCA. The fee is paid on a per-

tree basis and varies based on tree height and project location. Fees under the WJTCA vary between $150 and $2,500 per trunk or stem emerging from the ground, depending on tree height and project location. If the Commission ultimately lists the species as threatened or endangered under CESA, the WJTCA would become inoperative and take authorization would only be available under CESA.

The WJTCA also requires CDFW to develop and implement a western Joshua tree conservation plan describing management actions necessary to conserve the species, establishing measurable, objective criteria to assess the effectiveness of those actions, and providing guidance for avoidance and minimization of impacts to the species and tree relocation protocol. CDFW is required to provide a draft plan to the Commission by December 31, 2024, and the Commission is required to take final action on the plan by June 30, 2025. The WJTCA also requires the Commission to consider the effects of the conservation plan, in-lieu fee program, and other relevant information when making a final determination of whether to list the species as threatened or endangered under CESA.

Local

Kern County General Plan

The Kern County General Plan identifies the federal, State, and local statutes, ordinances, and 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 resources 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 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.

5.4.5 Solar Energy Development

Policy

Policy 1: The County shall encourage domestic and commercial solar energy used to conserve fossil fuel and improve air quality.

Policy 2: The County should attempt to identify and remove disincentives to domestic and commercial solar energy development.

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.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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. The objective, policies, and implementation measure in the Mojave Specific Plan for biological resources applicable to the project is provided below. The Mojave 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 Mojave Specific Plan are incorporated by reference.

Chapter 4. Conservation Element

Objective 4.4 Maintain and promote the retention of natural settings and use of native or adaptable vegetation.

Policy 4.4.3 For development projects that are located outside the identified urbanized nonsensitive area (Figure 4-2) for biological resources, a biological survey shall be conducted. Alternatively, a project applicant may demonstrate urbanized, nonsensitive status through the identification of applicable studies.

Policy 4.4.4 Encourage the preservation of Joshua trees, Joshua tree woodlands, known wildflower displays or other biologically sensitive flora determined during biological surveys.

Chapter 10. Implementation

Measure C-6a Require a biological survey to be conducted in nonurbanized sensitive areas (not developed, not previously developed, or not previously mitigated) with potentially significant biological resources.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan addresses issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. There are no goals, policies, or implementation measures in the West Edwards Road Settlement Specific Plan that are applicable to biological resources. In Kern County, specific plans are used to implement goals, objectives, and policies of the General Plan in a more detail and refined manner unique to a smaller area of the County. Since there are no applicable goals, policies, or implementation measures within the West Edwards Road Settlement Specific Plan, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

Soledad Mountain-Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. The recommendations, analysis, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan for biological resources applicable to the project are provided below. The Soledad Mountain Elephant Butte Specific Plan contains additional recommendations, analysis, and implementation measures that are more general in nature and are not specific to developments such as this project. Therefore, they are not listed below, but

all policies, goals, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan are incorporated by reference.

D. Conservation

Item 1 - Conservation, Development, and Utilization of Natural Resources

Recommendations:

a) Underground waters – The quality and quantity of underground waters shall not be degraded.

b) Surface waters – None in the area.

c) Forests – None in the area.

d) Vegetation and soils - All existing vegetation that must be cleared for building sites shall be removed from the site prior to completion of construction. Preservation of native plant life pursuant to Item C-2 herein.

e) Rivers, creeks, and streams – None in the area.

f) Fish and wildlife - Adherence to the guidelines recommended herein will produce the least negative effect on wildlife, other than no development at all.

E. Open Space

Item 1 - Natural Resource Land

a) Botanic Communities: All possible safeguards shall be initiated to prevent destruction of Joshua Trees.

Analysis: There are no botanic communities designated within the Plan area; however, there are scattered stands of Joshua Trees which should be protected.

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 that 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.

4.4.4 Impacts and Mitigation Measures

This section evaluates the impacts to biological resources that may occur during construction, operation and maintenance, and decommissioning of the 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 determine 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 field surveys. Biological resources evaluated include sensitive habitats, special-status plant and animal species, and potential for wildlife movement corridors, and jurisdictional areas. 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 CNDDB, 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

A multi-year effort to document existing biological resources within the project site and vicinity was conducted by SWCA, Jacobs, BBI, and Tetra Tech biologists in 2021, 2022, and 2023. Biologists visited project site and areas around the project site numerous times in 2021, 2022, and 2023 to conduct the following types of surveys: site assessment, plant community and land cover mapping; general and focused plant surveys; general and focused wildlife surveys; Joshua tree cover mapping; protocol desert tortoise surveys; protocol Swainson's hawk and nesting raptor surveys; and jurisdictional delineation surveys. The impact analyses presented here address potential biological resources located on the project site based on results of field surveys detailed in the biological survey reports and memos (provided in Appendices E1, E1A, E1B, E1C, E2, E2A, E2B, and E3 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, regulations, or by the CDFW or the USFWS;*

c. *Has a substantial adverse effect on 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.*

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 special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Overview

The project has the potential to impact special-status plants and wildlife through the loss of habitat as well as from 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

Construction of the proposed project involves ground disturbance and other activities involved with ground clearing (grubbing, clearing and grading), installation of solar panels, construction of access roadways and other needed infrastructure and improvements that could result in impacts to special-status plant and wildlife species.

Special-Status Plants

Alkali mariposa lily: One special-status plant species, alkali mariposa lily, has a low potential to occur as it was potentially observed in one location along the proposed gen-tie alignment, east of SR-14 during surveys conducted for the project, though the identification was not confirmed and the project is outside of the range where the species has been documented. Alkali mariposa lily was not documented in any other areas of the project site. Mitigation Measure MM 4.4-5 requires the project proponent conduct a pre-construction survey for alkali mariposa lily in the vicinity of the documented potential observation and in potentially affected areas within 200 feet prior to the issuance of grading or building permits. If it is subsequently confirmed that the plants are not alkali mariposa lily, then no impacts would occur. Project activities may begin, and no further mitigation shall be required.

If alkali mariposa lily is found, and they cannot feasibly be avoided, potentially significant impacts could occur during construction through removal of individuals, the creation of dust, or spread of invasive plant species. Although there is no evidence that this species is present on the project site, if these species were to occur onsite, they would most likely occur in low numbers. The loss of one or a few individuals would not be expected to substantially reduce or threaten the regional or local populations of these species below self-sustaining levels. Any potentially significant impacts would be minimized through the implementation of Mitigation Measures MM 4.4-1 through MM 4.4-5, which require measures such a Lead Biologist to ensure that all biological mitigation measures are in place and are adhered to during construction; implementation of an Environmental Awareness Training and Education Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction and decommissioning activities, and a pre-construction visual survey of the area to ensure that no special-status species are present. If alkali mariposa lilies are observed during the preconstruction survey, per Mitigation Measure MM 4.4-5, alkali mariposa lily avoidance would occur or an Alkali Lily Transplantation Plan would be implemented if lilies cannot feasibly be avoided. The project proponent/operator shall also prepare and implement a Maintenance, Trash Abatement, and Pest Management Program (Mitigation Measure MM 4.1-1); a Landscape Revegetation and Restoration Plan (Mitigation Measure MM 4.1-3); and a Fugitive Dust Control Plan (MM 4.3-2). The project proponent/operator shall follow standard herbicide safety measures (Mitigation Measure MM 4.9-2) and implement emissions control measures (Mitigation Measure MM 4.3-3).

CRPR 1B plants - desert cymopterus, Barstow woolly sunflower, pale-yellow layia, Robbins' nemacladus, sagebrush loeflingia, and recurved larkspur: The project site and vicinity contain suitable desert habitats to potentially support desert cymopterus, Barstow woolly sunflower, pale-yellow layia, Robbins' nemacladus, sagebrush loeflingia, and recurved larkspur. Desert habitats will be impacted by the project; therefore, the project has the potential to result in direct and/or indirect impacts on these plants should they exist within and/or adjacent to the project footprint. These impacts would be considered significant. However, it should be noted that none of these CRPR 1B plants were observed during the numerous field surveys conducted in 2021, 2022, and 2023. If these species were to occur onsite, potentially significant impacts would occur if the project resulted in the removal of a significant number of individuals of any of these species such that it substantially reduced or threatened the regional or local populations. To minimize potential impacts to these species, the project proponent/operator would be required to implement Mitigation Measure MM 4.4-3, which requires a qualified biologist perform a pre-construction visual survey of the area immediately prior to conducting vegetation clearing, or similar activities, to ensure that no special-status species are present. If special-status plant species are observed, they shall be delineated with stakes and/or flagged for avoidance to the extent feasible. For CRPR 1B plants

that cannot feasibly be avoided, the project proponent/operator will also implement the following measures to help avoid, minimize, reduce and/or mitigate impacts: Mitigation Measures MM 4.4-1 through MM 4.4-4, which require but are not limited to a Lead Biologist to ensure that all biological mitigation measures are in place and are adhered to during construction; implementation of an Environmental Awareness Training and Education Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction and decommissioning activities.

The project proponent/operator shall also prepare and implement a Maintenance, Trash Abatement, and Pest Management Program (Mitigation Measure MM 4.1-1); a Landscape Revegetation and Restoration Plan (Mitigation Measure MM 4.1-3); and a Fugitive Dust Control Plan (Mitigation Measure MM 4.3-2). The project proponent/operator shall follow standard herbicide safety measures (Mitigation Measure MM 4.9-2) and implement emissions control measures (Mitigation Measure MM 4.3-3). With implementation of these measures, impacts to CRPR 1B plants would be reduced to less than significant.

CRPR 4 plants - Lemmon's syntrichopappus, solitary blazing star, Kern County evening primrose, white pygmy-poppy, bristly leptosiphon, Mojave spineflower, golden goodmania, and crowned muilla: The project site and vicinity contain suitable desert habitats to potentially support Lemmon's syntrichopappus, solitary blazing star, Kern County evening primrose, white pygmy-poppy, bristly leptosiphon, Mojave spineflower, golden goodmania, and crowned muilla. Desert habitats will be impacted by the project; therefore, the project has the potential to result in direct and/or indirect impacts on these plants should they exist within and/or adjacent to the project footprint. These impacts would be considered less than significant for the following reasons: 1) impacts on CRPR 4 plants are generally not considered significant; 2) these species have low sensitivity statuses and some are widespread in California; 3) if these species were to occur onsite at all, they would most likely occur in low numbers because none of these plants were observed during the numerous field surveys conducted in 2021, 2022, and 2023; and 4) the loss of one or a few individuals would not substantially reduce or threaten the regional or local populations of these species below self-sustaining levels. Impacts to these species would be less than significant.

Joshua tree: Joshua trees, which are protected by the California Desert Native Plants Act and a candidate species under CESA, were observed within the project site. The project is expected to require the removal of Joshua trees. Those Joshua trees that are adjacent to the project footprint also have the potential to be indirectly impacted by the project. The final number of Joshua trees that will be impacted by the project will be determined as full project design plans are finalized. As the Joshua tree is a candidate species for listing under CESA, and given the number of trees that would be impacted by the project, impacts on Joshua trees would be considered significant. The project proponent intends to obtain take coverage under the WJTCA. Further, prior to the issuance of grading or building permits, the project proponent/operator shall develop and implement a Joshua Tree Preservation Plan specifying actions to avoid, minimize, and provide compensatory mitigation for impacts to Joshua trees (Mitigation Measure MM 4.4-13). The project proponent/operator will also implement the following measures to help avoid, minimize, reduce and/or mitigate impacts: Mitigation Measures MM 4.4-1 through MM 4.4-4, MM 4.1-1, MM 4.1-3, MM 4.3-2, MM 4.3-3, and MM 4.9-2, which require but are not limited to a Lead Biologist to ensure that all biological mitigation measures are in place and are adhered to during construction; implementation of an Environmental Awareness Training and Education Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction and decommissioning activities; and a dust control plan. With implementation of these measures, impacts would be reduced to less than significant.

CDNPA protected plants - silver cholla, beavertail cactus, and Joshua trees: While not special-status plant species, plants such as cholla and pricklypear are protected under the California Desert Native Plants Act and have the potential to occur within the project site. These plants are protected by the CDNPA, which prohibits harvesting these native desert plants, or any parts thereof, except when a permit from the County Commissioner is obtained or a fee for removal is paid. The project proponent/operator shall obtain the appropriate permits, tags, or seals from the County, prior to impacts. The project proponent/operator shall pay the fee and follow all measures described within the permits. With implementation of Mitigation Measure MM 4.4-3, impacts to CDNPA protected plant species would be less than significant.

Because Joshua trees are a state candidate species, they are exempt from the CDNPA permit requirement. However, as discussed above, the project proponent/operator plans to obtain take authorization under the WJTCA and would be required to comply with all avoidance, minimization and compensatory mitigation requirements included with such authorization. With implementation of Mitigation Measure MM 4.4-13, impacts to Joshua trees would be less than significant.

Special-Status Wildlife

No listed wildlife species were directly observed within the project site during the field surveys; however, there is a potential for CBB, desert tortoise, Swainson's hawk, and Mohave ground squirrel to occur. Seven sensitive wildlife (white-faced ibis, northern harrier, burrowing owl, loggerhead shrike, Le Conte's thrasher, southern grasshopper mouse, and desert kit fox) were observed, or signs of those species were observed within the project site during the field surveys. The project site supports habitats and features that could potentially support 10 sensitive wildlife (golden eagle, Cooper's hawk, ferruginous hawk, prairie falcon, California horned lark, western mastiff bat, Townsend's big-eared bat, spotted bat, pallid bat, and American badger). Construction of the project could result in the direct impacts of these special-status species if any are present during ground disturbance and construction. Individual discussions for each species are further discussed below.

Crotch's bumble bee: Due to the commonality of habitat types and features (e.g., small mammal burrows) that the species can utilize for nesting and their diversity of foraging and nectar plants, CBB habitat is considered widespread and in abundance in the project region. Though CBB have not been identified on the site to date, the project site could potentially support CBB nesting and foraging habitat; therefore, vegetation or ground disturbing activities during project construction have the potential to result in direct and indirect impacts on this species should they occur. If CBB is present, impacts on the species would be considered potentially significant. Pursuant to Mitigation Measure MM 4.4-17, prior to initial ground-disturbing activities, the project proponent/operator will conduct focused CBB nesting surveys within all suitable habitat. Surveys will follow the survey methodologies set out in the CDFW Survey Considerations for CESA Candidate Bumble Bee (CDFW, 2023d). A minimum 50-foot disturbance buffer shall be established around all CBB nests found during surveys. If avoidance of CBB nests is not feasible, the project proponent/operator shall consult with the CDFW regarding potential for project activities to result in take of the Crotch's bumble bee and shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any ITP issued for the project by CDFW authorizing take of the species. As such, even if the species is determined to be nesting on site, impacts will be less than significant following implementation of MM 4.4-17.

The CBB has a statewide distribution in a variety of habitats and agricultural fields including but not limited to grasslands and chaparral shrublands, small mammal burrows, bunch grasses, thatch, brush piles, old bird nests, or dead trees. As such, there is an abundance of suitable habitat surrounding the project site and in

the region. The project will also be constructed using techniques that allow for retention and reestablishment of vegetation following project construction. Site preparation techniques will minimize impacts on natural vegetation where possible, using mow-and-roll vegetation clearance strategy, and minimizing conventional grading throughout the site to the maximum extent possible. Impacts on the species' habitat would be less than significant because of the abundance of suitable habitat surrounding the project site and because vegetation supporting the species would continue to be available on the site during project operations. This already less-than-significant impact on CBB habitat would be further minimized through implementation of MM 4.1-4, which requires revegetation of temporarily disturbed areas and calls for retention of natural vegetation on the project site where possible.

Mitigation Measure MM 4.4-17 would minimize potential impacts on the species by requiring the project proponent/operator to minimize mowing as feasible, time mowing to avoid the blooming season and active times of day for pollinators, and observe speed limits on the project site. The project proponent/operator also will implement the following measures to help avoid, minimize, reduce, and/or mitigate impacts: Mitigation Measures MM 4.4-1 through 4.4-4, MM 4.4-6, MM 4.1-1, , MM 4.3-2, MM 4.3-3, MM 4.9-2, and MM 4.13-1, which require but are not limited to a Lead Biologist to ensure that all biological mitigation measures are in place and are adhered to during construction; implementation of an Environmental Awareness Training and Education Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction and decommissioning activities; pre-construction surveys; ; and a dust control plan. With implementation of these mitigation measures, impacts to CBB would be less than significant.

Desert tortoise: The project site is located at the western edge of desert tortoise range and suitable desert tortoise habitat is present in the project site, notably west of SR-14. The project site occurs mostly in soils considered suitable habitat for the desert tortoise; however, most of the project site has been heavily grazed by domestic sheep which reduces the quality of this habitat.

No live desert tortoise or definite tortoise signs were observed during the protocol desert tortoise surveys, or during the numerous field surveys conducted in 2021, 2022, and 2023. Jacobs biologists observed a Class 4 burrow potentially suitable for desert tortoise; however, they could not confirm use by desert tortoise because there were no signs of tortoise activity and it may have also been used by a variety of other species. Therefore, if desert tortoise were to occur onsite at all, it would most likely occur in low numbers.

If present, direct impacts to the species could include death or injury to individuals, displacement of tortoises and loss of territory, disruption of breeding activities, crushing of burrows and viable eggs, and loss of suitable habitat. Common ravens, a notable predator of juvenile desert tortoises, are present within the project site and could injure or kill juvenile desert tortoises should they be present. Indirect impacts could also occur during construction if desert tortoises are present within 500 feet of the project site. These indirect impacts include construction-related noise and ground vibration deterring individuals from inhabiting or foraging in areas near the project site. Additional indirect impacts could occur from construction-related dust, sedimentation, and erosion along the site edges, which have the potential to alter offsite conditions. Noxious weed seeds could be spread during construction activities to offsite habitats that are occupied by tortoise during travel to and from the site or by wind. Non-native vegetation often offers little to no nutritional value to desert tortoises and could reduce their ability to find sufficient amounts of food and increase risk of fires in the area. These direct and indirect impacts to desert tortoise would be considered significant without mitigation.

Potential impacts would be reduced through the implementation of Mitigation Measures MM 4.4-1 through 4.4-4, MM 4.4-6, MM 4.4-7, MM 4.4-14, MM 4.1-1, MM 4.1-3, MM 4.3-2, MM 4.3-3, MM 4.9-2, and MM 4.13-1, which require a Lead Biologist or their designee to be onsite during construction activities, implementation of a Worker Environmental Awareness Training Program, implementation of general biological resources avoidance and minimization measures, stormwater BMPs, preconstruction surveys, project fencing, a Raven Management Plan, a Maintenance, Trash Abatement, and Pest Management Plan, a Landscape Revegetation and Restoration Plan, a Dust Control Plan, emissions control measures, herbicide application measures, construction noise reduction measures, and conducting pre-construction surveys for special-status species including desert tortoise (Mitigation Measure MM 4.4-6). Additional avoidance, minimization, and/or mitigation measures, such as buffers and permanent tortoise-proof exclusion fencing, will be implemented if desert tortoise are observed and/or detected. A desert tortoise exclusion fence is not required if no desert tortoises are found on site during the preconstruction surveys. If the desert tortoise is present on-site, individual(s) shall be allowed to leave the site on their own, and in consultation with CDFW, the project proponent may be required to install exclusionary/perimeter fencing. No person(s) shall be allowed to touch a tortoise without authorization from the USFWS and CDFW. With implementation of Mitigation Measures MM 4.4-1 through 4.4-4, MM 4.4-6, MM 4.4-7, MM 4.4-14, MM 4.1-1, MM 4.1-3, MM 4.3-2, MM 4.3-3, MM 4.9-2, and MM 4.13-1, impacts to desert tortoise would be less than significant.

Due to absence of live tortoise occurrence on the project site and its position at the periphery of the species' current range, and the quality of immediately surrounding habitats as well as the abundance of suitable habitat to the east of the project site where the largest primary population in the Mojave Desert is located, the loss of up to 2,320 acres of poor quality habitat is considered less than significant and mitigation is not required.

White-faced ibis: The project site is located outside of this species' general distribution and does not contain suitable foraging, roosting, or breeding habitats for White-faced ibises. White-faced ibises are only anticipated to pass through the project site due to its adjacency to sewage treatment ponds; therefore, impacts on this species are not expected. Impacts would be less than significant.

Golden eagle. The nearest occurrence of the golden eagle was reported approximately 2.6 miles away from the project site in 1969; therefore, this species has a moderate potential to occur during winter and dispersal but is not expected to nest. Golden eagles typically fly at altitudes much higher than project infrastructure while foraging or traveling, and collision with the project is considered extremely unlikely. Development of the project would result in loss of foraging habitat for the golden eagle. However, while 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. If present during construction activities, the project would have a low potential to directly impact this listed raptor species through mortality or injury because the species is highly mobile and could easily avoid construction, hence, direct impacts such as vehicular collisions would be considered less than significant. Indirect impacts would include collisions and/or electrocution from power lines. These indirect impacts are a substantial source of mortality for this species and would be considered significant without mitigation. While impacts to the golden eagle are potentially significant, impacts to golden eagle would be reduced through the implementation of Mitigation Measure MM 4.4-15, which requires power lines to be installed per APLIC standards, reducing the likelihood of collision and/or electrocution from power lines.

In addition, the project proponent/operator will implement the following measures to help avoid, minimize, and/or reduce impacts: Mitigation Measures MM 4.4-1 through 4.4-4, MM 4.4-6, MM 4.4-8, MM 4.4-15, MM 4.4-16, MM 4.1-1, MM 4.1-3, MM 4.1-6, MM 4.1-7, MM 4.3-2, MM 4.3-3, MM 4.9-2, and MM 4.13-

1. With implementation of these mitigation measures, impacts to golden eagle would be less than significant.

Northern harrier, Cooper's hawk, ferruginous hawk, and prairie falcon: The project site does not contain suitable habitats, features, and/or conditions to support northern harriers, Cooper's hawks, or prairie falcons for nesting, and ferruginous hawks do not breed in California; therefore, impacts on these breeding raptors are not anticipated. The project site and vicinity contain suitable desert habitats, prey items, and perch sites to potentially support these raptors for foraging, migrating through, or dispersal, but of these raptors, only a northern harrier was observed during the numerous field surveys conducted in 2021, 2022, and 2023. If Cooper's hawks, ferruginous hawks, or prairie falcons were to occur onsite at the project, they would most likely occur in low numbers. Potential foraging/migrating/dispersal habitats will be impacted by the project; therefore, the project has the potential to result in direct and indirect impacts on foraging/migrating/dispersing northern harriers, Cooper's hawks ferruginous hawks, or prairie falcons should they use the project footprint and/or surrounding lands.

Suitable foraging habitat on the project site for these species would be reduced or lost as a result of vegetation and habitat removal from grading and constructing the proposed project. However, while availability of potential foraging habitat would be reduced or lost during construction, this reduction would not be a significant impact because there is an abundance of suitable foraging habitat surrounding the project site. If present during construction activities, the project would have a low potential to directly impact these raptor species through mortality or injury because the species is highly mobile and could easily avoid construction, hence, direct impacts such as vehicular collisions would be considered less than significant. Indirect impacts include collisions and/or electrocution from power lines. This indirect impact is a substantial source of mortality for this species and would be considered significant without mitigation.

While impacts to these raptor species are potentially significant, impacts would be reduced through the implementation of Mitigation Measure MM 4.4-15, which requires power lines to be installed per APLIC standards reducing the likelihood of collision and/or electrocution from power lines. In addition, the project proponent/operator will implement the following measures to help avoid, minimize, and/or reduce impacts: Mitigation Measures MM 4.4-1 through 4.4-4, MM 4.4-6, MM 4.4-8, MM 4.4-15, MM 4.1-1, MM 4.1-3, MM 4.1-6, MM 4.1-7, MM 4.3-2, MM 4.3-3, MM 4.9-2, and MM 4.13-1. With implementation of these mitigation measures, impacts to northern harrier, Cooper's hawk, ferruginous hawk, and prairie falcon would be less than significant.

Swainson's hawk: The project site and vicinity contain suitable desert habitats, prey items, and perch sites to potentially support Swainson's hawks for foraging and/or migrating through; however, this species was not observed within the project site during the numerous field surveys conducted in 2021, 2022, and 2023. The project site contains desert scrub habitat but lacks agricultural lands which Swainson's hawk prefer for foraging. Direct impacts to Swainson's hawk could include reduction or loss of foraging habitat 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, there is an abundance of suitable foraging habitat surrounding the project site. If present during construction activities, the project would have a low potential to directly impact this listed raptor species through mortality or injury because the species is highly mobile and could easily avoid construction, hence, direct impacts such as vehicular collisions would be considered less than significant. Indirect impacts would include collisions and/or electrocution from power lines. This indirect impact is a substantial source of mortality for this species and would be considered significant without mitigation.

Suitable nesting habitat is present within the project site and 5 miles of the site, particularly within Edwards AFB and in remnant stands of Joshua trees to the west of Mojave (BBI 2023). No Swainson's hawk nests were observed within BBI's 5-mile study area during their 2023 surveys. There are two active Swainson's hawk nests located within 10 miles of the project's proposed Site 5 (Step-Up Substation) and the western extension of the gen-tie line. While there are no known nests within 5 miles of the site, the potential for nesting cannot be ruled out. Large Joshua trees that could potentially provide nesting habitats for Swainson's hawk are located within and adjacent to the project site. A portion of these trees are located within the project footprint and would be directly impacted by the project; therefore, the project has the potential to result in direct and indirect impacts on breeding Swainson's hawk, their nests, young, or eggs, if project construction activities occur during their nesting season and this species is nesting within and/or adjacent to the project footprint at that time. Swainson's hawk is protected by the MBTA and the CFGC, which render it unlawful to take native breeding birds, and their nests, eggs, and young. Loss of active Swainson's hawk nests as a result of construction or other site preparation activities would be a significant impact.

Impacts on nesting and breeding Swainson's hawks can be avoided and/or minimized by conducting ground/vegetation disturbing activities outside the peak breeding bird season which generally runs from March 1 to September 15. If construction activities are scheduled to be initiated during the nesting season, the project proponent shall conduct pre-construction Swainson's hawk surveys of all accessible areas within 0.5 mile of the construction site to determine the presence and activity of known or new Swainson's hawk nests and to avoid, minimize, and/or reduce impacts on these breeding raptors and their offspring (Mitigation Measure MM 4.4-10). CDFW recommends implementation of a minimum no disturbance buffer of 0.5-mile be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

No Swainson's Hawk nests or individuals were observed during protocol surveys conducted for the project within the 5-mile study area (BBI 2023). Although there is an abundance of suitable foraging habitat in the area surrounding the project site, impacts to Swainson's hawk could include reduction or loss of foraging habitat as a result of vegetation removal prior to grading and construction activities, which would be considered a significant impact. If active Swainson's hawk nests are found within a 0.5-mile radius of the project site during the preconstruction surveys, the project proponent/operator would be required to mitigate the loss of Swainson's hawk foraging habitat for any portion of the project site within 5-miles of an active nest at a 0.5:1 ratio in accordance with Mitigation Measure MM 4.4-10, which would reduce impacts on foraging habitat to less than significant.

Swainson's hawk may use the utility structures surrounding the facilities as perch sites for hunting increasing the likelihood of collisions and/or electrocution. These impacts would be considered significant; therefore, the project proponent/operator will implement Mitigation Measure MM 4.4-15, which requires power lines to be installed per APLIC standards, reducing the likelihood of collision and/or electrocution from power lines. The project proponent/operator also will implement the following measures to avoid, minimize, and/or reduce impacts: Mitigation Measures MM 4.4-1 through 4.4-4, MM 4.4-6, MM 4.4-8, MM 4.4-10, MM 4.4-15, MM 4.1-1, MM 4.1-3, MM 4.1-6, MM 4.1-7, MM 4.3-2, MM 4.3-3, MM 4.9-2, and MM 4.13-1, which require but are not limited to a Lead Biologist to ensure that all biological mitigation measures are in place and are adhered to during construction; implementation of an Environmental Awareness Training and Education Program; general avoidance and protective measures designed to avoid impacts to special-status species during construction and decommissioning activities; pre-construction

surveys and avoidance of nests; an Avian Mortality Monitoring Program; a Landscape Revegetation and Restoration Plan; compliance with the County's Dark Skies Ordinance; and a dust control plan. With implementation of these measures, impacts would be reduced to less than significant.

Burrowing owl: Burrowing owls are present on the project site. The burrowing owl is protected by the MBTA and the CFGC, which render it unlawful to take native breeding birds, and their nests, eggs, and young. Direct impacts to the occupied burrowing owl burrows and its habitat could occur as a result of project construction through the loss of available habitat and potential breeding burrows due to construction activities and increased human presence. Indirect impacts could also occur during construction if burrowing owls 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 site. Any adverse direct or indirect impacts to burrowing owls as a result of construction would be considered significant under CEQA without mitigation.

While impacts to burrowing owls are potentially significant, impacts would be reduced through the implementation of Mitigation Measure MM 4.4-9, which requires the project proponent/operator to conduct pre-construction burrowing owl surveys of permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows no less than 14 days and no more than 30 days prior to ground-disturbing activities. Avoidance, minimization, and/or mitigation measures will be implemented if burrowing owls are observed or detected during the pre-construction surveys. If burrowing owls are determined to be nesting and if burrow avoidance is infeasible, burrow and/or den exclusion would be conducted by qualified biologists consistent with a Burrowing Owl Exclusion Plan prepared for the project (Mitigation Measure MM 4.4-9). In addition, implementation of Mitigation Measures MM 4.4-2 through MM 4.4-5 and MM 4.4-8 would ensure that no nesting or foraging burrowing owls are impacted during construction or compensatory mitigation occurs.

The project proponent/operator also will implement the following measures to help avoid, minimize, and/or reduce impacts: Mitigation Measures MM 4.4-1 through 4.4-4, MM 4.4-6, MM 4.4-8, MM 4.4-9, MM 4.4-15, MM 4.4-16, MM 4.1-1, MM 4.1-3, MM 4.1-6, MM 4.1-7, MM 4.3-2, MM 4.3-3, MM 4.9-2, and MM 4.13-1. With implementation of these mitigation measures, impacts to burrowing owl would be less than significant.

Loggerhead shrike, California horned lark, and Le Conte's thrasher: Loggerhead shrike was observed on the project site, and California horned lark and Le Conte's thrasher have the potential to occur onsite. The project site and vicinity contain suitable desert habitats to potentially support these birds for foraging. Loss of habitat is not expected to be significant because of the abundance of suitable habitat surrounding the project site. Direct impacts could include death or injury to chicks or nest destruction, displacement of birds and loss of territory, and disruption of breeding activities. Adults of these species are mobile and not susceptible to direct impacts from construction activities. Indirect impacts from construction and decommissioning activities include disturbance to nesting individuals related to increase dust, noise, vibrations, and increase human presence. These direct and indirect impacts to these species would be considered significant without mitigation.

Trees, shrubs, open ground, and other physical features that could potentially provide nesting habitats for loggerhead shrike and Le Conte's thrasher are located within and adjacent to the project site. California horned larks could potentially nest within the project site; however, the onsite sheep grazing and other disturbances limits these opportunities. A portion of these potential breeding habitats and features are located within the project footprint and would be directly impacted by the project; therefore, the project has

the potential to result in direct and indirect impacts on these breeding birds, their nests, young, or eggs, if project construction activities occur during the breeding bird season and birds are nesting within and/or adjacent to the project footprint at that time. Project activities could adversely affect the breeding behavior of some birds, and lead to the loss (take) of eggs and chicks, or nest abandonment. Loggerhead shrike, California horned lark, and Le Conte's thrasher are protected by the MBTA and the CFGC, which render it unlawful to take native breeding birds, and their nests, eggs, and young. Loss of active bird nests as a result of construction or other site preparation activities would be a potentially significant impact.

Impacts on breeding loggerhead shrike, California horned lark, and Le Conte's thrasher can be avoided and/or minimized by conducting ground/vegetation disturbing activities outside the peak breeding bird season which generally runs from February 1 through August 31. If construction activities are scheduled to be initiated during the nesting season, the project proponent/operator will conduct pre-construction breeding bird surveys (Mitigation Measure MM 4.4-8) to help avoid, minimize, and/or reduce impacts on these breeding birds and their offspring. Avoidance and minimization measures will be implemented if nests are observed during the pre-construction surveys. The project proponent/operator will implement the following measures to help avoid, minimize, and/or reduce impacts: Mitigation Measures MM 4.4-1 through 4.4-4, MM 4.4-6, MM 4.4-8, MM 4.4-15, MM 4.4-16, MM 4.1-1, MM 4.1-3, MM 4.1-6, MM 4.1-7, MM 4.3-2, MM 4.3-3, MM 4.9-2, and MM 4.13-1. With implementation of these mitigation measures, impacts to loggerhead shrike, California horned lark, and Le Conte's thrasher would be less than significant.

Mohave ground squirrel and southern grasshopper mouse: A dead southern grasshopper mouse was observed on the project site and Mohave ground squirrel has a low potential to occur within the project site. Desert habitats will be impacted by the project; therefore, the project has the potential to result in direct and indirect impacts on these small mammals should they exist within the project footprint. These impacts would be potentially significant.

The project proponent/operator will conduct pre-construction small mammal surveys (Mitigation Measure MM 4.4-11) to help avoid, minimize, and/or reduce impacts on Mohave ground squirrel and southern grasshopper mouse. If Mohave ground squirrels are found during the pre-construction surveys or any other surveys, work shall be halted and redirected to areas not supporting this species. The project proponent/operator shall prepare a Mohave Ground Squirrel Avoidance and Monitoring Plan, consult with CDFW regarding the potential need for an incidental take permit, and shall comply with the avoidance, minimization, and compensatory mitigation requirements of any such permit issued for the project. If a southern grasshopper mouse is found during the pre-construction surveys or any other surveys, work shall be halted and redirected to areas not supporting this species. The project proponent/operator shall prepare a Southern Grasshopper Mouse Avoidance and Monitoring Plan, in coordination with CDFW. The project proponent/operator will also implement the following measures to help avoid, minimize, and/or reduce impacts: Mitigation Measures MM 4.4-1 through 4.4-4, MM 4.4-6, MM 4.4-7, MM 4.4-11, MM 4.1-1, MM 4.1-3, MM 4.3-2, MM 4.3-3, MM 4.9-2, and MM 4.13-1. With implementation of these mitigation measures, impacts to Mohave ground squirrel and southern grasshopper mouse would be less than significant.

Bats - western mastiff bat, Townsend's big-eared bat, spotted bat, and pallid bat: The project site does not contain suitable habitats, features, and/or conditions to support western mastiff bats, Townsend's big-eared bats, spotted bats, or pallid bats for breeding or roosting; therefore, impacts on these breeding/roosting bats are not anticipated. The project site and vicinity contain suitable desert habitats to potentially support these bats for foraging, but it is likely that they forage in the area at low levels because of the low insect production in desert communities at most times of the year. Bat foraging habitats will be impacted by the

project; therefore, the project has the potential to result in direct and indirect impacts on foraging bats should they use the project footprint and/or surrounding lands for foraging. Direct and indirect impacts on foraging bats would be considered less than significant for the following reasons: 1) impacts on these bats may be elevated during construction, but most bats are highly mobile and would be expected to move to adjacent areas of similar habitat at the onset of project activities, thereby avoiding direct contact with construction vehicles, equipment, and personnel; 2) nocturnal foraging activities near the project site will not be disturbed by daytime project construction; 3) the loss of foraging habitat is unlikely to create a significant, permanent impact because there are ample, suitable foraging habitats of similar quality immediately outside of the project site that these bats could access; and 4) the loss of foraging habitats would not substantially reduce or threaten the regional or local population of these species below self-sustaining levels. Impacts to western mastiff bat, Townsend's big-eared bat, spotted bat, and pallid bat would be less than significant.

Desert kit fox and American badger: The project site contains suitable desert habitats, friable soils for dens, and abundant rodent populations to support desert kit foxes and American badgers, but of these mammals, only desert kit fox sign was observed during the field surveys conducted in 2021, 2022, and 2023. No live desert kit foxes were observed, but positive desert kit fox signs (scat and tracks) were observed within the project site during the 2021 field surveys, and this species is presumed present. Although this species is protected under Title 14 CCR Section 460, it does not constitute as a special-status species; therefore, loss of suitable habitat for desert kit fox are not considered significant. No American badgers or suitable burrows/dens were observed during the surveys. If desert kit foxes and American badgers were to occur onsite at all, they would most likely occur in low numbers.

Direct impacts to these species could include being hit by vehicles on access roads or the loss of available habitat and potential burrows due to construction activities and increased human presence. Indirect impacts include noise, vibrations, increased human presence, and night-time lighting. These types of potential impacts to this species would be considered significant without mitigation.

Project impacts to these species' habitat would be considered less than significant for the following reasons: 1) the loss of foraging habitat is unlikely to create a significant, permanent impact because there are ample, foraging habitats of similar quality immediately outside of the project site that these mammals could access; and 2) the loss of foraging habitats would not substantially reduce or threaten the regional or local population of these species below self-sustaining levels; Pursuant to these mitigation measures, the project proponent/operator will conduct pre-construction American badger and desert kit fox surveys to help avoid, minimize, and/or reduce impacts on these species and avoidance, minimization, and/or mitigation measures will be implemented if American badger are observed or detected during the pre-construction surveys (Mitigation Measures MM 4.4-9 and MM 4.4-12). With implementation of MM 4.4-1 through 4.4-4, MM 4.4-6, MM 4.4-7, MM 4.4-9, MM 4.4-12, MM 4.1-1, MM 4.1-3, MM 4.3-2, MM 4.3-3, MM 4.9-2, and MM 4.13-1, impacts to desert kit fox and American badger 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 project implementation would remove habitat for special-status species on the project site, although wildlife movement through or around the project site (i.e., wildlife fencing) would still allow limited movement. Additionally, Mitigation Measure MM 4.4-2 and MM 4.4-3 require methods designed to reduce wildlife mortality and impacts, promote long-term project site suitability, and educate onsite personnel. However, maintenance activities within the project site could impact the special-status species if avoidance measures are not implemented. 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 4.1-6 which requires compliance with the Kern County's Dark Skies Ordinance to minimize nighttime lighting in unincorporated areas of Kern County.

Swainson's Hawk, Golden Eagles, and Other Raptors. Potential direct impacts to raptor species from the operations and maintenance phase of the project may occur through the collisions into and/or electrocution from power lines anticipated to be installed throughout the project site but particularly along the proposed gen-tie interconnection routes. Raptor prey sources such as rodents and small birds are still likely to inhabit the area around solar panels on the project site. Raptors may be able to use the solar panels, perimeter fencing, and utility structures surrounding the facilities as perch sites for hunting. While collision/electrocution impacts to the aforementioned raptors are potentially significant, impacts would be reduced through the implementation of Mitigation Measure MM 4.4-15 through MM 4.4-16. Mitigation Measure MM 4.4-15 requires power lines to be installed per APLIC standards, reducing the likelihood of collision and/or electrocution from power lines. MM 4.4-16 requires the project proponent/operator to prepare and implement an Avian Mortality Monitoring Program to collect data on avian mortality at the facility and implement adaptive management where necessary to reduce impacts on avian species. Direct and indirect impacts to Swainson's hawk and other raptors would be less than significant with the implementation of the above mitigation measures.

Migratory Birds. Direct and indirect impacts to avian species may occur during project operation and maintenance 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 may determine the risk of avian collisions with man-made structures include the size, height, and specific attributes of the 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. Potential indirect impacts to migratory bird species from the operations and maintenance phase of the project may occur through "lake effect" from utility-scale solar panel arrays. The lake effect refers to the perception of solar panels as water by birds. Solar panels are both reflective and have a strong polarization signature, which are elements thought to mimic water or related suitable habitat. As a result, some have theorized that solar panels can attract bird species that mistake the panels for bodies of water, potentially leading to increased collisions, stranding within site fencing once they land, or other forms of distress. The lake effect is at present a hypothesis that remains unsupported by empirical research. The cause of avian injuries and fatalities at commercial-scale solar projects are being evaluated by the USFWS, CDFW, and others. No formal studies have been conducted at commercial-scale solar projects that establish a clear causal link between such projects and the types of avian mortality and injury documented on existing solar project sites.

To reduce potentially significant direct and indirect impacts to migratory birds, Mitigation Measure MM 4.1-6 and MM 4.1-7 would be implemented to ensure solar panels and hardware are designed to minimize glare and spectral highlighting as described in Section 4.1, Aesthetics. The project proponent would also be required to implement Mitigation Measure MM 4.4-15, which requires power lines to be installed per APLIC standards, reducing the likelihood of collision and/or electrocution from power lines, and shall

develop and implement an Avian Mortality Monitoring Program to systematically and periodically determine the extent of mortality occurring because of collisions with solar arrays (Mitigation Measure MM 4.4-16). If deemed necessary, adaptive management would be implemented to reduce impacts. With implementation of these mitigation measures, impacts to migratory birds would be less than significant during operation and maintenance with the implementation of these mitigation measures.

Decommissioning

Upon decommissioning of the proposed project , the project site would be 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 different than pre-project conditions. Decommissioning would only directly impact areas that were previously disturbed during project construction; therefore, direct impacts to native habitats and special-status plants are expected to be less than significant. If special-status species have recolonized the project site during the operation and maintenance phase, decommissioning activities could impact these species, similar to the direct impacts described for construction. Wildlife with the potential to utilize partially developed habitats and man-made structures include burrowing owl, desert kit fox, badger, bats, and nesting birds. Indirect impacts to biological resources would be similar to those that would occur during construction but would depend on the resources present adjacent to the project site at the time of decommissioning. Additional indirect impacts could include degradation of adjacent habitat if the site is colonized by invasive species or generates excessive runoff or dust due to a lack of vegetation. Impacts to these species would be considered significant without mitigation. While impacts during decommissioning are potentially significant, impacts would be reduced through implementation of Mitigation Measures MM 4.4-1 through MM 4.4-4, MM 4.4-8, MM 4.4-9, and MM 4.4-10. Implementation of these mitigation measures 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 Measure MM 4.4-1 through MM 4.4-17 will be required.

MM 4.4-1: Prior to the issuance of grading or building permits, and prior to decommissioning, the project operator shall retain a Lead 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, operation, and decommissioning of the project. The contact information for the Lead Biologist(s) shall be provided in writing to the Planning and Natural Resources Department. The following measures pertain to the Lead Biologist(s):

a. The Lead Biologist(s), or their designee, shall be on the project site during all construction activities which include, but are not limited to, installation of perimeter fencing, clearing of vegetation, grading activities, site buildout, and decommissioning.

b. The Lead Biologist(s) or their designee shall have the right to halt all activities that are in violation of the special-status species protection measures, as well as any regulatory permits from the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife, if applicable. Work shall proceed only after hazards to special-status species are removed and the species is no longer at risk.

MM 4.4-2: Prior to the issuance of grading or building permits, or decommissioning of the site, the Lead Biologist shall develop a Worker Environmental Awareness Training Program containing life history and identification information of special-status wildlife and plant species with potential to occur on site. The Worker Environmental Awareness Training Program shall review responsibilities for all on-site personnel including trash control, checking under and around vehicles and heavy equipment before starting, scanning for wildlife resources, contacting the Lead Biologist in the unanticipated instance of encountering special status wildlife species, and prohibition of pets and firearms. All on-site personnel shall be required to attend a worker environmental training. A sticker shall be placed on hard hats, indicating that the worker has completed the Worker Environmental Awareness Training. Copies of all prepared materials including, but not limited to, PowerPoint presentations, videos, information handouts and signed acknowledgement from each worker who has attended the required training shall be provided to the Planning and Natural Resources Department.

MM 4.4-3: During construction and decommissioning of the project site, the project proponent and/or contractor(s) shall implement the following general avoidance and protective measures:

a. Immediately prior to conducting vegetation clearing or similar activities, the Lead Biologist or their designee shall perform a pre-construction visual survey of the area to ensure that no special-status species are present. Daily reports of these inspections shall be retained by the Lead Biologist and provided to the Kern County Planning and Natural Resources Department, U.S. Fish and Wildlife Service, or California Department Fish and Wildlife upon request.

b. Within the vicinity of any construction activities, sensitive biological resources (i.e., special-status species, jurisdictional drainages, nesting birds, etc.) shall be delineated with stakes and/or flagging.

c. Access roads that are planned for use during construction activities shall not extend beyond the planned impact area, which area includes all previously disturbed lands and any location within the project fenceline not delineated for avoidance of sensitive biological resources. Where new access routes are required, the route will be clearly marked prior to construction.

d. The project proponent/operator shall minimize 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. Any spoils shall be stockpiled in disturbed areas that lack native vegetation to the maximum extent practicable. Spoils that have been stockpiled and inactive for more than 24 hours shall be inspected by a qualified biologist for signs of special-status wildlife before moving or disturbing.

f. To prevent inadvertent entrapment of desert kit foxes, American badgers, or other animals during construction, all excavated steep-walled holes or trenches more than two (2) feet deep shall be covered with plywood or similar materials at the close of each working day. If holes or trenches cannot be covered, one or more escape ramps

constructed of earthen fill or wooden planks, no less than 12 inches wide and secured at the top, shall be 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 at the beginning and end of each working day. Immediately before such holes or trenches are filled, they shall again be thoroughly inspected by trained Staff approved by the Lead Biologist. If non-listed trapped animals are observed, escape ramps or structures shall be installed immediately to allow for their escape. If a listed species is trapped, escape ramps or structures shall be installed immediately to allow for their escape and the Lead Biologist shall immediately confer with the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife.

g. All construction pipes, culverts, or similar structures with a diameter of four (4) inches or greater that are stored at the site for more than 24 hours and without endcaps shall be thoroughly inspected by a qualified biologist prior to being moved or capped. If a listed wildlife species 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 in conformance with appropriate wildlife agency guidelines.

h. 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 listed wildlife species. If present, the animal shall be left to move on its own.

i. A speed limit of 15 miles per hour shall be enforced within the limits of the project site. If night work occurs on the project site, the speed limit will be 10 miles per hour.

j. Fueling of equipment shall take place within existing roads or disturbed areas. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.

k. Trash and food items shall be contained in closed containers to reduce the attractiveness to opportunistic predators such as common ravens, coyotes, and feral dogs.

l. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife.

m. Intentional killing or collection of any listed plant or wildlife species shall be prohibited.

n. Herbicides that may be used as vegetation control measures in project areas shall be restricted. All uses of such herbicidal compounds shall observe label and other restrictions mandated by the U.S Protection Agency, California Department of Food and Agriculture, and state/federal legislation as well as additional project related restrictions deemed necessary by the U.S. Fish and Wildlife Service or California Department of Fish and Wildlife. No rodenticides shall be used on the project site.

MM 4.4-4: During construction, operation and maintenance, and decommissioning, project work crews shall be directed to use industry accepted and standard construction best management practices (BMPs) consistent with the County zoning ordinances and with guidelines provided in the California Stormwater Quality Association's Construction Best Management Practice Handbook, where applicable, to avoid, minimize, and/or reduce potential construction-related impacts on biological resources. BMPs shall be monitored and repaired throughout the life of the project. The project proponent/operator and/or contractor(s) shall implement the general measures described below

a. BMPs shall be employed to prevent erosion in accordance with the Project's approved Stormwater Pollution Prevention Plan (SWPPP). Detected erosion shall be remedied as described in the Erosion Control Plan of the Stormwater Pollution Prevention Plan.

b. Fueling of equipment shall take place within existing roads. No refueling within or adjacent to drainages (within 150 feet) shall be permitted. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.

c. Any material/spoils generated from project activities shall be located away from jurisdictional areas and environmentally sensitive areas that are not slated for impacts

d. Jurisdictional areas and environmentally sensitive areas shall be 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.

e. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank of any jurisdictional areas and environmentally sensitive areas.

f. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned, and any contaminated materials properly disposed of. For all spills, the project foreman or designated environmental representative will be notified.

MM 4.4-5: Prior to the issuance of grading or building permits, the project proponent will conduct pre-construction botanical surveys to verify the location of alkali mariposa lily in the vicinity of the location where the species was potentially identified during botanical surveys and in potentially affected areas within 200 feet of that location.

a. If no alkali mariposa lilies are observed during the survey, project activities may begin, and no further mitigation shall be required.

b. If alkali mariposa lilies are observed during the survey, the areas shall be mapped and photographed, and appropriate measures shall be implemented to avoid impacts on the species to the extent feasible. The areas shall be clearly marked in the field with temporary high visibility ESA fencing or other appropriate markers. ESA fencing/markers shall remain in place throughout the duration of project construction and will be regularly inspected and maintained.

c. All alkali mariposa lilies that cannot feasibly be avoided in final project design shall have bulbs collected prior to construction. Additionally, an Alkali Lily Transplantation Plan will be submitted to and approved by the Kern County Planning and Natural

Resources Department, prior to ground disturbance and bulb collection. The plan will include the following:

i. Identify an area of occupied habitat either on-site or off-site to be preserved and where transplantation of bulbs will occur and methods for preservation, restoration, enhancement, and/or translocation.

ii. Indicate a replacement ratio and success standard of 1:1 for impacted individuals.

iii. Establish a monitoring program to ensure mitigation success.

iv. Create adaptive management and remedial measures in the event that performance standards are not achieved.

v. Ensure financial assurances and a mechanism for conservation of any mitigation lands required in perpetuity.

vi. Temporary ground disturbance associated with the transmission lines shall be recontoured to natural grade (if the grade was modified during the temporary disturbance activity) and revegetated with an application of a native seed mix prior to or during seasonal rains to promote passive restoration of the area to pre-project conditions. However, if invasive, non-native plant species were present, these species would not be restored. An area subjected to temporary ground disturbance means any area that is disturbed but will not be subjected to further disturbance as part of the project. This does not include areas already designated as urban/developed. Prior to seeding temporary ground disturbance areas, the qualified biologist will review the seeding palette to ensure that no seeding of invasive plant species, as identified in the most recent version of the California Invasive Plant Inventory for the region, will occur.

MM 4.4-6: To protect special-status wildlife species from disturbance during construction, the actions described below shall occur. Within a maximum of 14 days of the start of ground-disturbing activities, such as geotechnical drilling, vegetation clearing, and/or grading, the qualified biologist(s) shall conduct preconstruction surveys for special-status species within the Project site, as well as within a minimum of 500 feet (152 meters) from the Project site to account for any inadvertent impacts on adjacent areas. Methodology for preconstruction surveys shall be conducted as appropriate for desert tortoise, burrowing owl, desert kit fox, Swainson's hawk, loggerhead shrike, Le Conte's thrasher, and migratory birds, and shall follow USFWS and/or the CDFW survey protocol 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 would 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. Following the completion of the pre-construction desert tortoise surveys, the qualified biologist will prepare and submit to the USFWS, CDFW, and the Kern County Planning and Natural Resources Department a letter/memo summarizing the results of the surveys.

MM 4.4-7: The project site shall be fenced to keep terrestrial wildlife species from entering the project site during construction, but will provide openings post-construction to enable wildlife to move freely through the project site during operation (e.g., create 4- to 7-inch portals or openings in the fence raising the fence 7 inches above the ground and knuckling the bottom of the fence [i.e., wrapping the fencing material back to form a smooth edge] to protect wildlife passing underneath). A desert tortoise exclusion fence is not required unless desert tortoises are found on site during the preconstruction surveys. This 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 a qualified biologist at a regular interval 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. Outside temporarily fenced exclusion areas, the project 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.

MM 4.4-8: To mitigate for potential impacts on nesting birds, special-status birds, and birds protected under the MBTA and California Fish and Game Code during construction and decommissioning activities, the following measures shall be implemented:

a. During the avian nesting season (February 1–August 31), a qualified biologist shall conduct a preconstruction avian nesting survey no more than 14 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 14 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 qualified biologist be allowed to handle the nest or its eggs. The survey shall cover all reasonably potential nesting locations on and within 500 feet (152 meters) of the Project site, including ground nesting species, such as horned lark, nests in shrubs that could support nests, and suitable raptor nest sites such as nearby trees, windrows, and power poles. 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.

If active nests are found, a 100-foot (30-meter) no-disturbance buffer shall be created around non-listed avian species' nests unless adjusted by the qualified biologist based on the needs and sensitivities of individual species, and a 300-foot (91-meter) no-disturbance buffer shall be created around non-listed raptor species' nests (or a suitable distance otherwise determined in consultation with a qualified biologist). Any nest of a federally or

state listed bird species shall require consultation with the appropriate agency (USFWS or the CDFW) to determine the appropriate buffer distance surrounding the nest to provide adequate nest protection. These buffers shall remain in effect until a qualified biologist has determined that the birds have fledged or the 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 4.4-9: A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct preconstruction surveys of the permanent and temporary impact areas to locate active breeding or wintering burrowing owl burrows within 14 days prior to ground-disturbing activities (i.e., vegetation clearance, grading, tilling). 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 any potential burrows with fresh burrowing owl sign or presence of burrowing owls. Surveys may be conducted concurrently with desert tortoise preconstruction surveys. As each burrow is investigated, surveying biologists shall also look for signs of American badger and desert kit fox. Copies of the survey results shall be submitted to California Department of Fish and Wildlife and the Kern County Planning and Natural Resources Department.

As part of the preconstruction surveys a pre-construction survey with a 500-foot buffer to the extent property access is authorized should be conducted by a qualified biologist knowledgeable in the identification of burrowing owl, American badger, and desert kit fox. If dens and/or burrows that could support any of these species are discovered during the pre-construction surveys, the avoidance buffers outlined below should be established. No work would occur within these buffers unless the biologist approves and monitors the activity.

Burrowing Owl (active burrows):

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting Sites	4/1-8/15	200m	500m	500m
Nesting Sites	8/16-10/15	200m	200m	500m
Nesting Sites	10/16-3/31	50m	100m	500m

American Badger/desert Kit Fox:

- Potential or Atypical den – 50 feet
- Known den – 100 feet
- Natal or pupping den – 500 feet, unless otherwise specified by CDFW.

Burrowing Owl and American Badger

If burrowing owl or American badger are found within these recommended buffers and avoidance is not possible, burrow and/or den exclusion would be conducted by qualified

biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow and/or den is confirmed empty through non-invasive methods, such as surveillance. Replacement of occupied burrows with artificial dens and/or burrows shall occur at a ratio of one burrow collapsed to one artificial den and/or burrow constructed (1:1) to mitigate for evicting burrowing and the loss of dens and/or burrows. Species may attempt to colonize or re-colonize an area that will be impacted; thus, ongoing surveillance shall occur at excluded burrows and/or dens at a rate that is sufficient to detect species if they return.

Burrowing owls should not be excluded from burrows during the breeding season. During the non-breeding season burrowing owls shall not be excluded from burrows unless or until a Burrowing Owl Exclusion Plan is developed by a qualified biologist consistent with the recommendations of CDFW's 2012 Staff Report on Burrowing Owl Mitigation and submitted to the Kern County Planning and Natural Resources Department. If a qualified CDFW approved biologist has determined that a pair of owls is no longer actively nesting (e.g., the young have been taken by predators, or perished for some other reason), or where the juveniles are foraging independently and capable of independent survival, during the breeding season (February 1 through August 31), CDFW can be consulted about the use of passive relocation.

The plan shall include, at a minimum:

a. Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;

b. Type of scope to be used and appropriate timing of scoping to avoid impacts;

c. Occupancy factors to look for and what shall guide determination of vacancy and excavation timing (one-way doors should be left in place 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).

d. How the burrow(s) shall 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 no owls reside inside the burrow);

e. Removal of other potential owl burrow surrogates or refugia onsite;

f. Photographing the excavation and closure of the burrow to demonstrate success and sufficiency.

MM 4.4-10: To determine the presence and activity of any known or new nests of Swainson's hawk, a qualified biologist shall conduct nest surveys for Swainson's hawk prior to commencement of construction activities. The surveying biologist must be approved by CDFW and Kern County and be qualified to determine the status and stage of nesting by Swainson's hawk. An initial nesting season survey must be performed no more than 1 year prior to the commencement of construction activities. The surveys shall be conducted during the nesting season for Swainson's hawk (March 1 through September 15) within both the

construction footprint and within all accessible areas within a 5-mile buffer around the proposed construction areas. Areas within the 5-mile buffer that are not accessible shall be surveyed by binocular and spotting scope. The surveys can be phased with project build-out. The nesting season surveys shall follow the protocols set out in the CEC and CDFW Guidance (2010).

If construction activities are scheduled to be initiated during the nesting season, a qualified biologist shall conduct a pre-construction survey of all accessible areas within 0.5 mile of the construction site to determine the presence and activity of known or new Swainson's hawk nests. Inaccessible areas shall be surveyed by binocular and spotting scope. The preconstruction survey shall occur within 30 days prior to the start of construction. Depending on project timing, the pre-construction survey may not be necessary if the initial nesting season surveys overlap with the pre-construction survey timing or if construction activities will start outside of the Swainson's hawk nesting season (September 16 to February 28). The pre-construction nest survey shall follow the protocols set out in the CEC and CDFW Guidance (2010).

To the extent feasible, the project applicant shall design the project site to allow sufficient foraging and fledging area to maintain active Swainson's hawk nests located adjacent to the project site. The solar panels and infrastructure would be set back from Swainson's hawk nests at a distance determined after consultation with Kern County and CDFW. Avoided habitat would not count toward impacts used in determining compensatory mitigation requirements described below and may be used to satisfy mitigation requirements if protected by a conservation easement.

During the nesting season (March 1 through September 15), ensure no new ground disturbances, habitat conversions, or other project-related activities that may cause nest abandonment or forced fledging shall occur within 0.5 mile of an active nest. Buffer zones may be adjusted in consultation with CDFW and with the County.

If active Swainson's hawk nests are found within a 0.5-mile radius of the project site during the preconstruction surveys, the project proponent/operator shall mitigate the loss of any moderate quality Swainson's hawk foraging habitat for any portion of the project site within 5-miles of an active nest at a 0.5:1 ratio. Mitigation lands may be nested with other compensatory lands provided it meets the necessary biological requirements and as determined by appropriate wildlife agency.

MM 4.4-11: Preconstruction surveys for small mammals including Mohave ground squirrel and southern grasshopper mouse shall be conducted within all suitable habitat 14 days prior to initial ground-disturbing activities. If a Mohave ground squirrel is found on the construction site, work shall be halted and redirected to areas not supporting this species, and consultation with Kern County and CDFW shall occur. A written report shall be sent to CDFW within 5 calendar days of the sighting. The report shall include the date, time of the finding or incident (if known), and location of the animal. If a dead Mohave ground squirrel is encountered, the remains shall be collected, frozen as soon as possible, and CDFW shall be contacted to determine where the remains would be sent.

If Mohave ground squirrels are detected during any Project surveys, the applicant shall prepare a Mohave Ground Squirrel Avoidance and Monitoring Plan. If it is determined from surveys that Mohave ground squirrels are not present, no further action is required.

The Mohave Ground Squirrel Avoidance and Monitoring Plan shall include, at a minimum:

a. Specifications for designation of qualified Project biologists for conducting surveys and monitoring.

b. Methods for excluding Mohave ground squirrels from the work area, such as fencing.

c. Measures and procedures related to monitoring of construction for presence of Mohave ground squirrels.

d. A requirement to cease work if a Mohave ground squirrel is encountered in a work area.

e. Requirements for the worker environmental awareness training and education program training as it pertains to Mohave ground squirrels reporting requirements.

MM 4.4-12: The Project proponent/operator shall implement the following measures to ensure potential impacts on American badger and desert kit foxes resulting from Project construction, operation and maintenance, and decommissioning activities would be avoided and minimized to a less-than-significant level:

a. A qualified biologist shall be onsite during all initial grading and construction, preconstruction ground-disturbing activities, and decommissioning activities.

b. A qualified biologist (that is, a biologist with the ability to identify the species and possessing previous mammal survey and avoidance and minimization protection experience) shall conduct preconstruction surveys of all areas that would be permanently or temporary impacted, plus a 500-foot (152-meter) buffer, to locate unoccupied and occupied dens.

Unoccupied potential dens for desert kit fox or American badger shall have a minimum 30-foot (9-meter) avoidance buffer established.

1. An occupied den outside of the pup-rearing season shall be flagged and ground-disturbing activities avoided within 100 feet (30 meters) of the occupied den. An occupied den during the pup-rearing season, also known as a maternity den, should not be disturbed and a minimum 500-foot (152-meter) avoidance buffer established.

2. Desert kit fox pup-rearing season: February 1–August 1.

3. American badger pup-rearing season: March 15–July 31.

4. If outside the pup-rearing season an occupied den cannot be avoided, a passive relocation program can occur. The program shall consist of determining status of the den (confirming it is a nonmaternity den through remote camera monitoring), excluding American badger or desert kit fox from the occupied nonmaternity den by installation of one-way doors at burrow entrances, monitoring of the den for 7 days to

confirm usage has been discontinued, and excavation and collapse of the den. Passive relocation occurs by slowly excavating the burrow (either by hand or by mechanized equipment) under the direct supervision of a qualified biologist and removing no more than 4 inches (10 centimeters) of soil at a time. Passive relocation cannot occur during the pup-rearing season unless remote camera monitoring has documented the den as a non-maternity den. A written report documenting the passive relocation shall be provided to the Kern County Planning and Natural Resources Department within 30 days of relocation.

5. Dens or burrows that are determined to be inactive as determined by a qualified biologist within the Project site, shall be collapsed by a qualified biologist to prevent occupation of the den between the time of the preconstruction survey and construction activities.

MM 4.4-13: Prior to the issuance of a grading permit, the project proponent/operator shall develop a Joshua Tree Preservation Plan. The Plan shall be prepared by a qualified biologist pre-approved by Kern County and shall be approved by the appropriate agencies, including Kern County, prior to implementation. At a minimum, the plan shall identify the methods utilized, as applicable, that the project is taking to comply with any CDFW CESA and Western Joshua Tree Conservation Act take requirements and compensatory mitigation related to the protection or mitigation of impacted Joshua Trees and documentation of any such CDFW take authorization and mitigation shall be provided to the Kern County Planning and Natural Resources Department.

MM 4.4-14: Prior to the issuance of grading or building permits, a raven management plan shall be developed for the Project site in consultation with the USFWS and CDFW. This plan shall include but is not limited to:

a. Identification of all raven nests observed within the Project site during construction.

b. Weekly inspection under all nests in the Project site for evidence of raven predation on local wildlife (bones, carcasses, and the like), and, if evidence of predation is noted, submit a report to CDFW, USFWS, and the Kern County Planning and Natural Resources Department within 5 calendar days.

c. Provisions for the management of trash and water that could attract common ravens during the construction and operation phases of the Project.

The Project proponent/operator shall be required to participate in the regional comprehensive raven management plan to address biological resources; the Project proponent/operator shall be subject to compensation through the payment of a one-time fee not to exceed $150 and no less than $105 per disturbed acre, as established by the Desert Managers Group. Payment shall be made prior to starting construction activities. Evidence of the USFWS and/or CDFW determination and payment of any required fees shall be submitted to the Kern County Planning and Natural Resources Department.

MM 4.4-15: The project proponent/operator shall install power lines in conformance with Avian Power Line Interaction Committee (APLIC) standards for electrocution-reducing techniques as outlined in Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC, 2006), and the collision-reducing techniques outlined in Reducing Avian

Collisions with Power Lines: The State of the Art in 2012 (APLIC, 2012), or any superseding document issued by APLIC.

MM 4.4-16: During the operation and maintenance phase of the project, an Avian Mortality Monitoring Program shall be developed and implemented to systematically and periodically determine the extent of mortality occurring because of collisions with solar arrays. The measures listed below would apply to the program:

a. The Avian Mortality Monitoring Program shall be developed following the Mortality Monitoring Design for Utility-Scale Solar Power Facilities and include methods 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 bird (or any other wildlife) species including species, condition of the carcass, approximate age, presence of feathers, and the like.

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 of 1-year period following the commencement of the operation and maintenance phase of the project.

e. If, after 1 year of mortality monitoring, project impacts to any 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. 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, on site habitat management or control measures consistent with applicable legal requirements, or modification to support structures to exclude nesting birds.

MM 4.4-17:

a. Pre-construction surveys for Crotch's bumble bee and nests shall be conducted within all suitable habitat prior to initial ground-disturbing activities. Surveys shall follow the survey methodologies set out in the CDFW Survey Considerations for CESA Candidate Bumble Bee (CDFW, 2023d). The surveys can be phased with project build-out. The purpose of this survey will be to identify active nest colonies inside of permanent and temporary impact areas.

    i. If active Crotch's bumble bee nests are present within the project footprint or a 50-foot buffer surrounding the project footprint, an appropriate no disturbance buffer zone should be established around the nest to reduce the risk of disturbance or accidental take. The buffer will provide at least 50 feet of clearance around nest entrances.

ii. If establishment of a no-work buffer is feasible, construction activities will not occur within the no-work buffer until a qualified biologist determines that the colony is no longer active (i.e., no Crotch's bumble bees are seen flying in or out of the nest for three consecutive days indicating the colony has completed its nesting season and the next season's queens have dispersed from the colony). Once the nest has been determined inactive, construction activities within the no-work buffer(s) will be allowed to resume.

iii. If avoidance of the nest is not feasible, the project proponent/operator shall consult with the CDFW regarding potential for project activities to result in take of the Crotch's bumble bee and shall comply with all avoidance, minimization, and compensatory mitigation requirements set forth in any ITP issued for the project by CDFW authorizing take of the species.

b. Mowing shall be minimized as much as feasible. In areas where mowing is needed, the following measures to minimize potential take of Crotch's bumble bee will be followed: 1) mow outside of the blooming season, if feasible; 2) mow at the highest cutting height possible to avoid disturbing nests or overwintering queens; 3) avoid mowing from noon into the afternoon, the time of day when pollinators are most active; and 4) mow at speeds less than 8 mph.

c. During construction, operations, and decommissioning, vehicles onsite will not exceed a speed of 15 mph. This requirement will be posted with signage noted throughout the site.

d. All on-site personnel shall be required to attend the Worker Environmental Awareness Training Program that includes education program as it pertains to Crotch's bumble bee.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.1-1 through MM 4.1-3 and MM 4.4-1 through MM 4.4-17, impacts will 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 identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The project site does not support any riparian habitat. The project site is not located within designated final or proposed critical habitats for federally listed plant or wildlife species, nor is it located within or adjacent to critical habitats. The project would have no impacts to these resources and no measures are warranted.

The project site contains six non-sensitive plant communities: allscale scrub/disturbed allscale scrub, creosote bush - white bursage scrub, creosote bush scrub, disturbed rubber rabbitbrush scrub, cheesebush -

sweetbush scrub, non-native annual grassland. Impacts on these plant communities would be considered less than significant.

The project site contains four sensitive plant communities: white bursage scrub, Joshua tree woodland/disturbed Joshua tree woodland, spinescale scrub, and California buckwheat - Parish's goldeneye scrub.

White bursage scrub: This community occurs within Site 3 (Eastern) (118.99 acres) and Site 4 (Southern) (117.10 acres). Out of the 236.09 acres mapped during the surveys, about 220 acres of this community are anticipated to be impacted by the project. This vegetation community, as well as other white bursage-dominated vegetation types, are collectively widespread throughout the Mojave Desert, and the white bursage scrub alliance is not considered sensitive. White bursage is a common pioneer species in disturbed areas in the Mojave Desert, and is often found adjacent to roads, power lines, and off-highway vehicle use areas. Small-scale disturbances, such as blading, excavation, and spot fires may also result in the formation of small stands of this species (Prose et al., 1987). Such activities, which are known to occur within much of the project area, may explain the distribution of white bursage-dominated vegetation types within the project area. The stands of white bursage scrub in the project site have abundant invasive exotic species, have human-caused disturbance such as roads and excessive sheep grazing, and lack vigor and evidence of reproduction. Impacts to such low-quality stands would not result in adverse impacts to white bursage scrub statewide. Impacts would be less than significant.

Joshua tree woodland/disturbed Joshua tree woodland: This community occurs only within the gen-tie corridor at the far western end of the gen-tie line and south of the Windhub Substation. Potential impacts would result from construction of the western end of 230-kilovolt (kV) gen-tie line, disturbance due to pull sites needed for construction of the 500kv gen-tie line, and improvements to existing access roads if Joshua trees cannot be avoided. These impacts are not anticipated to be significant for the following reasons: 1) these onsite communities have been somewhat degraded by existing disturbance, including roads, sheep grazing, homeless encampments, refuse disposal, and colonization by invasive, and non-native plants which may diminish their conservation value; 2) avoidance of individual Joshua trees located in the Joshua tree woodland/disturbed Joshua tree woodland in some areas may be possible, given the nature of the proposed construction which includes the construction of a new transmission line, which has a much smaller overall footprint compared to the rest of the project; 3) removal of a small number of individual Joshua trees for gen-tie line construction within areas of Joshua tree woodland/disturbed Joshua tree woodland is anticipated to be necessary; however, the removal of a limited number of trees within those areas is not expected to diminish the integrity of affected Joshua tree woodland/disturbed Joshua tree woodland because the vast majority of individual Joshua trees would remain, and operation and maintenance of the gen-tie lines (both 230 kV and 500 kV) would not impact the remaining Joshua trees; and 4) the specific pole locations will be determined during final engineering design and, to the extent feasible, only those trees within the 230-kV gen-tie utility pole footprints or w/in pull sites that cannot be avoided will be removed.

Potentially significant impacts to this natural community resulting from the removal of limited numbers of individual Joshua tree would be reduced to less than significant levels through implementation of Mitigation Measure MM 4.4-13, which requires the project proponent to develop and implement a Western Joshua Tree Preservation Plan, obtain incidental take authorization from CDFW for all Joshua trees that would be removed as a result of project development, and comply with the avoidance, minimization and compensatory mitigation requirements of any Joshua tree take authorization issued by CDFW, the project proponent/operator will also implement the following measures to further avoid, minimize, and/or reduce impacts: Mitigation Measures MM 4.4-1 through 4.4-4, MM 4.1-1, MM 4.1-3, MM 4.3-2, MM 4.3-3, and

MM 4.9-2. With implementation of these mitigation measures, impacts to Joshua tree woodland/disturbed Joshua tree woodland would be reduced to less than significant. Impacts on "individual" Joshua trees are discussed in the above special-status plant section.

Spinescale scrub: The majority of spinescale scrub occurs within Site 4 (Southern) (16.50 acres), with only a small patch within Site 3 (Eastern) (0.41 acre). The project is anticipated to impact approximately 0.43 acre of the spinescale scrub (out of the 16.91 acres mapped during surveys). The entire patch (0.41 acre) within Site 3 is anticipated to be impacted as a result of solar array construction; however, only 0.02 acre within Site 4 (Southern) is anticipated to be impacted. These impacts would be considered less than significant because approximately 16.48 acres of spinescale scrub will be avoided. Thus, the area of spinescale scrub avoided within the project site versus the area impacted exceeds a ratio of 38:1. Additionally, over 353 acres of spinescale shrub can be found within approximately 1 mile of the project site in the Mojave Desert; therefore, the project will not result in a substantial reduction in the size of the spinescale scrub within the project site or project vicinity. The impacts on spinescale scrub are small and restricted in nature compared to the remaining spinescale scrub in the project area. Finally, this community has been somewhat degraded by existing disturbance, including roads, sheep grazing, homeless encampments, refuse disposal, and colonization by invasive, and non-native plants which may diminish its conservation value. Impacts would be less than significant.

California buckwheat - Parish's goldeneye scrub: This community is only located within the gen-tie corridor adjacent to the Windhub Substation (approximately 0.88 acre). This community could be impacted by gen-tie construction activities adjacent to Windhub. This community has been somewhat degraded by existing disturbance, including roads, sheep grazing, homeless encampments, refuse disposal, and colonization by invasive, and non-native plants which may diminish its conservation value. However, avoidance of this community may be possible, given the nature of the proposed construction which includes the construction of a new gen-tie line, which has a small overall footprint. Given the relatively low level of impact and the small size of the project footprint within the California buckwheat - Parish's goldeneye scrub, impacts would be less significant.

Aquatic Features: The project site contains four types of aquatic features (channels, playas, swales, and a wash). The project may have direct impacts on aquatic features and jurisdictional areas when land is cleared for permanent development and these areas are altered during project construction activities. Implementation of the project could also result in indirect impacts on adjacent aquatic features and jurisdictional areas that are not directly impacted by construction. Alteration of drainage patterns could affect downstream areas by redirecting flow and runoff. Construction-related pollution, airborne fugitive dust, erosion, runoff, siltation, sedimentation, and soil compaction could adversely affect aquatic features and jurisdictional areas. Indirect impacts also include the introduction and spread of invasive, exotic plants which could result in permanent indirect impacts on aquatic features and jurisdictional areas. These impacts are considered potentially significant These impacts would be reduced through implementation of the Project's SWPPP per Mitigation Measure MM 4.10-1, which 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 also 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 4.10-2 would require the submittal of a final drainage plan for the project and would evaluate and minimize potential

increases in runoff and ensure that the retention basins and other stormwater management features are implemented consistent with existing regulatory requirements. With these mitigation measures, impacts would be reduced to less than significant.

Of the aquatic features observed, only the channels are anticipated to be jurisdictional (Waters of the State and CDFW jurisdictional areas). All or portions of these jurisdictional areas are located within the project footprint and could be directly impacted by the project. Impacts would be considered significant, but would be reduced to less than significant levels through implementation of Mitigation Measures MM 4.10-1 and MM 4.4-18. If jurisdictional areas are to be impacted, the project proponent/operator will implement Mitigation Measure MM 4.4-19 to help avoid, minimize, reduce, and/or mitigate impacts on these potential jurisdictional areas. Prior to any impacts on jurisdictional Waters of the State, the project proponent/operator shall prepare and submit an application permit package to the RWQCB and obtain WDRs from the RWQCB pursuant to Porter-Cologne. Prior to any impacts on CDFW jurisdictional areas, the project proponent/operator shall consult with the California Department of Fish and Wildlife on the need for a streambed alteration agreement pursuant to sections 1600-1616 of the CFGC. Compensatory mitigation for permanent impacts on jurisdictional areas shall be identified prior to disturbance of jurisdictional areas. No mitigation is necessary for temporary impacts associated with the project, as temporary impacts would not impede the flows, width, or current gradient of any mapped drainages. The permits (WDRs and SAA) will mandate BMPs, avoidance and protection measures, and/or compensatory mitigation ratios and other measures for impacts on jurisdictional areas. Compliance with permits issued for the project by the RWQCB and CDFW, and implementation of the measures required by the permits would offset the loss of jurisdictional Waters of the State and CDFW jurisdictional areas and mitigate the project's impacts. The project proponent/operator will implement the following Mitigation Measures MM 4.10-2, MM 4.4-18, and MM 4.4-19. With implementation of the mitigation measures described above, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.10-1, MM 4.10-2, MM 4.4-18 and MM 4.4-19 will be required.

MM 4.4-18: Prior to issuance of any grading or building permit, the project proponent/operator shall submit to Kern County a jurisdictional delineation report detailing all identified ephemeral drainages within the project boundary. The report shall include information as shown below as a plan if necessary and shall outline compliance with the following:

a. Clearly identify jurisdictional features identified in the jurisdictional delineation that cannot feasibly be avoided. This may be shown in plan form.

b. Any material/spoils generated from project activities shall be located away from jurisdictional areas or special-status habitat 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. Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage from contaminating the ground and generally at least 50 feet from the top of bank.

d. Any spillage of material will be stopped if it can be done safely. The contaminated area will be cleaned and any contaminated materials properly disposed. For all spills, the project foreman or designated environmental representative will be notified.

MM 4.4-19: 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 the California Department of Fish and Wildlife on the need for a streambed alteration agreement. Copies of the final report 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 jurisdictional streambeds/washes shall be identified prior to disturbance of the features at a minimum 1:1 ratio, as approved by the Regional Water Quality Control Board or California Department of Fish and Wildlife 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 offsite, mitigation lands shall be comprised of similar or higher quality and preferably located in Kern County. 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. Alternatively, the applicant may purchase credits from an approved mitigation bank.

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 4.4-10-2, MM 4.4-18, and MM 4.4-19, impacts will be less than significant.

Impact 4.4-3: The project would have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Wetlands, marshes, and vernal pools as defined by USACE are absent from the project site; therefore, impacts on federally protected wetlands will be less than significant. Impacts to state jurisdictional waters are discussed under Impact 4.4-2.

Mitigation Measures

No mitigation measures will be required.

Level of Significance

Less than significant.

Impact 4.4-4: The project would interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Permanent aquatic features that support fish are absent from the project site; therefore, impacts on fish and fish spawning habitats will not occur. In addition, native wildlife nursery sites are absent from the project site; therefore, impacts to wildlife nursery sites will not occur.

The project site is not located within or adjacent to a CDFW designated Essential Connectivity Area (ECA) or Natural Landscape Block (NLB). The nearest NLB is an unnamed NLB (ID# 177) located approximately 7.1 miles north of Site 2 (Western) and 4.8 miles north of the Windhub Substation within the Tehachapi Mountains. The nearest ECA is the Tehachapi Mountains - Piute Mountains/Scodie Mountains ECA located approximately 2.0 miles west of the substation, also within the Tehachapi Mountains. Therefore, the project site is located outside of an identified essential regional wildlife linkage. Further, the project site is not located within or adjacent to a South Coast Missing Linkages Wildlife Corridors or a Desert Linkage Network. Impacts on designated wildlife corridors or on identified essential regional wildlife linkages will not occur.

Connections of habitat (wildlife corridor) that joins two or more larger areas of similar habitat that would otherwise be fragmented or separated from each other, are absent from the project site. In addition, wildlife crossings are also absent from the project site; therefore, impacts will not occur on wildlife corridors or wildlife crossings. Impacts on wildlife and their movement within or adjacent to project work sites may be elevated during construction, but these impacts will be temporary. Species would be expected to re-occupy adjacent habitats following completion of construction. While the project will introduce structures and features to the project site that could physically impede wildlife movement in certain areas and directions, potential long-term direct and indirect impacts on wildlife movement are not likely to be significant because abundant adjacent lands will remain available for wildlife movement after project development, including for desert tortoise. All access roads associated with the gen-tie line will result in more vehicle use; however, wildlife will be able to pass across these roads freely, since traffic will still be sparse. Fencing will allow wildlife, such as desert kit fox, to move through the site. Wildlife movement through or around the project site (i.e., perimeter or desert tortoise fencing) will still be possible. Additionally, project lighting would comply 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 4.1-6, which requires compliance with Kern County's Dark Skies Ordinance to minimize nighttime lighting in unincorporated areas of Kern County. As a result, development of the project will not restrict local or regional wildlife movement. Therefore, the project is not expected to adversely impact wildlife movement and potential impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Less than significant.

Impact 4.4-5: The proposed project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Studies of the biological resources associated with the project site were conducted and reports were prepared to comply with the policies and programs described within Kern County General Plan. As currently designed, the proposed project is considered consistent with the Kern County General Plan. The project will implement mitigation measures to reduce potential project-related impacts to sensitive biological resources including special-status species, sensitive plant communities, and jurisdictional features. Impacts of these resources are discussed above.

Kern County does not have a tree protection ordinance; therefore, impacts on Kern County protected trees will not occur. The County promotes the preservation and management of oak woodlands and individual oaks in its General Plan. The project site does not support oak woodlands or individual oak trees; therefore, impacts will be less than significant. The Mojave Specific Plan and Soledad Mountain Elephant Butte Specific Plan encourage the preservation of Joshua trees and Joshua tree woodlands. As discussed above, the project will be designed to avoid as many Joshua trees as feasible. However, for Joshua trees that cannot be avoided, the project would obtain take coverage under the WJTCA. Impacts to Joshua tree woodland would be less than significant. The project will also comply with Mitigation Measure MM 4.4-13 for

impacts to Joshua tree. Thus, the project would be consistent with the Mojave Specific Plan and Soledad Mountain Elephant Butte Specific Plan.

Mitigation Measures

Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-19 will be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.4-1 through 4.4-19 to protect biological resources, conflict with local policies or ordinances will be less than significant.

Impact 4.4-6: The project would 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 is located within the boundaries of two conservation plan areas: the West Mojave Plan (WEMO Plan) and the DRECP. At this time, the WEMO Plan and DRECP are applicable only to Bureau of Land Management (BLM)-administered public lands within their boundaries. Although the project site is within the WEMO Plan and DRECP plan areas, it is not encompassed within BLM-administered lands; therefore, there would be no impact.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

No impact.

SCE Transmission Line Relocation and Interconnection Work

Southern California Edison (SCE) will relocate a 66-kV transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. Impacts associated with construction of the SCE facilities are expected to encompass a relatively small footprint and minimal ground disturbance. SCE's standard best management practices and APMs include preconstruction biological resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant biological resources that might be discovered. Further, there are no jurisdictional waters or riparian habitat within the SCE right-of-way. The SCE line relocation and interconnection work would not impact any wildlife

movement corridors or native wildlife nursery sites or conflict with any local, regional, or state policies, plans, or ordinances. Impacts would be less than significant.

4.4.5 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 would be less than significant with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-19.

There are several proposed, existing, and permitted solar energy and transmission projects in the region where the project site is located. As shown in Figure 3-5, *Surrounding Solar Projects*, in Chapter 3 of this EIR, the Sanborn Solar project is located between Sites 1 (Northern), 2 (Western), and 3 (Eastern) and to the west and south of Site 4 (Southern). The Edwards Solar project is located approximately 1 mile south of Site 4 (Southern). The RE Camelot Solar project, RE Columbia Two Solar project, RE Columbia Three Solar project, and RE Rio Grande Solar project are operational and adjacent to Site 2 (Western). The Windhub Solar project and the SEPV Solar project, approximately 5 miles to the west, are currently operational, as are the Rosamond One, Rosamond Two, and Catalina Solar projects to the southwest.

As large-scale energy projects and urbanization pressures increase within Kern County, impacts to biological resources within the region are expanding on a cumulative level. As described in **Table 3-6,** *Cumulative Projects List*, several projects, including other utility-scale energy production facilities, are presently underway or proposed within the Antelope Valley. In general, bioregions are defined through physical and environmental features, including watershed boundaries and soil and terrain characteristics. Areas to the north and west of the Tehachapi Mountains, and to the south of the San Gabriel Mountains, are within a different bioregion and are separated from the project site by the natural geography that these ranges present. SR-14, at the eastern end of the Western Antelope Valley, also acts as a barrier to wildlife movement (Penrod et al., 2012).

Several special-status species 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, desert tortoise, raptors, American badger, and desert kit foxes. 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 number of present and reasonably foreseeable future development projects in the Antelope Valley, the project, when combined with other projects, would have an incremental contribution to cumulative loss of foraging and nesting habitat for special-status species. Implementation of Mitigation Measures would reduce impacts to biological resources to less-than-significant levels on the project-level scale. However, the project, when combined with other related development projects proposed throughout the County, the cumulative impact would be significant and unavoidable.

The project would contribute to cumulative impacts to special-status plant species, including the alkali mariposa lily, and Western Joshua Tree; however, after implementation of MM 4.4-1 through 4.4-17, which

includes pre-construction surveys, avoidance, and translocation/salvage measures, and other compensation via the WJTCA, the project's contribution of impacts to special-status plant species would be less than significant.

In addition, common raven numbers have grown substantially in the past few decades in the western Mojave Desert. 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 are such that they pose a serious threat to many desert species. Additionally, 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, is potentially significant. However, the contribution of the project with mitigation incorporated as described in Mitigation Measure MM 4.4-14 would not be cumulatively considerable because project impacts to special-status wildlife would be reduced.

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 effect within the Central Valley portion of the Pacific Flyway for the duration of the project. Identified cumulative projects that involve the installation of photovoltaic panels and transmission lines 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 "lake effect." However, evidence suggests that significant impacts to migratory birds could occur even after mitigation due to collision with PV panels or other project structures causing mortality or injury. Further, as take authorization for migratory bird species is not available, any population level mortality of migratory birds would be considered significant under CEQA. Therefore, the project, in combination with all identified cumulative projects, would result in a cumulatively significant impact on migratory birds that may remain significant and unavoidable after implementation of mitigation.

Mitigation Measures

Implementation of Mitigation Measures MM 4.1-5, MM 4.4-1 through 4.4-19, and MM 4.10-1 and MM 4.10-2 would be required.

Level of Significance after Mitigation

Despite implementation of the above mitigation, cumulative impacts would be significant and unavoidable to special-status plant and wildlife species, including Joshua tree, desert tortoise, burrowing owl, raptors, loggerhead shrike, Le Conte's thrasher, desert kit fox, bats, and migratory birds known to occur or with potential to occur on the project site.

Section 4.5
Cultural Resources

4.5.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the Enterprise Solar Storage Project (project) for impacts that may affect cultural resources. It provides contextual background information on cultural resources in the project site, summarizes the results of cultural resources investigations conducted for the project, describes the regulatory setting, and discusses the need for mitigation measures where applicable. Native American consultation conducted by the County for purposes of compliance with California Environmental Quality Act (CEQA) requirements prompted by Assembly Bill (AB) 52 and Senate Bill (SB) 18, as well the project's potential impacts on tribal cultural resources, are addressed in Section 4.16, *Tribal Cultural Resources*, of this EIR.

The information in this section is based primarily, but not exclusively, on a review of cultural resources technical reports prepared by Jacobs Engineering Group Inc. (Jacobs) and Statistical Research, Inc. (SRI), including:

- *Enterprise Solar Storage Project, Cultural Resources Assessment, Kern County, California* (Jacobs, 2022), included as Appendix F of this EIR
- *Supplemental Cultural Resource Memorandum for the Enterprise Solar Storage Project* (Jacobs, 2023a), included as Appendix F1 of this EIR
- *Cultural Resources Memorandum for High Voltage Work near Windhub Station* (Jacobs, 2023b), included as Appendix F2 of this EIR
- *Supplemental Cultural Resources Inventory and Evaluation Report for the Enterprise Solar Project, Kern County, California* (SRI, 2023), included as Appendix F3 of this EIR

The cultural investigations were conducted to comply with the California Public Resources Code (PRC) Chapter 2.6, Sections 21083.2 to 21084.1, and the CEQA *Guidelines*, California Code of Regulations (CCR) Title 14, Chapter 3, Sections 15000 to 15387. Due to the culturally sensitive nature of the information in the reports, the technical reports are not included as appendices to this analysis (pursuant to CCR § 15120(d)). The results of the reports are provided in this section.

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 riverbeds, and in estuaries.
- **Archaeological site**: A site is defined as the place or places that are at least 50 years old 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 that are generally at least 50 years old, 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 of traditional cultural or religious importance to social or cultural groups.
- **Ethnographic**: Relating to the study of human cultures. "Ethnographic resources" represent the heritage resources 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 nonnative 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 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 (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.
- **Holocene**: Of, denoting, or formed in the second and most recent epoch of the Quaternary period, which began 11,700 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 (PRC 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.
- **Tertiary Period**: The geologic period prior to the Quaternary Age. It spans from about 66 million years ago to 2.588 ± 0.005 million years ago.
- **Tribal Cultural Resource**: These are defined in 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 or determined by the lead agency, based on substantial evidence, to be significant based on the criteria in PRC Section 5024.1, subdivision (c). (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.

4.5.2 Environmental Setting

General Setting

The project site lies at the western edge the Antelope Valley in the Western Mojave Desert geomorphic province (CGS, 2002). The Mojave Desert province is characterized primarily by a broad interior region of isolated mountain ranges separated by expanses of desert plains. The Mojave Desert province is wedged between the Garlock Fault and the San Andreas Fault, which have uplifted the surrounding mountains relatively rapidly, isolating the Mojave Desert from the Pacific Coast and creating the interior drainage basins of the western Mojave Desert, such as the Antelope Valley. The west end of the Antelope Valley is

defined by the Tehachapi and San Gabriel Mountains, forming the V-shaped basin of the western Mojave Desert.

The Antelope Valley floor is mantled in thick deposits of Quaternary alluvial and lacustral (lakebed) sediments that have filled the West Antelope, East Antelope and Kramer structural basins. The alluvial sediments are subdivided into two units: older (Pleistocene) Quaternary sediments, and younger (Holocene) alluvial surface deposits. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years.

Paleoenvironment

During the late Pleistocene age, fossil evidence suggests that the Antelope Valley was inhabited by numerous large mammalian species including sloths, horses, bears, mammoth, bison, camels, as well as prong-horned antelope. Large carnivorous species included saber-toothed cats, wolves, mountain lions, desert coyotes and foxes, while smaller animals included rodents, 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. Evidence suggests that the plant and animal communities that exist within the Antelope Valley today did not become established until after 4,300 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 technology, artifact types, economic systems, trade, 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 (10000 to 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, and recent excavations at Rosamond Lake in the Antelope Valley to the south have documented a terminal Pleistocene/Early Holocene occupation. 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 radiocarbon years before present (Way, 2009).

Lake Mojave Complex (8000 to 6000 B.C.)

In terms of material culture, the Lake Mojave Complex is typified by stone tools such as 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.

Pinto Complex (6000 to 3000 B.C.)

Archaeological deposits dating from 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 stream or water resources. 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 include roughly formed projectile points, "heavy-keeled" scrapers, choppers, and a greater prevalence of flat millingstones and manos, indicating a 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). A number of Pinto sites have been recorded in the Antelope Valley, including at least six at Edwards Air Force Base (Price et al., 2008).

Gypsum Complex (c. 2000 B.C. to A.D. 200)

Many archaeological sites of this period are small and surficial, probably of a temporary nature. It is during this time, however, that more archaeological evidence suggestive of inter-tribal trade appears, particularly between the desert and the coast. 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 Period include Humboldt Concave Base, Gypsum Cave, Elko Eared, and Elko Corner-notched projectile points (Warren, 1984).

Rose Springs Complex (c. A.D. 200 to 1200)

The general cultural pattern for this period is a continuation of that of the preceding Gypsum Period. 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 by way of shell beads and steatite, as well as an introduction of Anasazi influence from the eastern Great Plains as evidenced by 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, 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 to 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. Near the project site, trade routes have been postulated as running along the foothills on the southern border of the Antelope Valley and along the Mojave River (Sutton, 1988). The Antelope Valley sat at a convenient geographical location for controlling trade, between the Great Basin and the southern coastal region (Sutton, 1988).

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 millingstones, 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

The project is in the territory associated with the Kitanemuk, Serrano, and Vanyume people (Blackburn and Bean, 1978). The Kitanemuk were a small group that primarily inhabited the Tehachapi Mountains, but in cooler months of the year they ranged into the arid lowlands to the south that include the project site and surrounding area. They spoke a Serran language of the Takic family, which is now extinct (Bright, 1975). The subsistence strategies of the Kitanemuk are thought to differ little from that of the nearby Yokuts to the North and Chumash to the west. The Yokuts lived in one principal settlement, periodically leaving the settlement during the spring floods to move to higher ground, dividing into smaller groups during different harvesting seasons (Wallace, 1978). The Yokuts subsisted on fish, mussels, pond turtles, waterfowl, tule elk, pronghorn antelope, jackrabbits, squirrels, quail, acorns from valley oaks, and tule roots that were ground into meal and cooked as a thick soup or gruel. The Chumash were a large and diverse group containing multiple linguistic-geographic entities. The Interior Chumash, located closest to the Kitanemuk, interacted with, and acquired traditions from, the Yokuts (Grant, 1978). Records indicate that the Kitanemuk primarily moved into the Missions San Fernando, San Gabriel, and possibly Ventura, but that

some were present at Fort Tejon during the 1850s and later likely resided on the Tule River Reservation (Blackburn and Bean, 1978).

The Serrano occupied the area east of present-day Los Angeles (Bean and Smith, 1978). Due to Serrano sociopolitical organizational features and a lack of reliable data, it is nearly impossible to assign definitive territorial boundaries. According to Strong (1929), the Serrano were organized into autonomous localized lineages that occupied discrete territories, but rarely claimed territory far from the lineage's home base. Like their neighbors, the Serrano primarily subsisted by hunting and gathering, and occasionally by fishing (Bean and Smith, 1978). The primary food staples varied depending upon location, but often consisted of acorns and piñon nuts in the foothills and honey mesquite and piñon nuts plus yucca roots, mesquite, and cacti fruits in or near the desert. Game animals typically consisted of deer, mountain sheep, antelope, rabbits and other small rodents, and various birds. Between 1819 and 1834, most of the western Serrano were forcibly moved to the missions, after which too few remained to reestablish their native lifeways (Bean and Smith, 1978).

Very little is known about the Vanyume, who occupied the territory north of the Serrano. They likely had similar lifeways to the Serrano, but they are believed to have differed politically from the Serrano (Bean and Smith, 1978). The Vanyume, who were never a large group, dwindled rapidly in size between 1820 and 1834 during the Mission Period.

Historic Context

European 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 Jedediah Smith, who crossed the Mojave along the Mojave Trail in 1826. Ewing Young and Kit Carson followed his route in the 1820s and 1830s. Kit Carson, who had participated in Jedediah Smith's 1828 expedition, later was the guide for John C. Fremont in 1844. This expedition was one of the first to document the Antelope Valley in detail.

American Period Settlement

Following the signing of the Treaty of Guadalupe Hidalgo in 1848, which ended the Mexican War, the United States took possession of what is now California. The discovery of gold in California in 1848 led to the start of the California Gold Rush the following year, and the region experienced rapid growth. The first settlers moved into the Antelope Valley in the 1860s, settling primarily in the Elizabeth Lake region and the southern foothills of the Tehachapi Mountains (Whitley et al., 2017). Their industry primarily consisted of ranching, but with the development of the Cerro Gordo silver mine in Inyo County in 1868 the Antelope Valley became a major thoroughfare for the movement of bullion and goods between Los Angeles and the Owens Valley. Shortly after the establishment of the first permanent school in the region, a number of settlers' colonies sprang up within the valley. However, the major impetus to settlement resulted with the completion of the Southern Pacific Railroad (SPRR) through the valley in 1876, leading to the establishment of Mojave and the nearby communities of Rosamond, Lancaster, and Palmdale (Jacobs, 2022).

In 1862, the Homestead Act was passed, allowing settlement of public lands and requiring only residence, improvement, and cultivation of the land. Although settlement had been encouraged by the Homestead Act of 1862 and the Desert Land Act of 1877, which permitted disposal of 640-acre tracts of arid public lands at $1.25 per acre to homesteaders if they proved reclamation of the land by irrigation, the Antelope Valley did not see much growth until after the coming of the railroad (Boyd, 2000).

In the 1880s, a number of groups established colonies in the Antelope Valley, including the Quakers, German Lutherans, and Utopian Socialists. However, fluctuating water levels and years of severe drought brought a quick end to many of these colonies. By 1930, over 80 settlements had been established in the region, most along railroad lines. The town of Rosamond was established in 1877 along the Southern Pacific line and named for the daughter of a Southern Pacific executive (Gudde, 1960).

Mojave

The SPRR laid out Mojave as a residential camp for railroad employees at the time the rail went through the area in 1876 (Whitley et al., 2017). The town consisted of a few wooden shacks but quickly attracted new residents as it emerged as a transportation hub in the region. An additional SPRR line reached Mojave in 1882 and was acquired by the Atchison, Topeka, and Santa Fe Railway (ATSF) in 1884. The town also was important for the shipment of borax. Beginning in 1883, mule teams hauled wagons of borates to the railhead at Mojave. In 1889, a spur line leading to the Pacific Coast Borax Company was completed, replacing earlier mule teams (Stringfellow, 2016; Whitley et al., 2017).

Additional growth of Mojave during the 20th century was fueled by the ever-increasing mining activities at Standard Hill and Soledad Mountain south of town. Construction of the Los Angeles Aqueduct between 1907 and 1913 also brought thousands of workers to the region, spurring another boom period in Mojave (Morgan 1914; Whitley et al., 2017). The aqueduct extended approximately 2 miles west of Mojave (Water Department of the City of Los Angeles, 1908). Mine and aqueduct crews frequented the town's many saloons and brothels, which reportedly outnumbered churches ten to one (Whitley et al. 2017).

Land within the area was platted in 1856 (BLM, 2023). Jacobs' review of an 1898 map showing property owners in Kern County indicates that the SPRR owned almost all the land within the area at that time (Jacobs, 2022; Congdon, 1898). Indeed, the map shows that the SPRR owned much of the land surrounding Mojave. Other property owners within the area included W. Cannon, who owned Township 11 North, Range 12 West, Section 25; research did not uncover any information on Cannon (Jacobs, 2022).

Development in Mojave historically has been concentrated around the SPRR depot erected there in 1876, not on the outskirts of town where the project is located (Jacobs, 2022).

Mining

In the Antelope Valley, mining played a significant role in the development of the area. Kern County was known for its gold production, primarily from its two most prominent mines: the Yellow Aster in Randsburg, and the Golden Queen near Mojave (Shumway et al., 1980). In addition to gold, early mining also concentrated on borax and later potash. In 1866, the Mining Act declared all mineral lands of public domain free and open to exploration and occupancy.

A prominent Antelope Valley mining site was Standard Hill, located within the Mojave mining district (Troxel and Morton, 1962). The Mojave district comprised about 70 square miles of primarily gold and silver mines. Gold was first discovered within the district in 1894 by George Bowers, at the site of the Yellow Rover Mine on Standard Hill. Production continued until 1914, when most of the district's mines ceased to operate. However, the onset of the Great Depression in 1929 led to a surge in mining activity in the Mojave Mining District (Troxel and Morton, 1962). An increase in the price of gold in 1934 brought a rush of prospectors to the district, and by 1935 the district was again flourishing (Miller and Miller, 1976). The district had its heyday in the 1930s and early 1940s, and produced more than $12 million in gold and silver in the 10-year period between 1932 and 1942 (Shumway et al., 1980). Mining continued until the onset of World War II, when Executive Order L-208 forced the closure of all gold mines, in order to shift the mining workforce to other, more essential war-related commodities. Total production in the District, as of 1958, was more than $20 million in gold and silver (Troxel and Morton, 1962).

Standard Hill was home to a number of prominent mines, including the Yellow Rover, Exposed Treasure, and Desert Queen mines. These mines, collectively referred to as the Standard Group of Mines, were the site of the first gold discovery in the Mojave district. In 1901, a 20-stamp mill and cyanide plant were erected in order to process the mined ore (Troxel and Morton, 1962). The Standard Group of Mines produced approximately $3,500,000 in gold between 1884 and 1958.

Review of topographic quadrangles shows some mine shafts within the project area (Jacobs, 2022). This includes shafts associated with the Lucky Dog Mine, which appear to fall partially within Site 4 (Southern). They are located on a small hill just south of the current Burlington Northern Santa Fe (BNSF) Railroad line, approximately 0.7 mile north of De Stazo Hill, in the southern half of Township 11 North, Range 11 West, Section 30. Lucky Dog Mine is first labeled in the 1943 Mojave 7.5-minute map, which does not show any shafts. The subsequent 1956 and 1973 Mojave 7.5-minute maps show four shafts accessed by a dirt road. Only one shaft is shown in the 1980 Sanborn 7.5-minute map, and no shafts are depicted in the 1992 Mojave 7.5-minute map. In addition, topographic quadrangles show a single shaft in the Site 3 (Eastern) in the southwest quadrant of Township 11 North, Range 11 West, Section 30, near the intersection of 25th Street and Sunset Avenue. The shaft appears in the 1956 Mojave and 1973 and 1980 Sanborn 7.5-minute maps. Nearby (outside the project site), two shafts also appear on Sanborn Hill in the 1973 and 1980 Sanborn 7.5-minute maps. The disappearance of the mine shafts from 1992 onward suggests that they were defunct and have been filled in. Research did not uncover additional information on these shafts, including any information on Lucky Dog Mine (Jacobs, 2022).

The late 1800s also witnessed a borax boom in Southern California. Borate mining began in Southern California in the early 1870s. Given its remote location, however, mining operations were not feasible until the arrival of the railroad. The Harmony Borax Works opened near Furnace Creek, California, in 1881.

Beginning in 1883, mule teams hauled borax ore from the mine to the nearest railhead at Mojave, a distance of approximately 162 miles to the southwest, where it was transferred to train. The Harmony Borax Works closed in 1888 after its supplies were stripped, but other mines in the area continued borax production. This included the Pacific Coast Borax Company Mine in Calico, California, approximately 70 miles east of the project site. In 1889, a spur line leading to the Pacific Coast Borax Company was completed, eliminating the need for mule teams (Jacobs, 2022; Stringfellow, 2016; Whitley et al., 2017).

Agriculture

Agriculture and ranching were the primary economic focus of homesteaders in the Antelope Valley. During the initial wave of settlement in the 1880 and 1890s, dry-farming methods proved fairly successful. However, this was in large part because these were unusually wet years. A severe drought between 1894 and 1904 brought an end to most agricultural enterprises. After the drought, irrigation was used with some success, particularly for the cultivation of alfalfa, which became the valley's primary crop (COLA Public Library, n.d.). However, the lack of reliable water prevented agriculture from becoming a major industry. Farms were generally located near dependable sources of water such as rivers or springs. Some farmers, however, used wells for irrigation or located their farms near dry lake beds, which periodically flooded during the wet season.

Based on historic maps and aerials, a small orchard and reservoir, presumably used for irrigation, were historically located within the project site (Jacobs, 2022). The orchard and reservoir first appear in a 1972 aerial, the first available for the area. The orchard is also depicted in the 1973 and 1980 7.5-minute Sanborn maps, which do not show the reservoir. Neither the orchard nor the reservoir is visible in the next available aerial from 1983. Review of topographic maps and aerials indicate there are no other orchards or farms visible within the project site. Further, there are no obvious ranches within the project site labeled or visible on historic-period maps and photographs, although the De Stazo Ranch is identified in the 1943 and 1956 Rosamond 7.5-minute maps just outside of Site 4 (Southern), on the opposite side of De Stazo Hill (Jacobs, 2022).

4.5.3 Existing Cultural Resources

Methods Used to Identify Known Cultural Resources

To evaluate the project's potential effects on significant cultural resources, Jacobs and SRI conducted cultural resources assessments for the project, which included records searches, historic research, pedestrian surveys, and subsurface testing (SRI 2023; Jacobs, 2023a; Jacobs, 2023b; Jacobs, 2022). The methodology and results of these assessments are summarized below.

In accordance with the CEQA, cultural (historical and unique archeological resources) and tribal cultural resources were identified using the following methods:

- A California Historical Resources Information System (CHRIS) records search via the Southern San Joaquin Valley Information Center (SSJVIC) housed at the California State University, Bakersfield;

- A review of properties listed in the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR), or listed as California Historical Landmarks, California Points of Historical Interest, or listed in local registers of significant resources;
- A literature review (i.e., ethnographic and historic documents, Ancestry.com records, historic aerial imagery and General Land Office [GLO] plat and topographic maps review, and digitized newspaper archives);
- Primary and secondary sources, consisting of records, maps, photographs, and assessor records available at local historical societies and repositories. The Kern Valley Historical Society and Kern Valley Museum were contacted. Investigators reviewed applicable statewide historic contexts and digital collections of the California State Library, Kern County Library, Library of Congress, and University of California Calisphere;
- A Native American Heritage Commission (NAHC) Sacred Land File search;
- Cultural resource pedestrian field surveys;
- Subsurface testing of select archaeological sites that had the potential to contain subsurface deposits; and
- Tribal consultation per AB 52 and SB 18, as discussed in Section 4.5.3, Regulatory Setting, and detailed in Section 4.16, *Tribal Cultural Resources*, of this EIR.

Southern San Joaquin Valley Information Center Records Search

Cultural resource records for the project site and 0.5-mile radius were requested from the SSJVIC housed at California State University, Bakersfield. Records search results were received on April 21, 2021 and March 24, 2023 (Jacobs, 2022; Jacobs, 2023a). The record searches included a review of all previous cultural resource studies, recorded archaeological resources, and built-environment resources within 0.5-mile of the project site.

The results of the SSJVIC records searches indicate that over 40 previous cultural investigations have been conducted within 0.5-mile of the project site (Jacobs, 2023b; Jacobs, 2022). Fourteen of the studies were general overview studies and did not include a field component. As a result, approximately 40 to 50 percent of the project site has been subject to relevant cultural resources studies, nearly all of which were completed more than 10 years ago, thus requiring re-survey.

The SSJVIC records indicate that 153 cultural resources have been previously recorded within the 0.5-mile records search radius of the project site (Jacobs, 2023b; Jacobs, 2022). Of these resources, 34 were documented within the project site, including 5 historic linear resources, 14 archaeological sites, and 15 isolates (Jacobs, 2023b; Jacobs, 2023b; Jacobs, 2022). Historical-period linear resources consist of segments of the AT&SF Railroad alignment and historic roads. Archaeological sites include 9 historical-period sites, 3 prehistoric lithic scatters, and 2 multi-component sites. The historical-period sites consist mainly of trash scatters and include one site identified as a homestead. Except for the AT&SF Railroad (described below), all of the previously documented resources were either determined as not eligible for listing in the NRHP or CRHR, recommended as not eligible for listing, or have not been previously evaluated for eligibility status.

The AT&SF Railroad (P-15-000560) is the only previously documented resource within the project site that has been determined as eligible for inclusion in the NRHP and CRHR. Previously recorded sections of the historic railroad alignment have been determined eligible for the NRHP and CRHR by the Bureau of Land Management (BLM) in 2007 under NRHP Criterion A and CRHR Criterion 1 for the historical importance of the railroad to the development of Antelope Valley beginning in 1882 when the line was completed (Puckett et al. 2007; Kellawan et al., 2013). This resource was first recorded in 1977 by Sutton and Tremblay (1977) as an old railroad bed and associated trash along the bed. The bed is distinguished by the reddish rhyolite used to build it. In 1988, the site form was updated to state that the site consists of an old railroad bed with track removed, two small concrete box features marking the locations of former signals, and an artifact scatter associated with the railroad (Haynal et al., 1988). The site was revisited in 1993 and in 1994, both times recorded as the original alignment of the Mojave to Needles SPRR line, which was built in 1882 (Jacobs, 2022). The line was acquired in 1884 by the AT&SF and was in operation until 1953. Portions of this site have subsequently been revisited several times between 1994 and the present day (Jacobs, 2022). The sections of the railroad alignment located within the project site have not previously been recorded or evaluated for the CRHR.

Sacred Land File Search

The California Native American Heritage Commission responded to a Sacred Land File search on September 8, 2021, that there are no known Native American resources listed in the Sacred Lands File within or near the project site (Jacobs, 2022).

Cultural Resources Studies

Several cultural resources studies were conducted for the project by Jacobs and SRI that covered the five non-contiguous block areas (Sites 1-4 and the step-up substation), the proposed gen-tie alignment, and the two proposed medium-voltage corridors (with a 30-meter buffer from the mid-point of each proposed alignment). The majority of the gen-tie corridor was previously reviewed for CEQA as part of the Sanborn Solar Conditional Use Permit in 2019 (Dudek, 2019); therefore, it was not resurveyed as part of the pedestrian surveys for the project.

- Jacobs conducted initial pedestrian surveys over an approximately 2,300 acre-portion of the project site between May 24 and June 18, 2021, and on May 18, 2022. The survey area consisted of five discontinuous areas and covered the majority of the project site (Jacobs, 2022).
- Due to modifications to project boundaries since the initial surveys were completed, Jacobs conducted two additional pedestrian surveys between April 6 and 11, 2023: a survey of 140 acres near the Windhub Station (Jacobs, 2023b); and a survey of 33 acres comprising five discontinuous parcels (Jacobs, 2023a).
- SRI conducted supplemental pedestrian surveys over approximately 2,564 acres and conducted subsurface testing of specific sites within the project site between March 27 and June 1, 2023 (SRI, 2023). The supplemental surveys and testing was conducted to revisit archaeological resources identified during initial surveys, to evaluate resources that may have been exposed or moved since initial surveys were conducted due to heavy rains, to record built environment resources within the project site, and to aid in evaluating known cultural resources for the CRHR. A representative of the Tejon Indian Tribe was present during all subsurface testing conducted for the project.

Cultural Resources Recorded within the Project Site

As a result of the pedestrian surveys, 94 archaeological resources and linear resources were documented or updated within the project site and several hundred isolated finds were recorded. These included 68 archaeological sites, 26 historical linear resources, and over 500 isolates. Fourteen of the documented sites/linear resources have been previously recorded, and 80 were newly discovered archaeological sites or newly recorded segments of linear resources. Twenty previously documented archaeological sites and isolates were not relocated during the surveys, which may be attributed to incorrect mapping, debris clearing, or natural disturbances that scatter and move objects in the desert context, such as flooding and high winds (Jacobs, 2022).

Table 4.5-1, *Cultural Resources Documented in Project Site (Excluding Isolates)*, provides a summary of the archaeological sites and historical-period linear resources identified in the project site and their CRHR evaluation status. **Table 4.5-1**, *Cultural Resources Documented in the Project Site (Excluding Isolates)*, presents a compilation and final determination of the results of the surveys and testing conducted to revisit archaeological resources identified during initial surveys, to evaluate resources that may have been exposed or moved since initial surveys were conducted due to heavy rains, to record built environment resources within the project site, and to evaluate known cultural resources for the CRHR. Isolates (predominantly comprising single historical-period cans and glass fragments as well as single, prehistoric lithic artifacts) are not included in **Table 4.5-1**, *Cultural Resources Documented in the Project Site (Excluding Isolates)*, as they are categorically not eligible for listing in the CRHR or considered historical resources for purposes of CEQA. Detailed resource descriptions and evaluations are included in the technical reports (Jacobs, 2022, Jacobs, 2023a; Jacobs, 2023b; SRI, 2023).

TABLE 4.5-1: CULTURAL RESOURCES DOCUMENTED IN PROJECT SITE (EXCLUDING ISOLATES)

P No. (P-15-)	Temporary ID	Resource Description	CRHP Eligibility
000472	-	Multicomponent site containing prehistoric flaked stone scatter, possible fire rings, a subsurface thermal feature, and a historical-period refuse scatter	Recommended eligible, avoided
000560	-	Linear Resource: 2 segments of the AT&SF Railroad 68	Segments in project site are recommended not eligible individually or as contributors to the historic railroad due to poor integrity
003537	-	Linear Resource: Road	Recommended not eligible
012207	-	Historical-period archaeological site: homesite with foundation, features, and trash scatter	Recommended not eligible
012498	-	Prehistoric archaeological site: sparse lithic scatter and a projectile point fragment	Reclassified as an isolated find as a result of the cultural surveys and recommended not eligible
013840	-	Prehistoric archaeological site: temporary camp with hearth feature	Assumed eligible and avoided without evaluation
013931	-	Linear Resource: Road	Recommended not eligible
017186	-	Historical-period archaeological site: trash scatter	Recommended not eligible
017187	-	Historical-period archaeological site: trash scatter	Recommended not eligible
017189	-	Multicomponent archaeological site:3 prehistoric lithics and 3 historic cans	Recommended not eligible
017327	_	Historical-period unpaved, unnamed road	Recommended not eligible

P No. (P-15-)	Temporary ID	Resource Description	CRHP Eligibility
018149	-	Historical-period archaeological site: domestic trash scatter with structural demolition debris	Recommended not eligible
018150	-	Historical-period archaeological site: trash deposit	Recommended not eligible
018152	-	Historical-period Trash Scatter	Recommended not eligible
018154	-	Historical-period archaeological site: two small but discrete trash deposits	Recommended not eligible
-	ED SITE 6.9.1	Historical-period ranch site with corral, water trough, water wells, and trash scatter	Recommended not eligible
-	ED SITE 6.11.1	Prehistoric Thermal Feature and Lithic Scatter	Recommended not eligible
-	ED SITE 6.12.1	Prehistoric Thermal Feature	Recommended not eligible
-	ET SITE 6.8.1	Historical-period Trash Scatter	Recommended not eligible
-	FHA SITE 6.10.1	Prehistoric Thermal Feature, Milling Stones and Lithic Scatter	Recommended not eligible
-	HAP SITE 6.6.1	Historical-period Structural Ruins, Orchard and Reservoir	Recommended not eligible
-	HAP SITE 6.6.2	Historical-period Trash Scatter	Recommended not eligible
-	HAP SITE 6.6.3	Historical-period Trash Scatter	Recommended not eligible
-	HAP SITE 6.7.2	Historical-period Trash Scatter	Recommended not eligible
-	HAP SITE 6.10.1	Prehistoric Lithic Scatter	Recommended not eligible
-	HAP SITE 6.10.2	Prehistoric Thermal Feature and Lithic Scatter	Recommended not eligible
-	HAP SITE 6.11.3	Historical-period Trash Scatter	Recommended not eligible
-	HAP SITE 6.11.4	Historical-period Trash Scatter	Recommended not eligible
-	HAP SITE 6.12.1	Prehistoric Thermal Feature	Recommended not eligible
-	HAP SITE 6.13.1	Prehistoric Thermal Feature and Lithic Scatter	Assumed eligible and avoided without evaluation
-	HAP SITE 6.13.2	Historical-period Trash Scatter	Recommended not eligible
-	HAP SITE 6.13.3	Historical-period Trash Scatter	Recommended not eligible
-	HAP SITE 6.13.4	Historical-period Trash Scatter	Recommended not eligible
-	JCT SITE 6.10.1	Prehistoric Thermal Feature, Milling Stones and Lithic Scatter	Recommended not eligible
-	JET SITE 6.10.1	Prehistoric Thermal Feature, Milling Stones and Lithic Scatter	Recommended not eligible
-	JET SITE 6.10.2	Prehistoric Thermal Feature, Projectile Point and Lithic Scatter	Recommended not eligible
-	KAS SITE 6.6.1	Historical-period Structural Remnants and Trash Scatter	Recommended not eligible
-	KAS SITE 6.9.1	Historical-period Trash Scatter	Recommended not eligible
	KAS SITE 6.9.2	Historical-period Structural Debris, Water Trough and Trash Scatter	Recommended not eligible
-	SRC.04.10.23.01	Prehistoric Thermal Feature	Recommended not eligible
-	SRC.04.10.23.02	Historic Trash Scatter	Recommended not eligible
-	WH-S-01	Prehistoric milling slick on boulder	Assumed eligible and avoided without evaluation
-	WH-S-02	Historical-period Trash Scatter	Recommended not eligible
-	WH-S-03	Historical-period Trash Scatter	Recommended not eligible
	SRI-1499	Historical-period Trash Scatter	Recommended not eligible
	SRI-1502	Historical-period Trash Scatter	Recommended not eligible
	SRI-1504	Historical-period Trash Scatter	Recommended not eligible
	SRI-1506	Historical-period Trash Scatter	Recommended not eligible
	SRI-1508	Historical-period Trash Scatter	Recommended not eligible
	SRI-1510	Historical-period Trash Scatter	Recommended not eligible
	SRI-1512	Historical-period Trash Scatter	Recommended not eligible

P No. (P-15-)	Temporary ID	Resource Description	CRHP Eligibility
	SRI-1515	Historical-period Trash Scatter	Recommended not eligible
	SRI-1517	Multicomponent site with a prospecting pit, refuse deposit, and projectile point	Recommended not eligible
	SRI-1522	Historical-period Trash Scatter	Recommended not eligible
	SRI-1525	Historical-period Trash Scatter	Recommended not eligible
	SRI-1527	Historical-period Trash Scatter	Recommended not eligible
	SRI-1530	Historical-period Trash Scatter	Recommended not eligible
	SRI-1536	Historical-period Trash Scatter	Recommended not eligible
	SRI-1538	Multicomponent stie with 6 prehistoric flakes and Historical-period foundations, fence lines, and refuse	Recommended not eligible
	SRI-4119	Historical-period Trash Scatter	Recommended not eligible
	SRI-4124	Historical-period Trash Scatter	Recommended not eligible
	SRI-4030	Prospecting pits associated with the Lucky Dog Mine	Recommended not eligible
	SRI-4132	Historical-period Trash Scatter	Recommended not eligible
	SRI-4063	Historical-period Trash Scatter	Recommended not eligible
	SRI-4071	Historical-period Trash Scatter	Recommended not eligible
	SRI-5040	Multicomponent site with 2 prehistoric flakes and 17 Historical-period mining features (prospecting pits and tailings)	Recommended not eligible
	SRI-5059	Multicomponent site with 1 flake and a Historical-period trash scatter	Recommended not eligible
	SRI-5062	Historical-period Trash Scatter	Recommended not eligible
	SRI-5066	Historical-period Trash Scatter	Recommended not eligible
	SRI-5068	Historical-period mining site with 2 prospect pits and mine tailings	Recommended not eligible
	SRI-8010	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8020	Historical-period segment of Purdy Avenue	Recommended not eligible
	SRI-8030	Historical-period segment of 20th St. W	Recommended not eligible
	SRI-8040	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8060	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8080	Historical-period segment of 15th Street	Recommended not eligible
	SRI-8090	Historical-period segment of Decatur Avenue	Recommended not eligible
	SRI-8100	Historical-period segment of Sunset Avenue	Recommended not eligible
	SRI-8110	Historical-period segment of 10th ST. E	Recommended not eligible
	SRI-8120	Historical-period segment of 20th St. E	Recommended not eligible
	SRI-8130	Historical-period segment of 25th St. E	Recommended not eligible
	SRI-8140	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8150	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8160	Historical-period gas pipelines and pipeline road	Recommended not eligible
	SRI-8170	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8180	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8190	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8200	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8210	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8220	Historical-period unpaved, unnamed road	Recommended not eligible
	SRI-8230	Historical-period segment of Mojave Blvd	Recommended not eligible

P No. (P-15-)	Temporary ID	Resource Description	CRHP Eligibility
	SRI-8250	Multicomponent site with 4 prehistoric flakes and two Historical-period mining features	Recommended not eligible
	SRI-8260	Historical-period deflated cairn/possible benchmark	Recommended not eligible
	SRI-8270	Historical-period electrical distribution line	Recommended not eligible

Eligibility Recommendations

All extant cultural resources identified within the project site during the inventory studies were evaluated for eligibility to the CRHR. As a result, 90 archaeological sites and historical-period linear resources are recommended not eligible for the CRHR under any criteria (see **Table 4.5-1**, *Cultural Resources Documented in the Project Site (Excluding Isolates)*). These include 75 historical-period and multicomponent sites (historical–period sites with only a couple prehistoric artifacts) that were evaluated based on survey data and archival research as well as 15 historical-period sites, prehistoric sites and multicomponent sites (with larger prehistoric components or potential prehistoric components) that were evaluated for the CRHR following subsurface testing (SRI 2023; Jacobs, 2023b; Jacobs, 2023b; Jacobs, 2022). These 90 sites were evaluated as having no significant associations with events or people important to the history of the local area, California, or the nation (CRHR Criteria 1 and 2), they do not represent the work of a master (CRHR Criterion 3) and they have little to no potential to yield information important to the prehistory or history of the local area, California, or the nation beyond what has already been recorded (CRHR Criterion 4) (SRI 2023; Jacobs, 2023a; Jacobs, 2023b; Jacobs, 2022). Although portions of the AT&SF Railroad (P15000560) railroad alignment, located outside of the project site, have previously been determined eligible for the NRHP and CRHR under Criterion A/1, for their associations with the development of the Antelope Valley, the portions within the project site have been heavily altered to the point in which they no longer retain enough integrity to convey their significance under CRHR Criterion 1 and are therefore not eligible for the CRHR (SRI, 2023; Jacobs, 2023a). As a result, these sites are not considered historical resources under CEQA and no further consideration is warranted.

One multicomponent site (P-15-000472) consisting of a prehistoric flaked stone scatter, a subsurface thermal feature, and a historical-period refuse scatter, is recommended eligible for the CRHR under Criterion 4 for its ability to yield important information about the prehistory of the region. P-15-000472 contains both temporally diagnostic artifacts dating to the Late Holocene, multiple obsidian artifacts that can be sourced and sent for hydration analysis, and an intact buried thermal feature. This site has the potential to address questions about chronology, changes in native societies, obsidian exchange, and lithic acquisition and technology (SRI, 2023). As such, P-15-000472 is considered a historical resource under CEQA. In addition, three prehistoric resources, consisting of P-15-013840, a hearth feature and lithic scatter; HAP SITE 6.13.1, a prehistoric site containing fire-affected rock (FAR) concentrations and a lithic scatter; and WH-S-01, a boulder with a milling slick, are being assumed eligible for the CRHR without evaluation. All four CRHR-eligible and assumed eligible resources (P-15-000472, P-15-013840, HAP SITE 6.13.1, and WH-S-01) will be avoided by project construction. As all four CRHR-eligible and assumed eligible resources will be avoided, the project will not result in significant impacts any known historical resources as defined by CEQA.

Potential for Unknown Buried Cultural Resources

The Antelope Valley floor is covered in thick deposits of Quaternary alluvial sediments. Dibblee (1963) subdivides the alluvium into two units: the older (Pleistocene) Quaternary sediments, and younger (Holocene) alluvial surface deposits. These alluvial sediments are derived from nearby granitic mountains and have been deposited on the valley floor over the course of thousands of years. The younger Quaternary valley alluvial deposits, composed of weathered soil material and poorly sorted clay, silt, and sand, may be up to severalhundred feet thick in valley areas, and thinner on slopes at the valley margins.

In many places, the interface between older land surfaces and newer alluvial depositions is marked by a well-developed buried soil profile, or a paleosol. Paleosols preserve the composition and character of the earth's surface prior to subsequent sediment deposition; thus, paleosols have the potential to preserve archaeological resources if the area had been occupied or settled by humans. Holocene alluvium and Pleistocene-age surfaces buried by Holocene alluvium are the most likely landforms to contain paleosols. However, because human populations have grown since the arrival of the area's first inhabitants, younger paleosols (late Holocene) are more likely to yield archaeological resources than older paleosols (early Holocene or Pleistocene).

Given that these portions of the Antelope Valley within the project site have been covered with Holocene alluvial deposits, which have been deposited over the course of known human occupation in the region, there is a possibility that alluvium has buried prehistoric archaeological sites that once existed on the surface. As such, there is a possibility that buried archaeological deposits may be encountered during project-related excavation.

4.5.4 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 CRHR 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 California Historical Landmarks numbered 770 and higher, are automatically included in the California Register. Other properties recognized under the California Points of Historical Interest 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 to local, California or national history.
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 to the history or prehistory of the local area, California, or the nation.

Furthermore, under PRC 5024.1 and Title 14 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 that existed during the resources time of significance, 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 unique 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 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) unless the preponderance of evidence demonstrates that it is not historically or culturally significant; 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 is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to section 5020.1(k) of the PRC), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the PRC) 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 Section 21084.1 of CEQA and Section 15064.5 of the CEQA *Guidelines* 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 addresses unique archaeological resources. As defined in Section 21083.2 of CEQA 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 or left in an undisturbed state (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 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 Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act (the Act) applies to both state and private lands. The Act requires that, upon discovery of human remains, construction or excavation activity must cease and the county coroner be notified. If the remains are Native American, the coroner must notify the NAHC. The NAHC will then identify and notify a most likely descendant. The Act stipulates the procedures that the most likely descendant may follow for treating or disposing of the remains and associated grave goods.

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 Department of Parks and Recreation, 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

The California 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.

California Public Resources Code, Section 5097.5

California PRC Section 5097 specifies the procedures to be followed in the event of an unexpected discovery of human remains on non-federal land. The disposition of Native American remains falls within the jurisdiction of the NAHC. Section 5097.5 of the Code states:

> *No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.*

As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state or any city, county, district, authority, public corporation, or any agency thereof.

Assembly Bill 52

Under the CEQA, AB 52 requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. Consultations must include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. That consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or EIR is required for a project. Section 4.16, *Tribal Cultural Resources*, of this EIR discusses the effort made to contact the tribes that may have an interest in the Project, in compliance with AB 52.

California Senate Bill 18

SB 18 requires cities and counties to conduct consultations with California Native American tribes before the local officials adopt or amend their general plans. These consultations are for preserving or mitigating impacts to Native American historic, cultural, sacred sites, features, and objects located within the city or county. The city or county must protect the confidentiality of information about the specific identity, location, character, and use of those places, features, and objects, consistent with the General Plan Guidelines issued by the Governor's Office of Planning and Research.

Local

The following local plans applicable to the project site include stipulations for cultural and/or tribal resources: the Kern County General Plan, Mojave Specific Plan, and the West Edwards Road Settlement Specific Plan. The components of these plans related to cultural and/or tribal resources are described below.

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 (Chapter 1), 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. The policies and implementation measures in the Kern County General Plan for cultural resources applicable to the project are provided below.

Chapter 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 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.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave Specific Plan addresses issues of importance in the area by stating objectives, policies, and implementation measures to accommodate growth while protecting the community's unique business, transportation, and environmental resources. The implementation measure in the Mojave Specific Plan for cultural resources applicable to the project is provided below.

Chapter 10. Implementation, Measure H-4b. Historical and Cultural Resources.

Prior to discretionary development of any individual project within the Specific Plan area, a complete records and literature search and/or a Phase 1 Assessment shall be conducted to identify the presence of any specific cultural resources and/or Native American sacred lands at the project site. Recommendations shall be incorporated into project approval.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan recognizes existing development and prepares for projected community growth by addressing goals, policies, implementation measures, and general provisions specific to the area. The general provision for cultural resources applicable to the project is provided below.

Chapter 5. General Provisions, Provision 2.

Any discretionary development project that substantially disturbs property not previously developed or is not substantially surrounded by development as determined by the Director of Kern County Department of Planning and Development Services shall submit a cultural survey, including archaeological, paleontological, and historical resources; said survey shall be completed in accordance with any guidelines supplied by the Southern San Joaquin Valley Archaeological Information Center at California State University at Bakersfield. Any submittal shall also include mitigation measures which satisfactorily address the requirements of said inventory and the Kern County Department of Planning and Development Services.

Soledad Mountain Elephant Butte Specific Plan

There are no recommendations, analysis, or implementation measures in the Soledad Mountain Elephant Butte Specific Plan that address cultural resources. In Kern County, specific plans are used to implement goals, objectives, and policies of the Kern County General Plan in a more detailed and refined manner unique to a smaller area of the County. Since there are no applicable recommendations, analysis, or implementation measures within the Soledad Mountain Elephant Butte Specific Plan, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

4.5.5 Impacts and Mitigation Measures

Methodology

The project will avoid all known historical resources, as defined by CEQA. Impacts to unknown cultural resources could result from ground-disturbing activities associated with the project. These impacts include damage, destruction, or alteration of archaeological sites and historical-period structures. Ground-disturbing activities include project-related excavation, grading, trenching, vegetation clearance, the operation of heavy equipment, or other surface and sub-surface disturbance that could damage or destroy unknown surficial or buried cultural resources including prehistoric or historical-period archaeological resources, historical-period structures, or human remains.

To evaluate the potential for the project to result in a significant impact to one or more historical resources as defined by CEQA, Jacobs and SRI conducted cultural resources assessments of the project site, which included literature reviews, a Sacred Land File search, cultural resources surveys, and evaluation of resources for inclusion in the CRHR (SRI, 2023; Jacobs, 2023a; Jacobs, 2023a; Jacobs, 2022).

Under AB 52 and SB 18, Kern County is responsible for government-to-government consultation with applicable Native American tribes to identify potential tribal resources in the project site and evaluate potential project effects on said properties.

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 adverse effect 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 are 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.

As a result of the cultural resources studies conducted for the project, 94 archaeological resources and historical-period linear resources were documented or updated within the project site and several hundred

isolated finds were recorded. As discussed above, the isolates (predominantly comprising single historical-period cans and glass fragments as well as single, prehistoric lithic artifacts) lack archaeological context and do not provide sufficient information to be considered significant resources. As such, the isolates documented as part of the survey are recommended not eligible for listing in the CRHR, and do not qualify as historical resources pursuant to CEQA. Of the 94 resources documented or updated within the project site, 90 cultural resources are recommended not eligible for the CRHR and are not considered historical resources under CEQA. One multicomponent site, P-15-000472, is recommended eligible for the CRHR and is therefore a historical resource under CEQA. Three prehistoric sites (P-15-013840, HAP SITE 6.13.1, and WH-S-01) are assumed eligible for the CRHR and, for the purposes of this project, are historical resources under CEQA. All four historical resources are being avoided by project construction and are not subject to impacts from the project. Therefore, the project will not result in a substantial adverse change in the significance of any known historical resources and will not result in a significant impact to known historical resources. Implementation of Mitigation Measure **MM 4.5-2** ensures the project will avoid these resources.

The project site is covered by Holocene alluvium, which has been deposited over the course of known human occupation in the region, possibly burying prehistoric archaeological sites that once existed on the surface. Therefore, the project site has the potential to contain previously unknown archaeological deposits that may underlie the ground surface and, as discussed in Section 4.16, *Tribal Cultural Resources*, tribal cultural resources. Should buried archaeological deposits be uncovered during project implementation, and should such resources qualify as historical resources under CEQA, they could be subject to significant impacts. To reduce potential impacts to less than significant, Mitigation Measures **MM 4.5-1, MM 4.5-2, MM 4.5-3**, and **MM 4.5-4** require cultural resources sensitivity training for construction workers; development of a cultural resources plan; archaeological and Native American monitoring during construction; and appropriate treatment of unearthed archaeological resources during construction.

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 unique 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 onsite. 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 Native American monitor(s), shall prepare Cultural Resources Sensitivity Training materials, including a Cultural Resources Sensitivity Training Guide, to be used in an orientation program given to all personnel working on the project. The training guide may be presented in video form. A copy of the proposed training materials shall be provided to the Planning and Natural Resources Department prior to the issuance of any grading or building permit.

b. The project proponent/operator shall ensure all new employees or onsite workers who have not participated in earlier Cultural Resources Sensitivity Trainings shall meet provisions specified above.

c. 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.

d. A copy of the Cultural Resources Sensitivity Training Guide/Materials shall be kept onsite and available for all personnel to review and be familiar with as necessary. It is the responsibility of the Lead Archaeologist to ensure all employees receive appropriate training before they work onsite.

e. During implementation of the project, the services of Native American Monitors, as identified through consultation with appropriate Native American tribes, working under the supervision of the Lead Archaeologist, shall be retained by the project to monitor project-related ground-disturbing activities as identified in Mitigation Measure MM 4.5-2.

MM 4.5-2: Prior to the issuance of any grading or building permit, the project proponent shall submit to the Kern County Planning and Natural Resources Department a Cultural Resources Treatment Plan. The plan shall:

a. Require that prior to conducting initial ground disturbance in the vicinity of prehistoric archaeological sites, and in coordination with the Lead Archaeologist and Native American Monitor(s), exclusion areas (i.e., the recorded boundaries of the archaeological sites and all areas within 50 feet thereof) shall be temporarily marked with exclusion markers or protective fencing as determined by the Lead Archaeologist in consultation with the Native American Monitor.

b. Require that the construction zone shall be narrowed or otherwise altered to avoid any exclusion areas.

c. Provide an overview of best management practices to be utilized during ground-disturbing construction activities to ensure protection of cultural resources.

d. Outline the process for evaluation of any unanticipated cultural discoveries during project construction activities.

e. Provide a Data Recovery Plan, if required, prepared by the Lead Archeologist in consultation with the Native American Monitor(s), for the recovery of known and unanticipated cultural discoveries that cannot be avoided or preserved in place.

MM 4.5-3: During implementation of the project, in the event that 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 the discovery. Signs shall be posted that establish it as an Environmentally Sensitive Area, and all entrance into the area shall be avoided until the discovery is assessed by the Lead Archaeologist and Native American Monitor. The Lead Archaeologist, in consultation with any Native American Monitor, 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 (CEQA) 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 CEQA *Guidelines* Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the Lead Archaeologist, in consultation with any Native American Monitor, shall develop additional treatment measures in consultation with the County of Kern (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. Diagnostic archaeological materials with research potential 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.

MM 4.5-4: Prior to conducting initial ground disturbance in the vicinity of historical resources P-15-000472, P-15-013840 and WH-S-01, and in coordination with the Lead Archaeologist and the Native American monitor, an exclusion area, consisting of the archaeological site boundaries plus an additional 50-foot buffer, shall be temporarily marked with exclusion markers or protective fencing as determined by the Lead Archaeologist in consultation with the Native American monitor. For HAP SITE 6.13.1, which is located outside of the development footprint, protective fencing will be installed along the edge of the project property boundary adjacent to HAP SITE 6.13.1 so that it protects HAP SITE 6.13.1 from potential impacts from project construction. Signs shall be posted that establish these as Environmentally Sensitive Areas (ESA). ESA fencing will be installed by the project proponent under the direction of an archaeological monitor and Native American monitor, working under the supervision of the Lead Archaeologist. ESA fences will be maintained by the project proponent for the duration of construction. In the event that the fencing is damaged, the project proponent will immediately notify the Lead Archaeologist, who will assess the damage and make the appropriate notifications to the County of Kern and other stakeholders, as appropriate. The project proponent shall repair any damage to the fences and take additional measures, such additional training or increase signage, to ensure that additional damage is avoided.

Level of Significance

With the implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-4, 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 pursuant to CEQA Guidelines Section 15064.5.

As discussed above under Impact 4.5-1, of the 94 sites and historical-period linear resources documented or updated within the project site, 90 cultural resources are recommended not eligible for the CRHR and are not considered historical resources under CEQA. The other 4 resources recommended or assumed eligible are being avoided by project construction and are not subject to impacts from the project. However, there is potential that previously unknown archaeological deposits may underlie the ground surface. Should buried historical resources or Tribal cultural resources be uncovered during project implementation, they could be subject to significant impacts. To reduce potential impacts to less than significant, Mitigation Measures MM 4.5-1 through MM 4.5-4 require cultural resources sensitivity training for construction workers; establishment of an exclusion area around sites P-15-000472, P-15-013840, HAP SITE 6.13.1, and WH-S-01. Mitigation Measure **MM 4.5-5** requires archaeological and Native American monitoring during construction; and appropriate treatment of unearthed cultural resources during construction.

Mitigation Measures

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-4 would be required.

MM 4.5-5: During implementation of the project, the services of both an Archaeological and Native American Monitor, 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, on a full-time basis, during ground-disturbing activities associated with project-related construction activities, as follows:

a. All initial ground-disturbing activities within 50 feet of prehistoric archaeological sites within the Enterprise Solar Site shall be monitored by Native American Monitor(s) and Archaeological Monitor(s).

b. During implementation of the project, Archaeological and Native American monitoring shall be conducted for all initial excavation or ground-disturbing activities. If no archaeological discoveries are made during the course of this monitoring, no additional monitoring will be required. If the Lead Archaeologist can demonstrate that the level of monitoring should be reduced or discontinued, or a need for continuing monitoring, the Lead Archaeologist, in consultation with the Kern County Planning and Natural Resources Department, may adjust the level of monitoring to circumstances as warranted.

c. All ground disturbing activities within 100 feet of a grave site shall be monitored by Native American Monitor(s) and Archeological Monitor(s).

d. The Lead Archaeologist and Native American Monitor(s) shall be provided all project documentation related to cultural resources within the project site prior to commencement of ground disturbance activities. Should the services of any additional individuals be retained (as the Lead Archaeologist, Archaeological Monitor, or Native American Monitor) subsequent to commencement of ground disturbing activities, such

individuals shall be provided all proposed project documentation related to cultural resources within the project site, prior to beginning work. 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.

e. The Archaeological Monitor(s) shall keep daily logs and the Lead Archaeologist shall submit monthly written updates to the Kern County Planning and Natural Resources Department and Native American Monitor. After monitoring has been completed, the Lead Archaeologist shall prepare a monitoring report that details monitoring results; assessment of inadvertent discoveries; communication with Tribal representatives; installation of, maintenance of, and guidance for environmentally sensitive areas; and general implementation of the required mitigation. The final monitoring report shall act as a record of compliance with guiding documents and mitigation, and shall be submitted to the Kern County Planning and Natural Resources Department and the Southern San Joaquin Valley Information Center at California State University, Bakersfield.

Level of Significance

With the implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-5, 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 research results or the archaeological survey, that any particular location within the project site has been used for human burial purposes in the recent or distant past. However, in the event that human remains are inadvertently discovered during project construction activities, the human remains could be damaged or disturbed, which would be a significant impact. Implementation of Mitigation Existing regulations identified as Measure **MM 4.5-6** would ensure that any human remains encountered during project implementation are properly treated, thus reducing impacts to a less-than-significant level.

Mitigation Measures

MM 4.5-6: If human remains are uncovered during project construction, the project contractor 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 15064.5 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, and in accordance with generally accepted cultural or archeological standards or practices, the project proponent shall ensure that the immediate vicinity of the Native American human

remains is not damaged or disturbed by further development activity until the project proponent 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

With implementation of Mitigation Measure MM 4.5-6, impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

Southern California Edison (SCE) will relocate an existing 66 kilovolt (kV) transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the transmission line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. It is anticipated that impacts associated with construction of the line relocation and interconnection work would encompass a relatively small footprint within which there are no eligible resources. SCE's standard best management practices and Applicant Proposed Measures include preconstruction cultural resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant archaeological resources that might be discovered. Impacts would be less than significant.

4.5.6 Cumulative Setting, Impacts, and Mitigation Measures

An analysis of cumulative impacts takes into consideration the entirety of impacts that the projects discussed in Chapter 3, *Project Description,* of this EIR, would have on cultural resources. The geographic area of analysis of cumulative impacts for cultural resources includes the western portion of the Antelope Valley. This geographic scope of analysis is appropriate because the archaeological and historical resources within this area are expected to be similar to those that occur on the project site because of their proximity, and because the similar environments, landforms, and hydrology would result in similar land use—and thus, site types. Further, 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 past, current, and reasonably foreseeable future projects, and provides a reasonable context wherein cumulative actions could affect cultural resources. Multiple projects, including solar energy production facilities, are proposed throughout the western Antelope Valley. Cumulative impacts to cultural resources in the western Antelope Valley could occur if other 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 historic and archaeological resources unique to the region. However, no known historical resources will be subject to impacts from the project, and mitigation measures are included in this EIR to reduce potentially significant impacts to unknown archaeological resources that could be encountered during construction of the proposed project. Implementation of Mitigation Measure MM 4.5-1 requires cultural resources sensitivity training for construction workers. Mitigation Measure MM 4.5-2 requires a Cultural Resources Treatment Plan. Mitigation Measure MM 4.5-3 requires appropriate treatment of uncovered archaeological resources, including those that qualify as historical resources. Mitigation Measure MM 4.5-4 requires avoidance and establishment of an exclusion area around four sites that are eligible or assumed eligible for the CRHR and are considered historical resources for the purposes of the project. Mitigation Measure MM 4.5-5 requires archaeological and Native American monitoring to ensure that any currently unknown archeological resources that qualify as historical resources are identified during construction. Implementation of these mitigation measures would reduce potential impacts to historical resources to a less-than-significant level and ensure that project impacts to significant cumulative impacts to cultural resources are not cumulatively considerable. Although project construction has the potential to disturb human remains, as do other projects in the cumulative study area, the implementation of Mitigation Measure MM 4.5-6 would ensure that appropriate laws and protocols are followed if human remains are uncovered and ensure that cumulative impacts are not significant.

With implementation of Mitigation Measures MM 4.5-1 through MM 4.5-6, as described above, the project would not result in significant impacts to cultural resources. Given this minimal impact, as well as similar mitigation requirements for other projects in the western Antelope Valley, the project would not make a cumulatively considerable contribution to a significant cumulative impact to cultural resources.

Mitigation Measures

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-6 would be required.

Level of Significance after Mitigation

With the implementation of Mitigation Measures MM 4.5-1 through MM 4.5-6, cumulative impacts would be less than significant.

Section 4.6
Energy

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 (detailed energy calculations are contained in Appendix G of this EIR) and conservation measures. Information in this section is primarily based on the *Enterprise Solar Storage Project Energy Impact Analysis* (Energy Technical Memorandum) (Jacobs, 2023), which was prepared by Jacobs Engineering Group, located in Appendix G of this EIR and incorporated by reference herein. 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 EIR, including in Chapter 3, *Project Description*, Section 4.3, *Air Quality*, and Section 4.8, *Greenhouse Gas Emissions*.

This section provides the content and analysis required by Public Resources Code, Section 21100(b)(3), and described in Appendix F to the California Environmental Quality Act (CEQA) *Guidelines* (AEP, 2018). Public Resources Code Section 21100(b) and Section 15126.4 of the CEQA *Guidelines* 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 to the CEQA *Guidelines* 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 manufactured 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 watt-hours.

According to the U.S. Energy Information Administration (EIA), California used approximately 405,844 GWh of electricity in 2020 (EIA, 2022a). The sector-specific breakdown for energy consumption in 2020 indicates that transportation uses utilized 34 percent of the state's total energy consumption, followed by 25 percent for industrial uses, 22 percent for residential uses, and 20 percent for commercial uses (EIA, 2022a). Electricity usage in California for differing land uses varies substantially by the type of uses in a building, type of construction materials used in a building, and the efficiency of all electricity consuming devices within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's energy use per capita in the residential sector is lower than any other state except Hawaii (EIA, 2022b).

Southern California Edison (SCE) provides electricity to the project site. SCE, a subsidiary of Edison International, serves approximately 180 cities in 11 counties across central and southern California. SCE receives electric power from a variety of sources.

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 2021*, shows the electric power mix that was delivered to retail customers for SCE compared to the statewide power mix for 2021, the most recent year for which data is available.

TABLE 4.6-1: ELECTRIC POWER MIX DELIVERED TO RETAIL CUSTOMERS IN 2021

Energy Resource	SCE	CA Power Mix (for comparison)
Eligible Renewable	**31.4%**	**33.6%**
Biomass & bio-waste[a]	0.1%	2.3%
Geothermal	5.7%	4.8%
Small hydroelectric	0.5%	1.0%
Solar	14.9%	14.2%
Wind	10.2%	11.4%
Coal	**0%**	**3%**
Large Hydroelectric	**2.3%**	**9.2%**
Natural Gas	**22.3%**	**37.9%**
Nuclear	**9.2%**	**9.3%**
Other	**0.2%**	**0.2%**
Unspecified sources of power[b]	**34.6%**	**6.8%**
Total	**100%**	**100%**

[a] The Eligible Renewables category is further delineated into the specific sources: biomass & waste, geothermal, small hydroelectric, solar, and wind

[b] "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

Source: SCE, 2023.

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.

According to the EIA, California used approximately 2,092,612 million cubic feet of natural gas in 2021 (EIA, 2023). Most of California's natural gas customers are residential and small commercial customers (core customers). These customers accounted for approximately 45 percent of the natural gas delivered by California utilities in 2021. Large consumers, such as electric generators and industrial customers (noncore customers), accounted for approximately 54 percent and vehicle fuel accounted for approximately 1 percent of the natural gas delivered by California utilities in 2021 (EIA, 2023). While the supply of natural gas in the United States and production in the lower 48 states has increased greatly since 2008, California produces little and imports 95 percent of its supply of natural gas (EIA, 2023).

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. SoCalGas' service territory encompasses approximately 20,000 square miles and more than 500 communities. In the California Energy Demand mid-energy demand scenario, natural gas demand in SoCalGas' service territory is projected to remain flat and increase by only 0.01 percent in 2030 above the last recorded demand in 2018 (CEC, 2019). In 2021, approximately 2,438 million cubic feet per day were used in SoCalGas' service area (California Gas and Electric Utilities, 2021). For the winter of 2022 to 2023, the average daily SoCalGas pipeline capacity varied from 2,812 million cubic feet per day (MMcfd) for the worst-case scenario to 3,040 MMcfd for the best-case scenario. With the current natural gas assets and withdrawal protocols in place and sufficient interstate gas supplies, the California Public Utilities Commission predicted no curtailments or emergency flow orders in the winter of 2022 to 2023 (CPUC, 2023a).

Transportation

California used approximately 22 billion gallons of petroleum in 2020 (EIA, 2022c). Most of California's petroleum customers are residential and small commercial customers (core customers). This equates to a daily use of approximately 61 million gallons of petroleum. By sector, transportation uses utilize approximately 82 percent of the state's petroleum, followed by 14 percent from industrial, 3 percent from commercial, 1 percent from residential, and less than 1 percent from electric power uses (EIA, 2022c). In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation sources. Petroleum usage in California includes petroleum products, such as motor gasoline, diesel fuel, liquefied petroleum gases, and jet fuel. California has implemented policies to improve vehicle efficiency and to support use of alternative transportation. 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, 2020). The California Energy Commission (CEC) predicts that the demand for gasoline will continue to decline over the next 10 years and that there will be an increase in the use of alternative fuels (CEC, 2020).

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 U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards (NHTSA, 2023). 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.

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by the USEPA and NHTSA. The Phase 1 heavy duty truck standards apply to combination tractors, heavy duty pickup trucks and vans, and vocational vehicles, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. The USEPA 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 (USEPA and NHTSA, 2016). In 2022, a final rule established standards for passenger cars and light trucks, requiring an industry wide fleet average of 49 miles per gallon in 2026 (NHTSA, 2023).

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; 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.

Inflation Reduction Act of 2022

The Inflation Reduction Act (IRA) of 2022 will make the single largest investment in climate and energy in American history. The IRA enables the U.S. to tackle the climate crisis, advance environmental justice, and secure the U.S.'s position as a world leader in domestic clean energy manufacturing, and puts the U.S. on a pathway to achieving the Biden Administration's climate goals, including a net-zero economy by 2050.

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

California's Renewables Portfolio Standard Program was enacted in 2002 with SB 1078 and accelerated in 2006, requiring investor-owned utilities to obtain 20 percent of their electric supply from renewable energy sources, such as solar, by 2010. On April 12, 2011, Governor Brown signed SB 2X, requiring California retail electric providers to procure 33 percent of their retail energy sales from eligible renewable sources by 2020. In October 2015, Governor Brown signed into legislation SB 350, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030 (CPUC, 2023b).

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also created new standards for the Renewable Portfolio Standard (RPS) goals that were established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned and publicly owned utilities from 50 percent to 60 percent by 2030. Incrementally, these energy providers also are required to have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. The updated RPS goals are considered achievable, since many California energy providers are already meeting or exceeding the RPS goals established by SB 350. Governor Brown signed Executive Order B-55-18 with a new statewide goal to achieve carbon neutrality (zero-net GHG emissions) by 2045 and to maintain net negative emissions thereafter.

On September 16, 2022, Governor Newsom signed SB 1020, the Clean Energy, Jobs, and Affordability Act, which adds interim targets to the policy framework originally established in SB 100. The interim targets require renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent of all retail electricity sales by 2040. The bill also requires all state agencies to rely on 100 percent renewable energy and zero-carbon resources to power their own facilities by 2035 and encourages better information sharing and coordination between agencies for transmission planning.

California Assembly Bill 1493 (AB 1493, Pavley)

In response to the transportation sector accounting for more than half of California's carbon dioxide (CO_2) emissions, Assembly Bill (AB) 1493 (commonly referred to as the California Air Resources Board's [CARB] 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, 2017).

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.

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 nitrogen oxide, particulate matter less than 10 microns in diameter, and particulate matter less than 2.5 microns in diameter 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

Construction and operation of the project would be subject to policies and regulations contained within the County's general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to energy. The policies and goals in the Kern County General Plan related to energy 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.

Kern County General Plan

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

1.9 Resources

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.

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.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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. The objective, policies, and implementation measure in the Mojave Specific Plan for energy applicable to the project are provided below. The Mojave 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 Mojave Specific Plan are incorporated by reference.

Chapter 4. Conservation Element

Objective

Objective 4.3 Encourage conservation of energy resources.

Policies

Policy 4.3.1 Promote energy conservation measures contained in Title 24 of the California Code of Regulations.

Policy 4.6.3 Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.

Implementation Measure

Implementation Measure 4-3a) Review construction plans prior to the issuance of building permits to ensure that energy efficiency requirements of Title 24 of the California Administrative Code are met.

West Edwards Road Settlement and Soledad Mountain Elephant Butte Specific Plans

The West Edwards Road Settlement and Soledad Mountain Elephant Butte Specific Plans address issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. There are no goals, policies, or implementation measures in the West Edwards Road Settlement or Soledad Mountain Elephant Butte Specific Plans that are applicable to energy. 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. Since there are no applicable goals, policies, or implementation measures within the West Edwards Road Settlement or Soledad Mountain Elephant Butte Specific Plans, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

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 is assessed. Specific analysis methodologies are discussed below. The assessment presented herein is based in part on the Energy Technical Memorandum prepared for the project (Jacobs, 2023), provided in Appendix F of this EIR.

Construction

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate energy consumption from construction of the project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant and GHG emissions associated with construction activities from a variety of land use projects, such as residential, commercial, and industrial facilities. CalEEMod input parameters, including the land use type used to represent the project and size, construction schedule, and anticipated construction equipment utilization, were based on information provided by the project applicant, or default model assumptions if project specifics were unavailable. Fuel consumption for off-road equipment was calculated from OFFROAD2021 model output for the Eastern Kern Air Pollution Control District (EKAPCD) in the year 2021, based on the equipment's horsepower rating. Fuel efficiency for on-road worker commutes, vendor deliveries, and material transport trips were calculated from EMFAC2017 model output for the EKAPCD in the year 2021, based on the presumed vehicle mix. Both OFFROAD2021 and EMFAC2017 model output were generated using the EMFAC2017 Web Database.

Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the project applicant. For purposes of estimating project energy consumption, and based on information provided by the project applicant, it is assumed that construction of the project would last approximately 28 months (with the first four months dedicated to realignment of the SCE transmission line). The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Transmission Line Realignment: 80 days
- Perimeter Fence Installation: 40 days
- Site Preparation and Grading: 30 days
- Trenching: 80 days
- Solar Photovoltaic (PV) System Installation: 280 days
- Energy Storage System: 80 days
- Generation Tie-in Installation: 40 days
- Site Clean-up and Restoration: 20 days

Several of the construction phases shown above would run concurrently. The commissioning of the solar PV system is not dependent on the energy storage facility being built; therefore, the energy storage facility can be constructed along a concurrent schedule. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 10 hours per day, during project construction. Construction would primarily occur during daylight hours, Monday through Friday, between 6:00 AM and

6:00 PM; however, some work may occur on Saturday and Sunday, as required, to meet the construction schedule and/or to promote the health and safety of workers.

Up to 50 construction workers per week would be required to support the transmission line realignment. During the remainder of construction, the construction peak workforce is conservatively estimated to be approximately 800 workers, with an average daily workforce of approximately 475 construction, supervisory, support, and construction management personnel (despite actual projections being closer to 250 workers per day). In addition to the 800 maximum daily workers traveling to the site, it is estimated that there would be an average of 267 trucks, a combination of delivery and onsite trucks, which would be traveling to and from the site daily. Delivery of material and supplies would reach the site via on-road truck delivery via State Route (SR)-14 or SR-58. Most truck deliveries would be for the PV system installation, as well as any aggregate material that may be required for road base. Detailed construction equipment mix and vehicle trips are found in the *Energy Technical Memorandum* provided as Appendix G of this EIR.

Water consumption during construction is estimated to be approximately 335 acre-feet (AF) for dust suppression and earthwork. Panel rinsing is expected to be conducted once at the end of construction. Construction water for panel rinsing would be provided by a water purveyor, or onsite groundwater through use of an existing well or improvements to an existing well or a new well permitted and drilled (if necessary).

Power required for construction activities, such as for the temporary construction trailers, would be provided via portable generators or temporary local distribution. Generators used onsite would abide by CARB and EKAPCD regulations.

Operation

Energy consumption from the operational phase of the project was estimated using the CalEEMod Version 2016.3.2 and includes electricity, natural gas and petroleum use.

Electricity and diesel fuel would be required for various project components, including but not limited to operation of heating, ventilation, and air conditioning equipment (HVAC), inverters, and battery storage equipment. The groundwater well pumps would likely be operated by electricity; however, from an energy demand perspective a worst-case assumption has been used consisting of a diesel generator. Emergency backup generators for Project substations or the battery energy storage system, if required, would use diesel fuel and would operate in accordance with applicable EKAPCD regulations. Additional fuel consumption during the operational phase would result from employee vehicle trips, vendor deliveries, and additional employee vehicle trips for panel washing. Annual miles traveled is estimated to be 106,338 miles per year, accounting for the commutes and performance of regular inspection and maintenance activities by six full-time-equivalent staff. Employee vehicle trips during project operations is estimated to require approximately 3,738 gallons of gasoline fuel per year. The estimated diesel fuel use for vendor deliveries during project operations is approximately 247 gallons per year. Although the project would require gasoline and diesel fuel usage, worker vehicles would likely consume less energy as fuel efficiency standards are increased and vehicles are replaced over the project's anticipated 35-year operational lifespan.

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

Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers, and heating, ventilation, and air conditioning [HVAC]) would be provided by portable generators and local distribution. The amount of electricity used during construction would be minimal; typical demand would stem from the use of electrically powered hand tools and several construction trailers by managerial staff during the hours of construction activities. The electricity used for construction activities would be temporary and minimal; therefore, impacts would be less than significant.

Natural gas is not anticipated to be required during construction of the project. Any minor amounts of natural gas that may be consumed as a result of project construction would be temporary and negligible, and would not have an adverse effect; therefore, impacts would be less than significant.

Petroleum would be consumed throughout construction of the project. Most of the energy used during construction would be from petroleum. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and vehicle miles-traveled (VMT) associated with the transportation of construction materials and construction worker commutes would also result in petroleum consumption. Heavy duty construction equipment associated with construction activities and onsite haul trucks involved in relocating dirt around the project site would rely on diesel fuel. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed that construction workers would travel to and from the project site in gasoline-powered vehicles.

Construction and decommissioning of the project 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. Fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase to gallons using conversion factors for CO_2 to gallons of gasoline or diesel. Fuel consumption from worker and vendor trips was estimated by converting the total CO_2 emissions from the construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Worker vehicles are assumed to be gasoline fueled, and vendor vehicles are assumed to be diesel fueled.

Table 4.6-2, *Project Construction Fuel Usage*, provides the estimated gasoline and diesel fuel use from construction equipment during construction of the project. It is estimated that approximately 297,312 gallons of diesel fuel would be consumed during project construction, based on construction equipment type, vendor deliveries, and material transport.

Approximately 280,904 gallons of gasoline fuel would be consumed during project construction, based on employee vehicle trips and onsite trucks (as provided in Appendix G of this EIR). The *Energy Technical Memorandum* estimated that the total diesel and gasoline consumption by project construction represents

approximately 0.006 percent and 0.002 percent of statewide fuel resources, respectively (Jacobs, 2023). Energy consumption associated with decommissioning activities are anticipated to be similar to construction activities.

There are no unusual project characteristics that would cause or require the use of construction equipment that would be less energy efficient compared with other similar projects. It is not anticipated that construction-related fuel consumption as a result of implementation of the proposed project would result in inefficient, wasteful, or unnecessary energy use compared with other similar projects. Although the consumption of fuels during construction and decommissioning would be irreversible, the project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy duty diesel vehicle idling time to 5 minutes, and would implement Mitigation Measure MM 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR, which would require the use of energy-efficient and alternatively-fueled equipment during project construction and impose idling restrictions. Additionally, the project soil use is anticipated to be balanced onsite and not require intensive use of haul trucks for the import or export of earthwork material. Therefore, because petroleum use during construction would be temporary and relatively minimal, and with implementation of MM 4.3-1, the project would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuels, impacts would be less than significant.

TABLE 4.6-2: TOTAL PROJECT CONSTRUCTION FUEL USAGE

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel
Construction:		
Workers	273,522	--
Onsite Pickup Trucks	6,422	--
Diesel Vendor, Haul, and Onsite Trucks	--	97,353
Diesel Vehicles and Equipment	--	195,959
Total	**280,904**	**297,312**
Statewide Fuel Resources	13,385,904,000	4,584,678,000
Percentage of Statewide Fuel Resources	**0.002%**	**0.006%**

SOURCE: Jacobs, 2022.

Operation

Fuel consumption during the operational phase would result from employee vehicle trips, vendor deliveries, and additional employee vehicle trips for panel washing. Annual miles traveled is estimated to be 106,338 miles per year. Employee vehicle trips during operation and maintenance would require approximately 3,738 gallons of gasoline fuel per year. The estimated diesel fuel use for vendor deliveries during operation and maintenance is approximately 247 gallons per year. Although the project would increase gasoline and diesel fuel usage, worker vehicles would likely consume less energy as fuel efficiency standards are increased and vehicles are replaced over the project's anticipated 35-year operational lifespan.

Energy consumption during the operational phase would result from electricity associated with pumping water to the site for operations, fire suppression, and maintenance activities. The project is anticipated to use no natural gas and 0.0006 percent of electricity compared to Kern County's energy consumption, as estimated by the CEC's "Electricity Consumption by County" database for 2020 (CEC, 2023).

Energy use associated with long-term operational activities is summarized in **Table 4.6-3**, *Project Operational Fuel Usage Per Year*. As shown, operation of the project would annually consume

approximately 3,738 gallons of gasoline, and 247 gallons of diesel, approximately 0.00003 percent and 0.00001 percent of the state's annual resources, respectively.

TABLE 4.6-3: PROJECT OPERATIONAL FUEL USAGE PER YEAR

Source	Total Gallons of Gasoline Fuel	Total Gallons of Diesel Fuel
O&M:		
Workers	3,738	--
Vendors	--	247
Total	**3,738**	**247**
Statewide Fuel Resources	13,385,904,000	4,584,678,000
Percentage of Statewide Fuel Resources	**0.00003%**	**0.00001%**

SOURCE: Jacobs, 2023.

While the project has an anticipated operational life of up to 35 years, the default is to estimate electricity generation over a 30-year project lifetime. The project would generate approximately 1,971,000 MWh of carbon-free electricity annually over a 30-year lifespan and this production is anticipated to remain relatively constant throughout the operational life of the project. This production would more than offset the minimal amount of energy consumed annually to operate the project. This electricity generation also 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.

As shown in **Table 4.6-3**, *Project Operational Fuel Usage Per Year,* the project would result in 3,738 gallons of gasoline and 247 gallons of diesel per year, representing a small fraction of a percent of the state's fuel resources, respectively. Over the lifetime of the project, the fuel efficiency of the vehicles being used by the employees and visitors is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation would decrease over time.

Given these considerations, the project's fuel and energy consumption during construction and operations would comprise a small percentage of the available resources within the state. Fuel and energy consumption for the project would not result in inefficient, wasteful, or unnecessary energy use.

Mitigation Measures

Implement Mitigation Measure MM 4.3-1 as provided in Section 4.3, *Air Quality*, of this EIR.

Level of Significance

With implementation of Mitigation Measure MM 4.3-1, 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 USEPA 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. The USEPA 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 2017 Scoping Plan relies on achievement of the RPS target of 50 percent of California's energy coming from renewable sources by 2030. 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 project would include the development of a solar facility and associated infrastructure with the capacity to generate up to 600 MW of renewable electric energy and the installation of an energy storage facility and accessories that would provide energy storage capacity of up to 4 GWh for the electrical grid. The project and other similar projects are essential to achieving the RPS. As discussed in Section 4.8, *Greenhouse Gases*, 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 is 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 1,971,000 MWh of renewable electricity annually.

Any onsite building would be subject to Building Energy Efficiency Standards as required by the California Code of Regulations. 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 Green Building Standards Code (CALGreen) 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 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 one of the objectives of the project is to assist California in meeting its GHG emissions reduction goals by 2030 and 2045, as required by the California Global Warming Solutions Act (AB 32)

and as amended by SB 32 in 2016, 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 2030 and 2045 RPS. Therefore, this impact would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

SCE will relocate an existing 66 kV transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. Construction activities to support realignment of the SCE transmission line and interconnection work were included in the energy use analysis conducted for the project and detailed in Appendix G of this EIR*;* the energy impacts for this work are included in the discussion of project impacts described above. Thus, relocation of the SCE transmission line and interconnection work would not result in the wasteful, inefficient or unnecessary consumption of energy. Further, the SCE work would transport renewable energy to the larger grid and would contribute to the State of California's ability to meet its renewable energy generation and GHG emission reduction goals. Impacts would be less than significant and no mitigation measures are required.

4.6.5 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. 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..

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. The project's emissions would, therefore, contribute to the increase in emissions in the transportation sector as well as the electricity

generation sector. Construction emissions, however, 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 Measure MM 4.3-1, as provided in Section 4.3, *Air Quality*, of this EIR, would require the use of energy-efficient equipment during project construction. Additionally, operation of the project could offset emissions from the electricity generation sector estimated at 1,971,000 MWh of renewable electricity annually.

Cumulative projects in the project area listed in **Table 3-6**, *Cumulative Projects List*, 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 SB 32 GHG emissions reduction mandate, the 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. Also like the project, the related solar and wind projects 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 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

Implement Mitigation Measure MM 4.3-3, as provided in Section 4.3, *Air Quality*, of this EIR.

Level of Significance

With implementation of Mitigation Measure MM 4.3-3, cumulative impacts would be less than significant.

Section 4.7
Geology and Soils

4.7.1 Introduction

This section of the 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 Study (Ninyo & Moore, 2023) and the Paleontological Resources Assessment (Jacobs Engineering, 2023), both prepared for the project. These reports are included in Appendix H1 and H2 of this EIR and are incorporated by reference herein.

4.7.2 Environmental Setting

Regional Geologic Setting

The project is situated in the western portion of the Mojave Desert Geomorphic Province. This geomorphic province encompasses an area that extends approximately 250 miles from the intersection of the San Andreas and Garlock Faults on the west to the Nevada and Arizona borders on the east. The western end of the province is bounded by the San Andreas and Garlock Faults. The province is up to 100 miles wide and is generally bounded by the Garlock Fault, the Tehachapi Mountains, and the Basin and Range to the north and to the south by the Transverse Ranges (Norris and Webb, 1990). In general, the province consists of broad alluvial valleys underlain by sedimentary, metamorphic, and igneous rocks. The Mojave Desert Province within the region generally consists of Tertiary, Quaternary, and Mesozoic-age granitic rock, sedimentary rock, and alluvium. 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, 2023a). 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 (SCEDC, 2023b). The project site is not intersected by any known faults, but, like most of Southern California, is located in a region considered seismically active (Ninyo & Moore, 2023).

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 forma 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 (e.g., ichnites and trace fossils generated

by vertebrate animals, such as trackways or nests and middens), 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.

According to published maps, the project site is predominantly underlain by Quaternary alluvium (Qa), with minor outcrops of Tertiary Gem Hill formation (Tgh, Tgf), Bobtail Quartz latite (Tlf, Tlp), and Quartz monzonite (qm) mapped to the southeast. Tertiary Volcanic Rocks are mapped north of the existing Windhub Substation, but do not directly underlie the project. Quaternary older alluvium (Qoa) is mapped to the west at the terminus of the generation tie (gen-Tie) line, in the vicinity of Site 5 (Step-up Substation) and the existing Windhub Substation. Quaternary older alluvium (Qoa) also underlies the Quaternary alluvium (Qa) mapped within the project site, but the exact depth is unknown as these older sediments are indistinguishable from younger sediment in available datasets (Dibblee, 1963). During archaeological shovel test pit excavations conducted by Dudek in 2018 for the adjacent Sanborn Solar Project, it was noted that at approximately 1 foot below the ground surface, sediments consisted of moderately indurated, reddish brown, silty sands that are indicative of older sediments (i.e. Quaternary older alluvium [Qoa]) (Dudek, 2019). While not mapped at the surface within the project site, Quaternary older alluvium (Qoa) is included as part of the paleontological setting because it is known to exist at a shallow depth beneath the younger deposits adjacent to the project site and, given the lateral continuity of alluvial deposits across the valley floor, is very likely present within the shallow subsurface within the project site.

Due to the young age (i.e., Holocene), deposits mapped as Quaternary alluvium (Qa) have low paleontological potential on the surface that increases to high with depth where Quaternary older alluvium (Qoa) can be encountered. These older alluvial deposits often lie just below a thin layer of younger alluvial or aeolian sediments and are known to produce significant fossil vertebrates in the Mojave and Colorado Deserts (Stewart et al., 2012). Since Quaternary older alluvium (Qoa) are known to produce scientifically significant fossils, they are assigned a high paleontological potential.

The Tertiary Volcanic Rocks, Gem Hill formation, Bobtail quartz latite member, pre-Tertiary Quartz monzonite, and Meta-quartz latite are igneous in origin and have no potential to preserve in situ paleontological resources.

Existing Paleontological Resources

A paleontological resource assessment was conducted to assess the potential for paleontological resources to be uncovered during ground-disturbing activities associated with the proposed project. This assessment was prepared in accordance with Society of Vertebrate Paleontology established guidelines and standard procedures (SVP, 2010) and included an examination of published geological maps of the project site, paleontological locality search using the University of California Museum of Paleontology (UCMP) online database and Natural History Museum of Los Angeles County (LACM), and a review of published paleontological reports to determine if the geologic units present within the project site typically yield paleontological resources. A pedestrian paleontological resource survey of the project site was determined to be unnecessary because a previous survey was conducted for the adjacent Sanborn Solar Project and the underlying geology is expected to be similar given the proximity of the two projects. Therefore, the findings of the Sanborn Solar Project pedestrian survey and paleontological resources assessment (Dudek, 2019) were incorporated into the paleontological resources assessment presented in Appendix H2, *Paleontological Resources Assessment*.

The fossil record from the UCMP online database (2020) is provided as part of Appendix H2, *Paleontological Resources Assessment*. The UCMP database includes over 2,000 fossil localities within Kern County, 26 of which are in Quaternary deposits; however, none are within the project site. The lack of paleontological site records for the sedimentary units within the area is likely in part due to the generic terms used to name some of the sedimentary units. Names such as "Alluvium" do not lend themselves to records reviews of this type because they are not formally defined units.

A literature review identified several Pleistocene vertebrate fossil localities from this part of the Mojave Desert in Kern County. The closest locality, near the intersection of Rosamond Boulevard and 25th Street, produced fossil specimens of mammoth, horse, and bison. The Clay Mine Road, Lake Thompson locality, and the Rogers Lake, Edwards Air Force Base, Lake Thompson Locality, yielded fossil lizard, snake, bird, and mammal specimens. Of these specimens, several extinct taxa were recovered, including possible mammoth and camel specimens (Jacobs, 2023).

While the LACM reported no paleontological localities within the project vicinity, which encompasses portions of the Monolith, Mojave, Sanborn, and Bissell U.S. Geological Survey topographic quadrangle maps, the LACM reported several fossil localities within the area from the same or similar deposits that are mapped within the project site (i.e., sediments mapped as Quaternary alluvium [Qa]). The closest LACM fossil locality is LACM 7891, which consists of a fossil camel (*Hemiauchenia*), recovered to the south-southwest of the project near the California Aqueduct west and southwest of Soledad Mountain. LACM 3722, which is the next closest vertebrate fossil locality, produced a fossil horse (*Equus*) during excavations for a sewer line within the city of Tehachapi. Two localities south of the project and north of Lancaster (LACM 7853 and 7884) yielded an abundance of small fossil vertebrates, including snakes, lizards, rabbits, rats, mice, gopher, and squirrel, in addition to camels (McLeod, 2018). While the LACM acknowledged the presence of Quaternary alluvium (Qa) throughout most of the area and the low paleontological potential of that geological unit, paleontological monitoring was recommended by LACM for substantial excavations that may extend into older Quaternary alluvium (Qoa) along with sediment sampling to determine the presence of micro-vertebrate fossils. Due to the extremely unlikely chance of recovering recognizable fossils in igneous rocks, no monitoring was recommended for excavations into areas underlain by igneous units (Jacobs, 2023).

Local Geologic Setting

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 rupture is considered to be most likely to occur along the identified traces of active faults (Bryant and Hart, 2007). Active faults are defined as faults with evidence of displacement in the last 11,000 years. As described above, there are no active faults that intersect the project site nor are any located within the immediate vicinity. The nearest Earthquake Fault Zone, as delineated by the Alquist-Priolo Earthquake Fault Zoning Act, is associated with the Garlock fault and is approximately 7.5 miles northwest of Site 2 (Western) (Ninyo & Moore, 2023).

Ground Shaking

Faults located within the vicinity of the project have the potential to cause ground shaking at 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). **Table 4.7-1**, *Historic Earthquakes in Project Vicinity*, shows some of the significant historical earthquakes that have occurred in the region and their Richter scale magnitude.

Table 4.7-1: Historic Earthquakes in Project Vicinity

Earthquake (Year)	Approximate Distance to Site (miles)	Earthquake Magnitude (Richter Scale)
Kern County (1952)	35	7.5
Tejon Ranch (1988)	25	5.4
Mojave (1992)	35	5.7
Ridgecrest (2019)	48	7.1, 6.4, and 5.4

SOURCE: SCEDC, 2023c.

The fault with likely the most potential to affect the site from a design standpoint is the Garlock Fault, due to its location and earthquake magnitude potential. The Garlock Fault has a maximum moment magnitude earthquake potential of 7.1 (USGS, 2023), which is enough to cause substantive ground shaking at the site. However, seismic events on other active faults of the region would also have the potential to cause ground shaking at the project site.

Landslides

No landslides or related features are known to underlie or be adjacent to the project site. Therefore, the potential for landslides at the project is considered low (Ninyo & Moore, 2023).

Liquefaction and Lateral Spreading

Liquefaction is a type of ground failure resulting from the generation of high porewater pressures during earthquake ground shaking, causing loss of shear strength. Liquefaction is typically a hazard where loose sandy soils exist below groundwater. Liquefaction potential is considered highest when saturated loose soils are found within 50 feet of ground surface. Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Research and historical data indicate that loose granular soils and non-plastic silts that are saturated by relatively a shallow groundwater table are susceptible to liquefaction. Based on absence of a shallow water table encountered during the previous geotechnical study and review of nearby well data, shallow groundwater is not anticipated at the project site. Therefore, the potential for liquefaction at the project site is considered low (Ninyo & Moore, 2023). Other geologic hazards related to liquefaction, such as lateral spreading, are therefore also considered low (Ninyo & Moore, 2023).

Soil Erosion

Soil erosion is the wearing away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind, and subsurface water flow. Excessive soil erosion can eventually lead to damage of building foundations and roadways. In general, areas that are most susceptible to erosion

are those that would be exposed during the construction phase when earthwork activities disturb soils and require stockpiling. Typically, the soil erosion potential is reduced once the soil is graded and covered with concrete, structures, asphalt, or slope protection; however, changes in drainage patterns can also cause areas to be susceptible to the effects of erosion. There are many factors contributing to soil erosion. 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 (MSU, 2018). Coarse textured soils, or sandy soils, are easily detached, but typically do not produce a lot of runoff, so they have low soil erodibility.

Slope stability is not anticipated to be a design consideration for the project due to the relatively flat topography of the project site. Site 4 (Southern) is adjacent to scattered hills up to approximately 200 feet in height; however, project facilities are not located on these sloped areas (Ninyo & Moore, 2023).

Subsidence

Subsidence is the sinking of the ground surface. There are four types of subsidence that are currently occurring within Kern County. Tectonic subsidence refers to the long-term slow sinking of the land surface. Subsidence can also occur naturally when moisture-deficient soils are exposed to water, which causes collapse. Subsidence has also been caused by human activities, including the extraction of oil and gas and the withdrawal of groundwater. Specific areas identified as experiencing subsidence within the County include the San Joaquin Valley, a large area south of Bakersfield, and areas south of the project site near Rosamond and Lancaster (Ninyo & Moore, 2023). There is no known evidence of subsidence at the project site nor was there any evidence of associated fissures or cracking during the field reconnaissance (Ninyo & Moore, 2023).

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. Surface soils on the project site include alluvium, agricultural topsoil, and igneous rocks and, while they may be insufficient to support new loadings (weight of improvements), they were not identified as susceptible to collapse (Ninyo & Moore, 2023).

Expansive Soils

Expansive soils contain clay types capable of absorbing water in a manner that results in volumetric changes. Over long-term periods of cyclical changes in water content, these volumetric changes can cause damage to foundations, retaining walls, sidewalks, and roadways. According to the preliminary geotechnical investigation and data from a nearby site, the soils expected at the near surface of the site are likely to have a moderate expansion potential (Ninyo & Moore, 2023).

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 United States Code [U.S.C.] 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 (BMP) to regulate stormwater runoff, including measures to prevent soil erosion. Requirements of the CWA and associated SWPPP are described in further detail in Section 4.9, *Hydrology and Water Quality*.

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1997 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. NEHRP designates the Federal Emergency Management Agency 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.

Paleontological Resources

A variety of federal statutes specifically address paleontological resources. They are generally applicable to a project if that project includes federally owned or federally managed lands or involves a federal agency license, permit, approval, or funding. The first of these is the Antiquities Act of 1906 (54 U.S.C. 320301-320303 and 18 U.S.C. 1866(b)), which calls for protection of historic landmarks, historic and prehistoric structures, as well as other objects of historic or scientific interest on federally administered lands, the latter of which would include fossils. The Antiquities Act both establishes a permit system for the disturbance of

any object of antiquity on federal land and also sets criminal sanctions for violation of these requirements. The Antiquities Act was extended to specifically apply to paleontological resources by the Federal-Aid Highways Act of 1958. More recent federal statutes that address the preservation of paleontological resources include the National Environmental Policy Act, which requires the consideration of important natural aspects of national heritage when assessing the environmental impacts of a project (P.L. 91-190, 31 Stat. 852, 42 U.S.C. 4321–4327). The Federal Land Policy Management Act of 1976 (P.L. 94-579; 90 Stat. 2743, U.S.C. 1701–1782) requires that public lands be managed in a manner that will protect the quality of their scientific values, while Title 40 Code of Federal Regulations Section 1508.2 identifies paleontological resources as a subset of scientific resources. The Paleontological Resources Preservation Act (Title VI, Subtitle D of the Omnibus Land Management Act of 2009) is the primary piece of federal legislation.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act offers provisions of paleontological resources identified on federal, Native American, or state lands and guidance for their management and protection, and promotes public awareness and scientific education regarding vertebrate fossils. The law also requires federal agencies to develop plans for inventory, collection, and monitoring of paleontological resources and establishes stronger criminal and civil penalties for the removal of scientifically significant fossils on federal lands.

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 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 Public Resources Code (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), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress facilities, and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. 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 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2022 edition of the CBC is based on the 2021 International Building Code published by the International Code Council. The code is updated triennially, and the 2022 edition of the CBC was published by the California Building Standards Commission in July 2022 and took effect January 1, 2023.

The 2022 CBC provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (such as wind loads) for inclusion into building codes. A load is the overall force to which a structure is subjected in supporting a weight or mass, or in resisting externally applied forces. Excess load or overloading may cause structural failure. Seismic design provisions of the building code generally prescribe minimum lateral forces applied statically to the structure, combined with the gravity forces of the dead and live loads of the structure, which the structure then must be designed to withstand. The prescribed lateral forces are generally smaller than the actual peak forces that would be associated with a major earthquake. Consequently, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage, but with some nonstructural damage, and (3) resist major earthquakes without collapse, but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to expect that a structure designed in accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

The earthquake design requirements consider the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a seismic design category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site; SDC ranges from A (very small seismic vulnerability) to E/F (very high seismic vulnerability and near a major fault). Seismic design specifications are determined according to the SDC in accordance with Chapter 16 of the CBC. Chapter 18 of the CBC covers the requirements of geotechnical investigations (Section 1803), excavation, grading, and fills (Section 1804), load-bearing of soils (Section 1806), as well as foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). 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 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.*

Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in PRC Sections 5097.5 and 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (e.g., state, county, city, district) lands.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, in cooperation with the CWA, established the State Water Resources Control Board (SWRCB). The SWRCB and the nine Regional Water Quality Control Boards (RWQCB) 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 Colorado River 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 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 Construction General Permit (SWRCB Order No. 2012-0006-DWQ, NPDES No. CAS000002). The Construction General 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 Construction General Permit by submitting a Notice of Intent for coverage, developing a SWPPP, and implementing BMPs to address construction site pollutants.

The SWPPP should contain a site map(s) that 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 BMPs 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 waterbody 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 Construction General 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.

California Environmental Quality Act

Appendix G of the State CEQA *Guidelines* (California Code of Regulations Title 14, Chapter 3) provides an Environmental Checklist of questions intended to guide analysis pertaining to project-level impacts to geology and soils and paleontological resources. For purposes of the Environmental Checklist, CEQA does not define "a unique paleontological resource or site." However, the Society of Vertebrate Paleontology (SVP) has defined a "significant paleontological resource" in the context of environmental review. The SVP defines a Significant Paleontological Resource as: Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) [p. 11] (SVP, 2010).

Local

Construction and operation of the project would be subject to policies and regulations contained within the County's general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to hydrology and water quality name. The policies and implementation measures in the Kern County General Plan related to 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.

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

Goal

Goal 1: Minimize injuries and loss of life and reduce property damage.

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 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.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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. The objective and policy in the Mojave Specific Plan for geology and soils applicable to the project are provided below. The Mojave 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 Mojave Specific Plan are incorporated by reference.

Chapter 9. Seismic and Safety Objectives and Policies

Objective

Objective 9.1 Minimize the potential damage to structures and loss of life that could result from earthquakes.

Policy

Policy 9.1.1 Safety measures required by the Uniform Building Code and the Kern County Seismic Safety Element during construction of new buildings are hereby incorporated by reference.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan addresses issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. The general provision in the West Edwards Road Settlement Specific Plan for paleontological resources applicable to the project is provided below. The West Edwards Road Settlement 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 West Edwards Road Settlement Specific Plan are incorporated by reference.

Chapter 5. General Provisions

General Provisions

Provision 2 Any discretionary development project that substantially disturbs property not previously developed or is not substantially surrounded by development as determined by the Director of Kern County Department of Planning and Development Services shall submit a cultural survey, including archaeological, paleontologic, and historical resources; said survey shall be completed in accordance with any guidelines supplied by the Southern San Joaquin Valley Archaeological Information Center at California State University at Bakersfield. Any submittal shall also include mitigation measures which satisfactorily address the requirements of said inventory and the Kern County Department of Planning and Development Services.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. The recommendations, analysis, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan for geology and soils applicable to the project are provided below. The Soledad Mountain Elephant Butte Specific Plan contains additional recommendations, analysis, and implementation measures that are more general in nature and are not specific to developments such as this project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan are incorporated by reference.

Conservation

Item 5. Standards for Prevention, Control, and Correction of Soil Erosion Caused by Subdivision Roads and Other Sources

Recommendation - No construction shall be allowed unless mitigating measures are implemented to prevent erosion.

Analysis - In an area naturally scenic landscape, all measures should be taken to prevent unsightly scarring of the land. Cuts, fills, and "padding" of lots should be minimized.

Implementation - Initially, compliance with the Building Code and reseeding of any fill or cut with native seed mix and 40 pounds per acre properly fertilized; development and adoption of grading and erosion control ordinance for lot grading and road construction.

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 CBC, 2022 Edition, with some modifications and amendments. The entire County is in Seismic Zone 4, a designation previously used in the Uniform Building Code 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 (Kern County, 2023).

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 (Kern County, 2023). 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 Engineering and Survey Services Department requires the completion of an NPDES applicability form for all construction projects disturbing 1 or more acre 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 one to five acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.*

Kern County Public Health Services Onsite Wastewater Treatment System Permitting

The Kern County Public Health Services Department is responsible for permitting, inspecting, and approving onsite wastewater treatment systems, including septic tank wastewater disposal systems. The agency provides leach line requirements, seepage pit requirements, percolation testing standards, and other regulations for land development related to wastewater treatment systems.

4.7.4 Impacts and Mitigation Measures

Methodology

Potential impacts have been evaluated through review of Appendix H1 and H2 of this EIR and available online resources. These resources present findings, conclusions, and recommendations concerning

development of the project based on an engineering analysis of geotechnical properties of the subsurface conditions and evaluation of the underlying soils.

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 potential 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 on- or off-site 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 risks to life or property;*
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; or*

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Project Impacts

Impact 4.7-1: The project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo earthquake fault zoning map issued by the state geologist for the area or based on other substantial evidence of a known fault.

Primary ground rupture is ground deformation that occurs along the surface trace of the causative fault during an earthquake. The proposed project would introduce structures and people to the project site (e.g., construction workers and periodic maintenance workers) and could thus expose people and structures to seismic risks. While the project is located in the seismically active southern California region, the project site is not intersected by any known faults and is not located within or near a State of California Alquist-Priolo Earthquake Fault Zone. The nearest Earthquake Fault Zone, as delineated by the Alquist-Priolo Earthquake Fault Zoning Act, is associated with the Garlock fault and is approximately 7.5 miles from Site 2 (Western) (Ninyo & Moore, 2023). Due to the distance from the nearest active fault to the project site, the potential for surface fault rupture at the project site is considered low.

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 CBC. 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 project proponent to design 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. These requirements would ensure that project structures comply with minimum standards related to structural strength and general stability. Adherence to all applicable regulations would mitigate any potential fault rupture-related impacts associated with the project. Based on the absence of any known active faults that cross or come near the project site, and implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2 would ensure that seismic hazards would be minimized, and impacts related to fault rupture would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2 would be required.

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 in accordance with all applicable ordinances of the Kern County Building Code (Chapter 17.08) and the CBC 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.

The project proponent shall determine the final siting of project facilities based on the results

of the geotechnical study and implement recommended measures to minimize geologic hazards. The project proponent shall not locate project facilities on or immediately adjacent to an active fault trace.

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. 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.

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 4.7-2: The project would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, seismic-related ground failure, including liquefaction; or landslides.

As stated previously, the project is located 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 photovoltaic modules or other ancillary facilities and injury to workers or visitors could result. However, because the proposed project would not establish a permanent onsite population beyond the approximate six employees during operations and maintenance (O&M), damage to these onsite facilities 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 CBC. 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 project proponent to design 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, project 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 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; impacts related to ground shaking would be less than significant.

Seismically induced ground failure and liquefaction occurs when loose, water-saturated sediments of relatively low density are subjected to cyclic shaking that causes soils to lose strength or stiffness because of increased pore water pressure. Liquefaction generally occurs when the depth to groundwater is less than 50 feet. Based on review of available groundwater data in the project vicinity, groundwater in the area is anticipated to be approximately 200 feet below ground surface (bgs) (Ninyo & Moore, 2023). Furthermore, the project is not located within a current, mapped California Liquefaction Hazard Zone. Structures constructed as part of the project would be required by state law to be constructed in accordance with all applicable International Building Code and CBC earthquake construction standards, including those relating to soil characteristics.

Due to the existing geotechnical conditions and the historical depth to groundwater, the liquefaction hazard potential is considered to be low. However, if liquefaction does occur it could result in loss of bearing capacity of the foundation elements and liquefaction induced settlement. This potential could be ameliorated by ground improvements that would reconfigure or avoid liquefiable areas and use mat foundations for building(s). In addition, seismic ties for the foundations for buildings and/or the addition of a geogrid to reinforce the underlying ground could be used to reduce the potential effects. Project conformance with building code requirements and geotechnical engineer recommendations also would serve to reduce the potential for liquefaction to affect the proposed project (Ninyo & Moore, 2023).

In addition, compliance with Mitigation Measures MM 4.7-1 and MM 4.7-2 would require an evaluation of liquefaction potential and design recommendation as part of a subsequent geotechnical report to ameliorate any potential issues. The report would be prepared by a California licensed geologist and would ensure impacts remain less than significant. Recommendations, if needed, would include design measures but not be limited to, ground stabilization, selection of appropriate foundation type and depths, selection of appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. Adherence to all applicable regulations would avoid any potential impacts to structures resulting from liquefaction at the project. Therefore, impacts would be less than significant.

The project site has a relatively flat terrain with site elevations ranging between 2,520 and 2,750 feet above mean sea level due to being south of the Tehachapi Mountains where lands gradually slope downward from the northwest towards the southeast. Site 5 (Step-Up Substation) is approximately 4 miles east of the Tehachapi Mountains, which extend to approximately 4,000 feet above the valley floor. Site 1 (Northern), Site 2 (Western), Site 3 (Eastern), and Site 4 (Southern) are even more distant from the mountains. Thus, given relatively flat terrain and distance to the surrounding mountain ranges, the potential for landslides on the project site is considered low. Furthermore, permanent slopes steeper than 5:1 (horizontal to vertical) or higher than 5 feet are not anticipated for the project. In addition, compliance with Mitigation Measure MM 4.7-1 would require an evaluation of landslide potential and design recommendation as part of a subsequent geotechnical report to ameliorate any potential issues. The report would be prepared by a California licensed geologist and would ensure impacts remain less than significant.

Mitigation Measures

Implementation of 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 4.7-3: 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 site 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. 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 project proponent to design project facilities. Furthermore, 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 4.10-1 in Section 4.10, *Hydrology and Water Quality*). As a result, project construction would have less than significant impacts related to erosion with implementation of Mitigation Measures MM 4.7-1, 4.7-2, and MM 4.10-1.

Project operations would include the periodic cleaning of the panels with water; however, this is not expected to result in soil erosion due to the 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

Implementation of Mitigation Measures MM 4.7-1, MM 4.7-2, and 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 Measures MM 4.7-1, MM 4.7-2, and MM 4.10-1, 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 on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

As stated above, the proposed project would result in no impact related to landslides. The geotechnical report prepared for the EIR concluded that the liquefaction potential on the project site is low, largely based on the groundwater depth in the area which is reportedly approximately 200 feet bgs (Ninyo & Moore, 2023). As a result, combined with the relatively flat topography, the low liquefaction potential indicates a

low potential for lateral spreading. While the preliminary geotechnical report does not discuss the collapse potential at the site, it does describe the surface soils as loose to very dense sand. Therefore, any substantive areas containing loose sands could potentially be susceptible to collapse. Further preconstruction subsurface exploration to confirm the subsurface conditions was recommended in the preliminary geotechnical report. This site specific exploration would be included as part of the design level geotechnical investigation required by Mitigation Measure MM 4.7-1. The subsurface data would be used to complete the final design of the Project and associated structures in consultation with the County in a manner that meets applicable State and County building, grading, and construction codes, ordinances, and standards, as required by Mitigation Measure MM 4.7-2. The project site itself has not been identified by the County as being prone to subsidence and the full geotechnical study required by Mitigation Measure MM 4.7-1 would be prepared for the proposed project to identify and remedy any soil conditions considered to be geologic hazards, including liquefaction, collapse, and subsidence. With implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures 4.7-1 and MM 4.7-2, impacts would be less than significant.

Impact 4.7-5: The project would 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.

The preliminary geotechnical report for the site concluded that based on a previous report for a portion of the site, the underlying soils have a moderate potential for expansion (Ninyo & Moore, 2023). The shrink-swell behavior of expansive soils can lead to damage of project improvements over time if not addressed appropriately prior to construction. However, as described above, 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 4.7-1 requires that a California geotechnical engineer include an evaluation for expansive soils and provide recommendations consistent with CBC requirements to reduce potential adverse effects from expansive soils. 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 recommendations provided by the California registered professional engineer in accordance with California and Kern County Building Code requirements as required by Mitigation Measure MM 4.7-2. The required measures would encompass site preparation, such as treatment of expansive soils or replacement with engineered fill. The final 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. Therefore, with implementation of Mitigation Measures MM 4.7-1 and MM 4.7-2, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.7-1 and 4.7-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.7-1 and MM 4.7-2, impacts would be less than significant.

Impact 4.7-6: The project would 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.

A sanitary water supply would not be required during construction because restroom facilities would be provided by portable units to be serviced by licensed providers. It is expected that O&M staff will primarily operate from an operations facility that is offsite, such that a septic system at the project site would not be required. Small satellite portable office trailers may be placed on the project site to help facilitate rapid repair of equipment. Portable bathroom facilities to accommodate the six onsite employees would be used and wastewater would be disposed offsite at a permitted facility. Therefore, there would be no impact related to the onsite soils' ability to support the use of septic tanks or alternative wastewater disposal systems.

Mitigation Measures

None required.

Level of Significance

No impact.

Impact 4.7-7: The project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, as defined in CEQA *Guidelines* Section 15064.

Most of the surficial deposits within the project site consist of Holocene-age Quaternary alluvium (Qa), which is typically not paleontologically sensitive, but may be underlain by older Quaternary alluvium (Qoa), which has a higher potential to contain paleontological resources (Jacobs, 2023). Based on the paleontological records search, geological map and paleontological literature review performed for the project, and review of the paleontological reconnaissance conducted for the adjacent Sanborn Solar project, the project site is considered to have low paleontological sensitivity on the surface in areas mapped as Quaternary alluvium (Qa) or sand deposits. However, that increases to high sensitivity with depth in areas underlain by Quaternary older alluvium (Qoa).

The potential to disturb paleontological resources would occur during earthmoving activities, such as grading, using an auger, trenching, excavating, etc., at depths of 1 foot and greater bgs in sediments mapped as Quaternary alluvium (Qa). There is no potential to disturb paleontological resources during activities that do not involve ground disturbance.

If significant vertebrate fossils are encountered during project implementation, disturbance of such resources would result in a potentially significant impact to paleontological resources. Therefore, excavations within older Quaternary alluvium (Qoa; whether on the surface or encountered underlying younger Quaternary alluvium [Qa]) could impact significant vertebrate fossil resources and would be

considered a potentially significant impact to paleontological resources. However, with implementation of Mitigation Measures MM 4.7-3 through MM 4.7-5**,** which would require Paleontological Resources Awareness Training for construction workers, use of a qualified paleontological monitor during construction activities, and appropriate treatment of inadvertently uncovered paleontological resources, impacts to paleontological resources would be reduced to less than significant.

Mitigation Measures

MM 4.7-3: The project proponent shall retain a qualified paleontologist, defined as a paleontologist meeting the Society for Vertebrate Paleontology's Professional Standards (SVP, 2010), to carry out all mitigation measures related to paleontological resources.

a. Prior to the start of any ground disturbing activities, the qualified paleontologist shall prepare 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 project operator shall ensure all new employees who have not participated in earlier Paleontological Resources Sensitivity Trainings shall meet the provisions specified above.

e. The Paleontological Resources Awareness Training Guides shall be kept onsite and available for all personnel to review and be familiar with as necessary.

MM 4.7-4: During construction, the qualified paleontologist or designated monitor shall monitor all ground-disturbing activities (with the exception of vibratory or hydraulic installation of tracking or mounting structures and foundations or supports) that occurs at a depth of 15 feet or deeper below ground surface.

Following completion of monitoring, the paleontologist shall prepare a report documenting the absence or discovery of fossil resources on site.

MM 4.7-5: 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

With implementation of Mitigation Measures MM 4.7-3 through MM 4.7-5, impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

Southern California Edison (SCE) will relocate a 66 kilovolt transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way (ROW) to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. Impacts associated with construction of the relocated transmission line and interconnection work would be similar to those described above for the rest of the project. SCE would implement standard best management practices during their work on the project, such that impacts would be less than significant.

4.7.5 Cumulative Setting, Impacts, and Mitigation Measures

Impacts of the project would be considered cumulatively considerable if they would have the potential to combine with other past, present, or reasonably foreseeable projects to become significant. Cumulative projects listed in **Table 3-6**, *Cumulative Projects List*, in Chapter 3, *Project Description*, would be subject to relatively similar seismic hazards as that of the proposed project. 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.

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, MM 4.7-2, and MM 4.10-1. 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 and 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, MM 4.7-2, and MM 4.10-1, 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.

The geographic scope for cumulative effects to paleontological resources includes the north-central portion of the Antelope Valley that surrounds the area of the proposed project. Given similarities in geologic formations, this area is expected to contain similar types of paleontological resources. There is no temporal scope because direct impacts to paleontological resources are permanent. Cumulative impacts to paleontological resources 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. 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 4.7-3 requires paleontology sensitivity training for construction workers and Mitigation Measure MM 4.7-4 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 4.7-5 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.

With implementation of Mitigation Measures MM 4.7-3 through MM 4.7-5, the project would not result in significant impacts to paleontological resources. Given this minimal impact and the requirement for similar mitigation for other projects in the Antelope Valley, cumulative impacts to paleontological resources would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.7-1 through MM 4.7-5 and 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 Measures MM 4.7-1 through MM 4.7-5, and MM 4.10-1, 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 project's air quality technical report, *Enterprise Solar Storage Project Air Quality and Greenhouse Gas Technical Report for* (Air Quality and GHG Technical Report) (Jacobs, 2023), which was prepared by Jacobs Engineering, located in Appendix D of this EIR and incorporated by reference herein. 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), U.S. Environmental Protection Agency (USEPA), and the applicable provisions of the California Environmental Quality Act (CEQA).

4.8.2 Environmental Setting

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 emissions reduction. CARB has divided California into regional air basins. The project site is located in the northwestern 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, however, absorb some of 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 consistent. However, many gases exhibit the "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 (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs) and are described below (USEPA, 2022).

- **Carbon dioxide:** CO_2 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). CO_2 is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

- **Methane:** CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.
- **Nitrous oxide:** N_2O is emitted during agricultural and industrial activities and during combustion of fossil fuels and solid waste.
- **Fluorinated gases:** HFCs, PFCs, and SF_6 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:** SF_6 is a colorless, odorless, nontoxic, nonflammable gas. SF_6 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 SF_6 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 CO_2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). For example, SF_6 is a GHG commonly used in the electrical utility industry as an insulating gas in circuit breakers and other electronic equipment. SF_6, 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 CO_2. Therefore, an emission of 1 metric ton (MT) of SF_6 could be reported as an emission of 22,800 $MTCO_2e$ (CARB, 2014a). Large emissions sources are reported in million MT (MMT) of CO_2e ($MMTCO_2e$).

Greenhouse Gas Emissions Inventories

California

California produced approximately 369.22 gross $MMTCO_2e$ in 2020. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 metric tons per person to 10.5 metric tons per person in 2019, a 25 percent decrease and about half the national average for per capita emissions. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2020, accounting for approximately 38 percent of total GHG emissions in the state. This sector was followed by the industrial sector at approximately 23 percent and the electric power sector (including both in-state and out-of-state sources) at approximately 16 percent (CARB, 2022a). California GHG emissions by economic sector from 2011 to 2020 are summarized in **Table 4.8-1**, *California Greenhouse Gas Emissions ($MMTCO_2e$)*.

TABLE 4.8-1 CALIFORNIA GREENHOUSE GAS EMISSIONS ($MMTCO_2E$)

Emission Inventory Category	2011	2012	2013	2014	2015	2016	2018	2019	2020
Transportation	221.635	215.677	216.634	217.471	226.797	235.928	240.791	239.748	233.975
Electricity Generation (In State)	42.781	54.645	53.657	53.079	52.101	44.147	40.355	40.491	38.642
Electricity Generation (Imports)	46.666	44.496	40.086	36.856	33.991	26.397	24.004	24.618	21.722
Commercial	20.450	19.568	19.951	20.150	20.832	21.576	21.769	22.302	22.955
Industrial	96.079	91.044	93.507	95.947	94.207	92.977	93.296	93.675	92.244
Residential	32.851	27.871	28.460	25.714	26.595	27.456	28.393	28.113	30.917
Agriculture	34.246	35.217	33.895	33.865	32.601	32.160	31.703	32.228	31.404
Military	2.683	3.282	2.675	2.973	2.622	2.282	2.414	2.228	2.206
Total Gross Emissions	**437.557**	**434.684**	**431.500**	**428.213**	**426.587**	**414.441**	**410.560**	**411.012**	**404.504**

SOURCE: CARB, 2022a.

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 impacts in California due to global climate change may include loss in snow pack; sea level rise; more extreme heat days per year; more high ozone days; larger forest fires; more drought years; increased erosion of California's coastlines and seawater intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation (CalEPA, 2006). 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; and
- 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

Federal

The principal air quality regulatory mechanism at the federal level is the federal 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 CAA. There are currently no federal regulations that set ambient air quality standards for GHGs.

USEPA regulations applicable to the project include the following.

Federal Clean Air Act

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-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. 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.

In 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the federal CAA. USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6). The Endangerment Finding was required before USEPA could regulate GHG emissions under Section 202(a)(1) of the CAA. 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.

Regulations for Greenhouse Gas Emissions from Vehicles

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by USEPA and the National Highway Traffic Safety Administration (NHTSA). The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. USEPA 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 (USEPA and NHTSA, 2016). In 2022, a

final rule established standards for passenger cars and light trucks requiring an industry-wide fleet average of 49 miles per gallon in 2026 (NHTSA, 2023).

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 $MTCO_2e$ emissions per year (USEPA, 2011). Additionally, reporting of emissions is required for owners of SF_6- 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 CO_2e 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 Code of Federal Regulations (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 recognizes that the main source of GHG emissions in California is from the transportation sector, 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 Executive Order S-1-07, CARB approved a proposed regulation to implement the Low Carbon Fuel Standard (LCFS) to reduce GHG emissions from the transportation sector in California by approximately 16 MMT 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 establishes performance standards that fuel producers and importers must meet each year beginning in 2011.

Executive Orders S-3-05 and B-30-15

Executive Order S-3-05 sets target dates to reduce statewide GHG emissions to historical levels, 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 sets a target date of 2030 to reduce GHG emissions to 40 percent below 1990 levels. 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), and Kern County is not a State agency. Furthermore, there is currently no implementation strategy for these Executive Orders (i.e., a plan, which apportions GHG reductions by economic sector/activity/region, similar to the Assembly Bill [AB] 32 Scoping Plan).

Assembly Bill 32 and Senate Bill 32

In 2006, AB 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006) focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 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, and is required to adopt rules and regulations directing State actions that would reduce GHG emissions to 1990 levels by 2020.

In 2016, Senate Bill (SB) 32 and its companion bill, AB 197, amended HSC Division 25.5 and established a GHG reduction target of 40 percent below 1990 levels by 2030, and included 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)). 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 (CARB, 2008). In 2014, the First Update to the Scoping Plan upon the initial Climate Change Scoping Plan with new strategies and recommendations (CARB, 2014b). CARB revised the projected statewide 2020 emissions estimate of 509.4 $MMTCO_2e$ using the GWP values from the IPCC AR4 509.4 MMTCO2e (CARB, 2014b). Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 $MMTCO_2e$ would be 78.4 $MMTCO_2e$, 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, 2022b). On November 16, 2022, CARB released the 2022 Updated Scoping Plan laying out the policies and actions California proposes to take to drastically reduce its dependence on fossil fuels and get to carbon neutrality by 2045 or earlier (CARB, 2022c).

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 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. CARB adopted the vehicular GHG emissions reduction targets, in consultation with the metropolitan planning organizations (MPOs), which require a 7 to 8 percent reduction by 2020 and a 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 (COG), 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. Kern COG's reduction target for per capita vehicular emissions is 5 percent by 2020 and 13 percent by 2035 (CARB, 2018).

Kern COG adopted the 2022 Regional Transportation Plan (RTP), which includes an SCS component in accordance with SB 375. The 2022 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.

Assembly Bill 1493

In a response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 was enacted by July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in 2004. When fully phased in, the near-term (2009-2012) standards will result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term standards will result in a reduction of about 30 percent.

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 $MMTCO_2e$ 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. The 2016 CALGreen Code became effective on January 1, 2017. The updated code addresses clean air vehicles and requirements for electric vehicle

charging infrastructure. The CALGreen Code was most recently updated in 2022 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2023.

California Renewables Portfolio Standard

California's Renewables Portfolio Standard Program was enacted in 2002 with SB 1078 and accelerated in 2006, requiring investor-owned utilities to obtain 20 percent of their electric supply from renewable energy sources, such as solar, by 2010. On April 12, 2011, Governor Brown signed SB 2X, requiring California retail electric providers, to procure 33 percent of their retail energy sales from eligible renewable sources by 2020. In October 2015, Governor Brown signed into legislation SB 350, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030 (CPUC, 2023).

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also created new standards for the RPS goals that were established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned and publicly owned utilities from 50 percent to 60 percent by 2030. Incrementally, these energy providers also are required to have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. The updated RPS goals are considered achievable, since many California energy providers are already meeting or exceeding the RPS goals established by SB 350. Governor Brown signed Executive Order B-55-18 with a new statewide goal to achieve carbon neutrality (zero-net GHG emissions) by 2045 and to maintain net negative emissions thereafter.

On September 16, 2022, Governor Newsom signed SB 1020, the Clean Energy, Jobs, and Affordability Act, which adds interim targets to the policy framework originally established in SB 100. The interim targets require renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent of all retail electricity sales by 2040. The bill also requires all state agencies to rely on 100 percent renewable energy and zero-carbon resources to power their own facilities by 2035 and encourages better information sharing and coordination between agencies for transmission planning.

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. It increased the standards set forth in SB 350 establishing that 44 percent of the total electricity sold to retail customers in California per year by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030 be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the State that eligible renewable energy resources and zero-carbon resources supply 100 percent of the retail sales of electricity to California. This bill requires that the achievement of 100 percent zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Senate Bill 1368

SB 1368 requires 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

CO_2e 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 included elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB, 2022d).

CARB adopted the Advanced Clean Cars II regulations in November 2022, imposing the next level of low-emission and zero-emission vehicle standards for model years 2026-2035 that contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality targets. By 2035, all new passenger cars, trucks and SUVs sold in California will be required to be zero emissions (CARB, 2022d).

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 (California Air Pollution Control Officers Association, 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

2022 Regional Transportation Plan/Sustainable Communities Strategy

The latest Regional Transportation Plan (RTP) was prepared by the Kern COG and was adopted on July 21, 2022. The 2022 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 2022 RTP is the SCS, which is required by California's Sustainable Communities and Climate Protection Act, of SB 375. CARB set targets for Kern's GHG emissions reductions from passenger vehicles and light-duty trucks at 9 percent per capita by 2020 and 15 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 closely coordinated the RHNA and RTP/SCS development process using the same oversight committee for both. Local jurisdictions will use the RHNA to identify locations to provide sufficient housing for all economic segments of the population and ensure that the state's housing goals are met.

Local

Construction and operation of the project would be subject to policies and regulations contained within the general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to GHG emissions. The policies and implementation measures in the Kern County General Plan related to GHG emissions 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.

Kern County General Plan

The Land Use, Open Space, and Conservation Element of the Kern County General Plan provides goals, policies, and implementation measures applicable to air quality, which would also reduce project GHG emissions. These policies are provided below.

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

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:

(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 PM_{10} 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 PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits.

Chapter 5. Energy Element

Solar Energy 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.

In 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.

Project conformance with an adopted CCAP would ensure the goal of AB 32 can be attained with the project.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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. The objective, policies, and implementation measure in the Mojave Specific Plan applicable to the project that would serve to reduce GHG emissions are provided below. The Mojave 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 Mojave Specific Plan are incorporated by reference.

Chapter 4. Conservation Element

Objective

Objective 4.3 Encourage conservation of energy resources.

Policies

Policy 4.3.1 Promote energy conservation measures contained in Title 24 of the California Code of Regulations.

Policy 4.6.3 Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.

Implementation Measure

Implementation Measure N-3a) Review construction plans prior to the issuance of building permits to ensure that energy efficiency requirements of Title 24 of the California Administrative Code are met.

West Edwards Road Settlement and Soledad Mountain Elephant Butte Specific Plans

The project is within the boundaries of the West Edwards Road Settlement Specific Plan and the Soledad Mountain Elephant Butte Specific Plan. Both address issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. There are no goals, policies, or implementation measures in the West Edwards Road Settlement Specific Plan or the Soledad Mountain Elephant Butte Specific Plan that are applicable to the project that would serve to reduce GHG emissions. In Kern County, specific plans are used to implement goals, objectives, and policies of the General Plan in a more detail and refined manner unique to a smaller area of the County. Since there are no applicable goals, policies, or implementation measures within the West Edwards Road Settlement Specific Plan or the Soledad Mountain Elephant Butte Specific Plan, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

Eastern Kern Air Pollution Control District

In 2012, EKAPCD adopted an addendum to its CEQA *Guidelines* to address GHG impacts, including quantitative thresholds for determining significance for GHG emissions for new stationary sources where EKAPCD serves as the lead CEQA review agency. A project is considered to have a significant project or cumulative considerable impact if it generates 25,000 tons or more of CO_2e per year (22,680 $MTCO_2e$). This 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 GHG reduction plan if 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 project's potential impacts to GHGs have been evaluated using a variety of resources, including the Air Quality and GHG Technical Report (Jacobs, 2023), which is provided in Appendix D of this EIR, and relevant literature including information and guidelines by CARB, USEPA, and the applicable provisions of CEQA. Additionally, the GHG savings from a 600 megawatt (MW) solar project with up to 4 gigawatt-hours (GWh) of battery energy storage capacity were estimated. Using the aforementioned resources and professional judgment, impacts were analyzed according to CEQA significance criteria described in the *Thresholds of Significance* section.

Construction and Decommissioning

The entire construction process was conservatively anticipated to occur over an approximately 28-month period. Short-term emissions are primarily from the construction phase of a project and are recognized to be short in duration and without lasting impacts on air quality. California Emissions Estimator Model (CalEEMod) 2021 Version was used to estimate emissions from construction worker vehicles and onsite construction equipment (BREEZE Software, 2021). Construction of the project would result in GHG emissions primarily associated with the use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. Detailed construction assumptions are provided in the Air Quality and GHG Technical Report, included in Appendix D of this EIR.

The project has an anticipated operational life of up to 35 years, at which time the operations may be renewed and onsite technology updated, or, alternatively, the project may 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 modeling included facility operations, worker commute trips, as well as haul truck trips and equipment operations (i.e., power washers) associated with the washing of solar panels. CalEEMod 2021 Version was used to estimate emissions from operation of the project. Operational year 2024 was assumed for this analysis as it is anticipated project operations may commence as early as 2024. Detailed operational assumptions are provided in the Air Quality and GHG Technical Report, included in Appendix D of this EIR. Emissions from each source (i.e., area source, energy source, mobile source, solid waste, and water and wastewater) are discussed below:

- **Area Sources:** During operation of the project, area sources that would include the gas-insulated switchgear. Although SF_6 or other insulating gases are used as insulation in electric power transmission and distribution equipment, their emissions would occur at very low rates due to the gas's low usage and minimal leak rate when contained by electric power equipment. Emergency backup generators may be required for the project's substations and battery energy storage systems in the unlikely event that primary power to these facilities is lost. If required, there would be diesel-fired battery energy storage generators and natural gas-fired substation generators. The generators would need to be intermittently run for maintenance and testing purposes and in a manner consistent with CARB's Airborne Toxic Control Measures for Stationary Compression Ignition Engines (17 California Code of Regulations Section 93115). Accordingly, the amount of operational emissions released by the backup generators would be minimal.

- **Energy Sources:** The estimation of operational energy emissions was based on electricity consumption for the security lighting, well pumps, and energy storage structure. This consumption was estimated using CalEEMod, assuming square footage for the electricity for the energy storage system and a building type of a refrigerated warehouse. The estimated energy usage and GHG emission factors for Southern California Edison (SCE) for year 2007 were used to conservatively calculate GHG emissions from energy sources.

- **Mobile Sources:** Mobile sources for the project would primarily be motor vehicles traveling to and from the project site. Annual miles traveled is estimated to be 106,338 miles per year, accounting for the commutes and performance of regular inspection and maintenance activities by six full-time-equivalent staff. Regulatory measures related to mobile sources include AB 1493 (Pavley) and related federal standards. AB 1493 required that CARB establish GHG emission standards for automobiles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the State. In addition, the NHTSA and USEPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles, light-, medium-, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from project's motor vehicles. Note that carbon intensity reduction associated with the

Low Carbon Fuel Standards was not assumed in the analysis and, therefore, the analysis is considered conservative.

- **Solid Waste:** The project would generate solid waste from maintenance activities; therefore, it would result in GHG emissions associated with landfill off-gassing. CalEEMod defaults were used for estimate GHG emissions associated with solid waste.
- **Water and Wastewater:** Supply, conveyance, treatment, and distribution of water for the project require the use of electricity, which would result in associated indirect GHG emissions. Water for dust suppression and cleaning the PV panels will come from either the Mojave Public Utility District, California City, or from groundwater sources via on-site wells. It is likely groundwater wells would utilize electricity generated onsite or from the local electrical grid; however, for a worst-case emissions generation perspective a diesel generator has been assumed to power the water well pumps. The emissions are accounted for in the energy source emission estimates.

Once operational, the project would generate renewable energy with minimal associated GHG emissions. Therefore, operation of the project would result in displaced GHG emissions due to the gradual switch from non-renewable GHG-generating energy to renewable energy. Total annual electricity generation was assumed to be 1,971,000 megawatt-hours annually, based on an assumed solar generation rate of 9 hours per day at 600 MW and accounting for 90,547 kilowatt-hours per year of electricity consumed by the project, based on water electricity intensity values for water supply, treatment, and distribution and electrical utility emission factors from CalEEMod User's Guide (BREEZE Software, 2021).

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 MT or more of CO_2e 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 business-as-usual 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.

GHG analysis is inherently cumulative. Project-related activities would contribute to the generation of GHG emissions during construction and operation and indirectly contribute to the reduction of GHG emissions during operation by providing low-GHG electricity to California customers and displacing higher GHG emitting resources. The applicable GHGs that have been quantitatively estimated for this project include CO_2, CH_4, and N_2O, presented as emissions of CO_2e. Although SF_6 or other insulating gases are used as insulation in electric power transmission and distribution equipment, their emissions would occur at very low rates due to the gas's low usage and minimal leak rate when contained by electric power equipment. As such, SF_6 or other insulating gas emissions have not been estimated for this project. Emissions from emergency backup generators have been estimated for this project, as the generators would need to be intermittently run for maintenance and testing purposes over the course of project operations, which would result in minimal emissions. In the event that emergency backup generators are required by the Authority Having Jurisdiction for project facilities such as project substations and battery energy storage systems, appropriate air permits will be obtained from EKAPCD. It is also expected that the diesel-powered emergency backup generators, if required, would be CARB-certified Tier 4 engines, and operated in accordance with applicable federal, state, regional, and local ordinances and regulations.

Directly emitted GHG emissions during construction, as well as indirect GHG emissions associated with electricity consumption for water use, would result in a less-than-significant, short-term impact to climate change. As summarized in **Table 4.8-2***, Estimated Project Construction Greenhouse Gas Emissions,* and

detailed in Appendix D of this EIR, the GHG emissions from the construction phase of the project would be well below EKAPCD's significance threshold of 25,000 tons per year of CO_2e (22,321 MT per year of CO_2e) with or without mitigation. Therefore, GHG emissions from construction of the project would result in less-than-significant impacts that are not cumulatively considerable.

TABLE 4.8-2: ESTIMATED PROJECT CONSTRUCTION GREENHOUSE GAS EMISSIONS

Phase	GHG Emissions CO_2e (metric tons)
Project Construction Emissions (metric tons/year) [a]	2,361
EKAPCD Threshold of Significance (metric tons/year) [b]	22,321
Exceed Threshold?	No

Notes:

[a] To facilitate comparison to the annual significance threshold, total construction emissions were scaled by a factor of 12 months to 28 months, reflecting an adjustment from the 28-month construction duration. It was assumed that all construction equipment and vehicles could operate simultaneously on any given day during the project.

[b] The EKAPCD Threshold of Significance was taken from EKAPCD's *Addressing GHG Emission Impacts For Stationary Source Projects When Serving As Lead CEQA Agency* (EKAPCD, 2012). Although this threshold is intended for project operations only, it was applied to construction emissions for comparison purposes.

Note: See Appendix D of this EIR for GHG emissions calculations. Note that the numbers have been rounded to the nearest metric ton and, therefore, values may not add exactly.

SOURCE: Jacobs, 2023.

Further, while the project has an anticipated operational life of up to 35 years, the default is to amortize construction emissions over a 30-year project lifetime. As shown in Table 4.8-2, *Estimated Project Construction Greenhouse Gas Emissions*, the total construction-related CO_2e emissions annualized over a default project lifetime (30 years) is equivalent to approximately 2,361 MT per year of CO_2e. In addition, annual operational emissions (due to vehicle travel, electricity consumption for water use, and potential intermittent use of emergency backup generators) would total 350 MT per year of CO_2e, which would result in a total project emission of 2,711 MT per year of CO_2e when considering both construction and operational emissions. This value is well below the EKAPCD threshold of 25,000 tons per year of CO_2e (22,680 MT per year of CO_2e). Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

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. The project would create renewable energy over the anticipated operational 35-year life of the project. This energy would 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 up to 600 MW of solar electricity as well as up to 4 GWh of energy storage. While the project has an anticipated operational life of 35 years, the default is to estimate displaced emissions over a 30-year project lifetime. As shown in **Table 4.8-3**, *Displaced GHG Emissions Over 30-Year Operational Lifetime,* the project would potentially displace approximately 357,000 MT of CO_2e of GHGs annually that would otherwise be emitted to produce an equivalent amount of energy from fossil fuel sources. Over the operational life of the project, the total potentially displaced emissions would be approximately 10,705,000 MT CO_2e. 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 and intermittent use of emergency backup generators.

TABLE 4.8-3: DISPLACED GHG EMISSIONS OVER 30-YEAR OPERATIONAL LIFETIME

	CO_2e (metric tons)
Net Annual Displaced Emissions	357,000
Net Total Project Displaced Emissions (assumes a 30-year project lifetime)	10,705,000

SOURCE: Jacobs, 2023.

Given that the project would result in a net decrease of CO_2e 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 measures would be required.

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 gas.

As discussed above, impacts were evaluated based on whether the project would be consistent with the State's applicable GHG reduction goals, plans, policies, and regulatory requirements as well as other federal, state, and local policies, as provided in the following analyses.

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 SB 32 GHG emissions reduction mandate, the Climate Change Scoping Plan relies on achievement of RPS goals in SB 350, which require that 50 percent of electricity provided by electric utilities be from renewable sources by 2030 (SB 350's targets were increased by SB 100), as well as other measures listed below. 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. The project and other similar projects are essential to achieving the RPS.

TABLE 4.8-4: CALIFORNIA GREENHOUSE GAS EMISSION REDUCTION STRATEGIES

Strategy	Project Design/ Mitigation to Comply with Strategy
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.	These are CARB enforced standards; vehicles that access the project and are required to comply with the standards would comply with these strategies.
Other Light Duty Vehicle Technology: New standards would be adopted to phase in beginning in the 2017 model.	

Strategy	Project Design/ Mitigation to Comply with Strategy
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.	
Diesel Anti-Idling: In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Project would be subject to State law.
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; 5) Enforce federal ban on releasing HFCs.	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.
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.	Not applicable
Manure Management: Reduction of volatile organic compounds from confined animal facilities through implementation of control options.	Not applicable
Alternative Fuels - Biodiesel Blends: CARB would develop regulations to require the use of one to four percent biodiesel displacement of California diesel fuel.	Not applicable
Alternative Fuels - Ethanol: Increased use of ethanol fuel.	Not applicable
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.	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.
Zero Waste - High Recycling: Additional recycling beyond the State's 50 percent recycling goal.	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.
Landfill Methane Capture: Install direct gas use or electricity projects at landfills to capture and use emitted methane.	Not applicable
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.	Not applicable
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.	The water used during operation of the project would be used in an efficient manner to reduce impacts to local water resources.

Strategy	Project Design/ Mitigation to Comply with Strategy
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.	Not applicable
California Solar Initiative: Installation of 1 million solar roofs or an equivalent 3,000 megawatts (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 a solar energy power generating capacity of approximately 600 MW and up to 4 gigawatt-hours (GWh) of battery energy storage capacity. Therefore, the project would help implement and not conflict with this strategy.

SOURCE: ESA, 2019.

TABLE 4.8-5: CONSISTENCY WITH APPLICABLE SCOPING PLAN ACTIONS FOR PROPOSED PROJECT

Sector	Action	Project Consistency
GHG Emissions Reductions Relative to the SB 32 Target	40% below 1990 levels by 2030	As a renewable energy generation facility, one of the project objectives is to support efforts to reduce greenhouse gas emissions consistent with California SB 32, to at least 40 percent below the statewide greenhouse gas emissions limit by 2030.
Electricity Generation	Sector GHG target of 38 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) in 2030 and 30 $MMTCO_2e$ in 2035 Meet increased demand for electrification without new fossil gas-fired resources.	The project, as a renewable energy generation facility, helping meet electricity demand without fossil gas-fired resources.
Combined Heat and Power	Facilities retire by 2040	The energy from this project would help enable combined heat and power facilities to retire by 2040.
High GWP Potential Emissions	Low GWP refrigerants introduced as building electrification increases, mitigating HFC emissions	The project would implement use of low GWP refrigerants.
High GWP Gases	SF_6 Leak Reduction Gas Insulated Switchgear	Very low amounts of SF_6 are used as insulation in electric power transmission and distribution equipment in the project, and their emissions would occur at minimal leak rates when contained by electric power equipment.

SOURCE: CARB, 2022c.

Kern COG's 2022 RTP

The 2022 RTP incorporates local land use projections and circulation networks in city and county general plans. The 2022 RTP is not directly applicable to the project because the underlying purpose of the 2022 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 2022 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 GHG emissions. As shown in the table below, 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 Subsection 4.8.3, *Regulatory Setting*, of this EIR).

TABLE 4.8-6: PROJECT CONSISTENCY WITH AN APPLICABLE PLAN, POLICY, OR REGULATION FOR GHG EMISSIONS

Adopted Plan, Policy, or Regulation	Consistency Determination	Project Consistency
Federal		
40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule.	Not applicable	The project would have direct CO_2e 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_2e 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 351. 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.
SB 100. 60% RPS by 2030 and 100% carbon-free by 2045	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	Air Quality Mitigation Measures would ensure that 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.
Mojave Specific Plan – Chapter 4. Conservation Element – Objectives and Polices	Consistent	The project, as a solar energy generation project, would serve to reduce reliance on non-renewable energy, which would encourage conservation of energy resources. A reduction of non-renewable energy use would further reduce GHG emissions.
West Edwards Road Specific Plan	N/A	There are no goals, policies, or implementation measures in the West Edwards Road Settlement Specific Plan that are applicable to the project that would serve to reduce GHG emissions and the goals and policies of the Kern County General Plan are the governing tool for any development.
Soledad Mountain Elephant Butte Specific Plan	N/A	There are no goals, policies, or implementation measures in the Soledad Mountain Elephant Butte

Adopted Plan, Policy, or Regulation	Consistency Determination	Project Consistency
		Specific Plan that are applicable to the project that would serve to reduce GHG emissions and the goals and policies of the Kern County General Plan are the governing tool for any development.

SOURCE: ESA, 2019.

To achieve the 2030 goal of SB 32, SB 350 sets ambitious 2030 targets for energy efficiency and renewable electricity, among other actions aimed at reducing GHG emissions across the energy and transportation sectors, and SB 100 sets even more ambitious renewable energy targets. The project involves the construction and operation and maintenance of a solar facility that would produce a new renewable source of energy in Kern County. Therefore, the project would directly support California's Renewable Portfolio Standard goal under SB 100 of increasing the percentage of electricity procured from renewable sources to 60 percent by 2030 and a target of 100 percent from eligible renewable energy resources and zero-carbon resources by 2045. The project additionally supports California's goal to increase renewable electricity procurement to 50 percent by 2030 as it provides a new source of renewable electricity for the State.

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, as well as state GHG emission reductions post-2020. As a renewable energy project generating approximately 600 MW and up to 4 GWh of battery energy storage capacity, the project would contribute to achieving the mandated emission reduction targets established by AB 32. Additionally, the project would comply with any applicable forthcoming regulations or requirements adopted under AB 32 or imposed by the State or federal government. Therefore, considering the project's minimal annual emissions and anticipated reduction in overall GHG emissions, the project is not expected to significantly contribute to global warming or climate change.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

SCE will relocate an existing 66 kilovolt transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of

existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. Construction activities to support realignment of the SCE transmission line and interconnection work were included in the GHG emissions analysis conducted for the project and detailed in Appendix D, *Air Quality and Greenhouse Gas Technical Report,* of this EIR. The GHG impacts for this work are included in the discussion of project impacts described above. The SCE transmission line and interconnection work would not generate GHG emissions, either directly or indirectly, with the potential to significantly affect the environment, and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG. Further, as facilities used to transport renewable energy to the grid, the SCE work would contribute to achieving the State's RPS goals and would not conflict with the state goals to reduce GHG emissions. No mitigation measures are required.

4.8.5 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 metric tons or more of CO_2e per year.

Total GHG emissions of 2,361 $MTCO_2e$ per year for construction of the project are shown in Table 4.8-3, *Estimated Project Construction Greenhouse Gas Emissions*. In addition to these project GHG emissions, other cumulative projects in the vicinity of the project site, identified in Chapter 3, *Project Description*, **Table 3-6**, *Cumulative Projects List*, largely consist of utility-scale alternative power generation (i.e., solar and wind) 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 Climate Change Scoping Plan relies on achievement of the RPS target of 50 percent by 2030. In order to meet the SB 32 GHG emissions reduction mandate, the 2022 Scoping Plan relies on achievement of the RPS target of 50 percent of California's energy coming from renewable sources by 2030. As previously discussed, the RPS target was updated in September 2018 under SB 100 to 60 percent by 2030 and 100 percent carbon-free by 2045. The project and other similar projects are essential to achieving the RPS and the State's 2045 goal for 100 percent carbon-free electricity.

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 and maintenance vehicles during project operations. Transportation sources account for 38 percent of California's total GHG emissions

(CARB, 2022a). 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 short-term contribution to cumulative GHG emissions in California, operation of the project would offset emissions from the electricity generation sector. It is estimated that the project would displace approximately 10,705,000 $MTCO_2e$ over the project's 30-year lifespan (refer to Table 4.8-4, *Displaced GHG Emissions Over 30-Year Operational Lifetime*). Therefore, the total GHG construction emissions that would be associated with the project would likely be offset by less than one month of operations. Overall, the project 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.

Mitigation Measures

No mitigation measures 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 EIR describes the affected environment and regulatory setting pertaining to hazards and hazardous materials. This section also describes potential impacts on residences and other sensitive receptors that could result from implementation of the project (other than geologic hazards; see Section 4.7, *Geology and Soils*, of this EIR), and presents mitigation measures that would reduce these impacts, if applicable. Information in this section is based on publicly available databases, including the Department of Toxic Substances Control's (DTSC) EnviroStor and State Water Resources Control Board's (SWRCB) GeoTracker. This section also incorporates the Project Summary (Partner, 2023), which summarizes the Phase I Environmental Site Assessments (ESAs) conducted for the project parcels, prepared by Partner Engineering and Science, Inc., located in Appendix I of this EIR and incorporated by reference herein.

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 (EMF), 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. The project and project site are defined in Chapter 3, *Project Description,* and depicted in **Figure 3-2**, *Local Vicinity*.

Existing Setting

The project is located at the western edge of the Antelope Valley on lands that gradually slope downward from the northwest to the southeast. Elevations across the project site range from approximately 2,750 feet above mean sea level in the northwest portion of the site to approximately 2,520 feet above mean sea level in the southeast portion of the site. The topography of the project area is relatively flat as the project site is south of the Tehachapi Mountains.

Development in the area surrounding the project site is primarily used for rural residential, agricultural, undeveloped land, and large-scale renewable energy purposes. The closest schools to the project site are the Mojave Elementary School and Mojave Junior/Senior High School, located adjacent to one another approximately 1.3 miles northeast of Site 2 (Western). These schools are also located approximately 2 miles northwest of Site 1 (Northern). The nearest public airport to the project site is Mojave Air and Space Port Airport, located approximately 0.3-mile north of Site 1 (Northern). State Route (SR)-14 and SR-58 are the nearest highways to the project site, located adjacent to Site 1 (Northern), Site 2 (Western) and Site 3 (Eastern).

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 ESA. The American Society for Testing and Materials (ASTM) defines a 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, 2021).

Phase I ESAs conducted for the project parcels were used to determine potential risks of encountering legacy contaminants at the site and the Project Summary (Partner, 2023) is included herein as Appendix H of this EIR. The Phase I ESAs did not identify any RECs on the project site.

Photovoltaic Solar Panels and Cadmium Telluride

Photovoltaic (PV) solar panels that would be installed on the project site are made from crystalline silicon or thin film technology. Crystalline 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 crystalline silicon solar panels would not be a source of pollution to surface water, stormwater, or groundwater. Crystalline silicon panels removed from the site would be recycled or otherwise disposed of at an appropriate waste disposal facility.

The PV solar modules that would likely be installed on the project site utilize cadmium telluride (CdTe) thin film technology. The semiconductor layer in the modules is in the environmentally stable form of a compound rather than the leachable form of a metal. The 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 three-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 Cd 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 or non-Resource Conservation and Recovery Act (RCRA) 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.

Energy Storage System

The proposed energy storage system(s) is described in Section 3.7.2, *Energy Storage System*, in Chapter 3, *Project Description.* The energy storage system(s) will be required to comply with Chapter 1206 of the California Fire Code (CFC) and County standards. Section 1206 of the Fire Code applies to stationary electric energy storage systems and addresses development standards for design, installation, commission, operation, maintenance, and decommissioning of these systems. This includes fire and safety equipment requirements that will be approved by the Fire Code officials having jurisdiction over the project and equipment and system fire testing in accordance with nationally adopted Underwriters Laboratory (UL) standards, which includes stringent standards for commissioning, operation and maintenance, ongoing inspection and testing, decommissioning, seismic and structural design, signage, security installations, fire detection and suppression systems, vegetation control and minimum setbacks from lot lines, roads, and adjacent buildings. Compliance with these advanced, nationally adopted standards are designed to ensure the site installation and operation of battery storage systems are safe for operators, first responders, and neighboring communities. All non-battery rooms would have County approved fire suppression systems. The structure would also have heating, ventilation, and air conditioning (HVAC) cooling in the battery room to maintain energy efficiency. Batteries may include small amounts of solid and liquid materials considered to be hazardous. All battery storage systems would be in accordance with Occupational Safety and Health Administration (OSHA) requirements.

Historical Property Use

The project site and surrounding area have historically been undeveloped or sparsely developed with transportation routes or railroad lines. Existing development in the project vicinity primarily consists of rural residential, agricultural, undeveloped land, and large-scale renewable energy developments. According to a review of the DTSC Envirostor database, there are no hazardous release sites located within the project site (DTSC, 2023). Similarly, the SWRCB GeoTracker database also showed no listed release sites within the project site (SWRCB, 2023).

Edwards Air Force Base Existing Contamination

The southern portion of the project site is located immediately north of the Edwards Air Force Base (AFB). Edwards AFB is a Superfund site and was reported in several regulatory databases. Groundwater and soils have been contaminated with various solvent and fuel volatile organic compounds, benzene, toluene, ethyl benzene and xylene, perchlorate, 1,4-dioxane, N-Nitrosodimethylamine, and various metals. In addition to these contaminants, landfills may contain unexploded ordnance or other munitions-related materials. An extensive groundwater-monitoring program is already under way. Many of the 471 potential contamination sites are listed as needing no further investigation or no further action because of insignificant residual contamination. Based on the USEPA Briefing Map, dated June 2008, the contamination plumes appear to be generally down-gradient and outside of the immediate vicinity of the proposed project site.

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 humanmade 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 humanmade 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 include transmission lines and interconnect to the existing power grid via connection to the Southern California Edison (SCE) Windhub Substation, thereby creating EMFs. Grid connection and gen-tie alignment are discussed in further detail in Chapter 3, *Project Description*, of this EIR.

On January 15, 1991, the California Public Utilities Commission (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 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, the 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.

In addition to transmission lines, the project proposes energy storage system(s), which would use direct current (DC)-coupled and/or alternating current (AC)-coupled battery storage. The energy storage technology and design for energy storage facilities has not been determined at this time. Regardless of the energy storage system ultimately selected, the system would occur as DC or AC-coupled, which produce static EMFs that have not been associated with adverse health effects.

Increase in Ambient Temperatures

All exposed surfaces (e.g., houses, cars, and 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 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.

A study was conducted in 2016 that found that temperatures over solar PV panels were regularly 3 to 4 degrees Celsius warmer than wildlands at night, which contradicted previous work on the heat island effect of solar PV panels. However, while findings demonstrated that temperatures around solar PV panels were warmer than nearby wildlands, it was also concluded that the heat dissipates quickly and cannot be measured 100 feet away from the solar PV systems (Barron-Gafford et al., 2016). Therefore, while the project could result in a heat island effect, it would be localized to the project site and areas within 100 feet of the project boundaries.

Hazardous Materials Transportation

The nearest highways are SR-14, a four-lane highway located adjacent to Site 2 (Western), and SR 58, a four-lane highway located adjacent to Site 1 (Northern) and Site 3 (Eastern). 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, SR-14 and SR-58 are designated as adopted commercial hazardous materials shipping routes.

Airports

The nearest public airport to the project site is Mojave Air and Space Port Airport, located approximately 0.3-mile north of Site 1 (Northern). Portions of the project site are located within the Airport Influence Area of the Mojave Air and Space Port, and specifically within Compatibility Zones B1, B2, C, D, and E1, according to the Kern County Airport Land Use Compatibility Plan (ALUCP; County of Kern, 2012). 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. Additionally, storage of fuels and other hazardous materials are restricted from Compatibility Zones A and B. Projects located within an Airport Influence Area must also meet the requirements of Federal Aviation Regulation 14 Code of Federal Regulations (CFR) Part 77, described below. **Table 4.9-1**, *Kern County ALUCP Compatibility Zones,* describes the Compatibility Criteria for each zone.

TABLE 4.9-1: KERN COUNTY ALUCP COMPATIBILITY ZONES

Zone	Location	Impact Elements	Maximum Densities		Required Open Land
			Residential (du/ac[a])	Other Uses (people/ac)	
A	Runway Protection Zone or within Building Restriction Line	• High risk • High noise level	0	10	All Remaining
B1	Approach/Departure Zone and Adjacent to Runway	• Substantial risk – aircraft commonly below 400 feet above ground level (AGL) or within 1,000 feet of runway. • Significant noise	0.1	60	30%
B2	Extended Approach/Departure Zone	• Significant risk – aircraft commonly below 800 feet AGL. • Significant noise	0.5	60	30%
C	Common Traffic Pattern	• Limited risk – aircraft at or below 1,000 feet AGL. • Frequent noise intrusion	15	150	15%
D	Other Airport Environs	• Negligible risk • Potential for annoyance from overflights	No Limit	No Limit	No Requirement
E	Special Land Use	• Compatibility issues	15	150	No Requirement

Notes:
Additional criteria is provided in Table 2A of the Kern County ALUCP.
[a] du/ac = dwelling unit per acre

The project site is also located within the military flyover area and the R-2508 Complex of the Edwards AFB, located approximately 11.5 miles southeast of Site 4 (Southern). Per Kern County Zoning Ordinance Section 19.08.160, Figure 19.08.160, military review is required within yellow delineated areas for all structures over 500 feet and within red hash delineated areas for all wind turbines and communication towers over 80 feet and all other structures over 100 feet. The project overlaps with both the military review

area for all structures over 500 feet (yellow) and the review area for all wind turbines and communication towers over 80 feet and all other structures over 100 feet (red hash). **Figure 3-7**, *Existing ALUCP*, identifies the location of the project within the Mojave Air and Space Port Airport Influence Area, and specifically within Compatibility Zones B1, B2, C, D, and E1. Edwards AFB military review areas are depicted in Figure 19.08.160 of the County's Zoning Ordinance.

Fire Hazard Areas

The California Department of Forestry and Fire Protection (CAL FIRE) 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. According to the CAL FIRE Kern County Fire Hazard Severity Zone (FHSZ) Maps for Local Responsibility Areas (LRA) and State Responsible Areas (SRA), most of the project site is classified as LRA Moderate and a portion of the project site, specifically Site 5 (Step-up Substation) and the western most portion of the gen-tie line, is within an area categorized as SRA Moderate (CAL FIRE, 2022). Given this designation, the project site is outside of areas identified by CAL FIRE as having substantial or very high risk. Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. The closest SRA Very High FHSZ is located approximately 13 miles west of the project site, and no LRA Very High FHSZs exist within Kern County. The project site is also sparsely vegetated. Impacts related to wildfire hazards are further discussed in Section 4.18, *Wildfire*, of this EIR.

4.9.3 Regulatory Setting

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (USEPA) was established in 1970 to consolidate a variety of federal research, monitoring, standard-setting, and enforcement activities to ensure environmental protection. The USEPA's mission is to protect human health and to safeguard the natural environment, air, water, and land, upon which life depends. The USEPA 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 USEPA 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, and Hazardous and Solid Waste Act

The Federal Toxic Substances Control Act (1976) and RCRA of 1976 established a program administered by the USEPA to regulate the generation, transportation, treatment, storage, and disposal of hazardous

waste. The 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 and Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as "Superfund," was enacted by Congress on December 11, 1980. This law (42 United States Code [U.S.C.] 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 (Title 40, CFR, Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Clean Water Act and Spill Prevention, Control, and Countermeasure Rule

The Clean Water Act (CWA) (33 U.S.C. 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 (WOTUS). As part of the CWA, the USEPA 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

The Federal Aviation Administration (FAA) regulates aviation at regional, public, private, and military airports, such as Mojave Air and Space Port, located approximately 0.3 mile north of the project site (Site 1, Northern). The FAA regulates objects affecting navigable airspace and structures taller than 200 feet according to Federal Aviation Regulation 14 CFR Part 77. 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.

As described in 14 § CFR 77.9 (construction or alteration requiring notice), each sponsor who proposes any of the following construction or alteration scenarios shall notify the FAA in the form and manner as follows:

(a) Any construction or alteration that is more than 200 ft. above ground level (AGL) at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Per 14 CFR 77.7, notification requirements include sending one executed form set of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be located. The notice required must be submitted at least 45 days before the earlier of the following dates: (1) the date the proposed construction or alteration is to begin; or (2) the date an application for a construction permit is to be filed.

The U.S. Air Force implements FAA and U.S. Department of Defense policy and guidance regarding Special Use Airspace and Airspace for Special Use through various instructions, processes, and organizations. The Air Force Flight Standards Agency, AF/A30, Headquarters Air Force Encroachment Management Working Group, major command, and Unit Airspace Managers are responsible for identifying and evaluating projects that may adversely affect operations associated with military airfields, ranges, and airspace.

Other Regulations

Other federal regulations overseen by the USEPA 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 WOTUS.

Occupational Safety and Health Administration

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. OSHA staff establish and enforce protective standards and reach 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 a site exposed to hazardous substances, health hazards, or safety hazards, their supervisors, and management responsible for the site to receive training that meets 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.

State

California Fire Code, Chapter 12

Chapter 12 of the 2022 CFC includes requirements for battery energy storage systems greater than 20 kilowatt-hours, which includes the proposed energy storage facilities. Chapter 12 includes requirements for vehicle impact protection, location, spacing between batteries, egress, security, seismic and structural

design, and fire suppression systems. Chapter 12 also sets maximum allowable battery quantities and specific battery type requirements for battery technologies including lead acid, nickel cadmium, lithium, sodium, etc. Design and installation requirements are also outlined in Chapter 12.

California Building Code, Section 322

Section 322 of the 2022 California Building Code includes requirements for the storage of lithium-ion and lithium metal batteries, which may include the proposed energy storage facilities pending final design. Section 322 includes structural design requirements for energy storage systems utilizing lithium-ion and lithium metal batteries, in addition to fire protection requirements for both indoor and outdoor storage systems. Section 322 also requires development of a fire safety plan.

California Public Utilities Commission General Order 95: Rules for Overhead Electric Line Construction

General Order (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-kilovolt (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.

Power Line Hazard Reduction (PRC 4292)

Public Resources Code (PRC) 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 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 4296.

Power Line Clearance (PRC 4293)

PRC 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 (14 CCR 1254)

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 Public Resources Code 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 (AGL): 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 (Health and Safety Code, Division 20, Chapter 6.95, Article 1). 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 (i.e., 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, 200 cubic feet of compressed gas, a hazardous compressed gas in any amount, or hazardous waste in any amount. An 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; and
- Closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying hazardous materials, including listed wastes from common manufacturing processes and specific industries, 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 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 Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are as follows:

- Hazardous Waste Generator and On-site 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;
- Underground Storage Tank (UST) Program; and
- 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 CUPA. The CUPA in Kern County is the Environmental Health Division of the Kern County Public Services Department.

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), SWRCB, Regional Water Quality Control Board, California's Department of Resources Recycling and Recovery (known as 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

The 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. The DTSC regulates hazardous waste primarily under the authority of the RCRA and 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.

U.S.C. 65962.5, commonly referred to as the Cortese List, includes the DTSC's hazardous waste Sites and the Site Cleanup List. The Cortese List also includes the Department of Health Services list 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

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 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 HMBPs. 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 an HMBP 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 OSHA (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 to 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 to 1152.10)). Inhalation hazards face similar, more restrictive rules and regulations (13 CCR 6 (2.5) (1157 to 1157.8)). Transportation of radioactive materials is restricted to specific safe routes.

Local

Construction and operation of the project would be subject to policies and regulations contained within the County's general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to hazards and hazardous materials. The policies, goals, and implementation measures in the Kern County General Plan related to hazards and hazardous materials 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.

Kern County General Plan

Chapter 1. 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.

1.3 Physical and Environmental Constraints

Goal

Goal 1: To strive to prevent loss of life, reduce personal injuries and property damage, and minimize economic and social diseconomies resulting from natural disaster by directing development to areas that 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 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.

Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.

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

Policy

Policy 2: Innovative technologies to manage hazardous waste streams generated in Kern County will be encouraged.

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.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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. The goal, policies, and implementation measures in the Mojave Specific Plan for hazards and hazardous materials applicable to the project are provided below. The Mojave 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 Mojave Specific Plan are incorporated by reference.

Land Use Element

Policy

Policy 3.1.3: Development projects shall be consistent with the adopted Kern County Airport Land Use Compatibility Plan.

Seismic and Safety Element

Objective

Objective 9.3: Protect the community from human-caused hazards related to air and ground transportation, hazardous materials, and other human activities.

Policies

Policy 9.3.1: Encourage all generators and processors of hazardous waste to develop long-term waste management programs in compliance with the Kern County General Plan.

Policy 9.3.2: Ensure that hazardous materials used in business and industry are properly handled, and that information on their handling and use is available to fire protection and other safety agencies in accordance with the Fire Code.

Policy 9.3.3: Ensure that development projects are consistent and compatible with the Kern County Airport Land Use Compatibility Plan and Mojave Specific Plan.

Policy 9.3.4: Reduce the risk of potential spills and exposure from ground transportation hazards, such as rail, truck, and roadway systems.

Implementation Measures

Measure A-2: **Kern County Airport Land Use Compatibility Plan**. All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the Mojave Airport and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the military complex airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.

Measure B-4: **Airport**. The County will continue to enforce airport safety, height, and obstruction clearance criteria set forth in Federal Aviation Regulations, Part 77 (FAR Part 77) and implemented through the Airport Land Use Compatibility Plan. The County will review development applications in areas surrounding the Airport to ensure consistency of such uses with the Airport Land Use Compatibility Plan (ALUCP).

Measure C-5: **Land Use, the Mojave Airport, and Military Airspace**. The County will continue to enforce airport safety, height, and obstruction clearance criteria set forth in Federal Aviation Regulations, Part 77 (FAR Part 77) and implemented through the Airport Land Use Compatibility Plan. The County will review development applications in areas surrounding the Airport to ensure consistency of such uses with the Airport Land Use Compatibility Plan (ALUCP).

Measure M-5: **Commercial Hazardous Waste**. Require commercial and industrial businesses to meet the procedures for the proper use, storage and disposal of hazardous waste required by the Kern County Waste Management Department, the County Fire Department, and Environmental Health Services. These procedures include, but are not limited to, the following:

a) Submittal of business plans for small quantity waste generators to the County Department of Environmental Health Services and the County Fire Department.

b) Submittal of source reduction plans for large quantity generators that address the potential of treating waste on site and proper transportation and disposal of waste off site. These plans are reviewed by the Department of Environmental Health Services and the County Fire Department.

c) Evaluation of funding sources for waste management and disposal programs.

d) Coordination with the State Department of Health Services.

Measure M-7: **Transport of Hazardous Waste**. Require that transporters of hazardous waste travel on designated Commercial Hazardous Waste Shipping Routes as identified in the Kern County General Plan Circulation Element.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan addresses issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. The goal, policy, and implementation measures in the West Edwards Road Settlement Specific Plan for hazards and hazardous materials applicable to the project are provided below. The West Edwards Road Settlement 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 West Edwards Road Settlement Specific Plan are incorporated by reference.

Safety Element

Goal

Goal 1: Reduce death, injuries, damage to property, and economic and social dislocations resulting from natural environmental or man-influenced hazards.

Implementation

Measure 2: All construction shall comply with the requirements of the Kern County Code of Building Regulations and the Uniform Fire Code (UFC) regarding water supply, fire flow, and construction standards.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. There are no recommendations, analyses, or implementation measures in the Soledad Mountain Elephant Butte Specific Plan for hazards and hazardous materials applicable to the project. The Soledad Mountain Elephant Butte Specific Plan contains additional recommendations, analysis, 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 Soledad Mountain Elephant Butte Specific Plan are incorporated by reference.

Kern County Multi-Hazard Mitigation Plan

The latest Kern County Multi-Hazard Mitigation Plan was most recently updated in 2020. 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, the County can be eligible for grant funding intended for mitigation projects (County of Kern, 2020).

Kern County Fire Department Wildland Fire Management Plan

The Kern County Fire Department (KCFD) Wildland Fire Management Plan documents the assessment of wildland fire situations throughout the SRAs within the County. The KCFD 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 (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 2022 CFC and the 2021 International Fire Code (IFC) 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, updated in April 2022, 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. 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. 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 Edwards AFB is also listed separately as Military Base and is not a KCFD fuel management area. The project site is located within Battalion 1, Tehachapi (KCFD, 2022).

Fire Prevention Standard No. 503-507 Solar Panels

The KCFD Fire Prevention Division adopted Standard No. 503-507, Solar Panels (Ground Mounted, Commercial, and Residential), on April 8, 2021. The standard is implemented in accordance with the 2019 CFC and Kern County Ordinance and is an official interpretation of the Kern County Fire Marshal's Office. The standard outlines installation requirements for PV 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, 2021).

Kern County Department of Environmental Health Services Division

The Kern County Environmental Health Services Department is the CUPA for the project area, which provides site inspections of hazardous materials programs (aboveground storage tanks, USTs, hazardous waste treatment, hazardous waste generators, hazardous materials management and response plans, and the CFC). 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 permitted hazardous waste management facilities to ensure compliance with federal and State hazardous waste regulations.

Kern County Airport Land Use Compatibility Plan

The Kern County ALUCP establishes procedures and criteria by which the County can address compatibility issues when making planning decisions concerning airports and military aviation operations. 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 polices 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 apace; and (4) general concerns related to aircraft overflights.

The project would be located within the Airport Influence Area of Mojave Air and Space Port, and specifically within Compatibility Zones B1, B2, C, D, and E1, according to the ALUCP. Section 4.9 of the ALUCP addresses the Mojave Air and Space Port, and land uses and procedures relative to its aviation and includes height restrictions, and other compatibility criteria.

In addition, due to the location of the project site within the R-2508 Complex and proximity to the Edwards AFB, 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 project within 50 miles of R-2508 that emit radio and communications frequencies.
- 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.

Kern County Zoning Ordinance

The Kern County Zoning Ordinance has regulations regarding maximum permitted heights, both within specific zone districts and in districts with the Airport Approach Height (H) Combining District. The purpose of the H Combining District is to minimize aviation hazards by regulating land uses, restricting the height of buildings and vegetation, and specifying design criteria necessary to promote aviation safety. Structure height is restricted to prevent aesthetic impacts and to provide privacy for neighboring properties. Height limits are also established for structures within the Joint Service Restricted R-2508 Complex (which is part of a Special Use Airspace) that require written concurrence from the military authorities responsible for operations in the area.

Site 3 (Eastern) contains parcels with an H Combining District overlay. All buildings, structures, plants, and trees in an H Combining District are restricted to 35 feet in height. For any proposed structure or vegetation that will exceed a height of 35 feet within a H Combining District, a letter from the FAA is required which states that the proposed development does not constitute a hazard to air traffic and does not violate any federal regulations. The letter shall also include any special conditions imposed by the FAA. Additionally, no proposed structures can exceed the height limitations of the underlying zoning district. The project includes rezoning of parcels to A or A H (Exclusive Agriculture, Airport Approach Height Combining) with the exception of those parcels that are already in the A Zone District. Accordingly, the underlying zoning district for the five non-contiguous project sites, including the four solar facility sites plus the step-up substation site, would be A upon approval. Exclusive Agriculture (A) restricts height to 150 feet for radio, television, communication, and microwave towers and contains no height restrictions for nonresidential structures, except in areas of protected military airspace. Section 19.08.160 of the County's Zoning Ordinance contains military review requirements as they relate to the height of proposed structures.

4.9.4 Impacts and Mitigation Measures

Methodology

The methodology for determining impacts relating to hazardous materials focuses on (1) the potentially significant impacts related to the routine transport, use, or disposal of hazardous materials and the release of hazardous materials into the environment; and (2) proposed project components that could result in environmental contamination. The proposed project's potential impacts to hazards and hazardous materials have been evaluated using a variety of resources, including public records and databases maintained by DTSC, SWRCB, and California Geologic Energy Management Division (CalGEM). 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 handle hazardous or acutely hazardous materials, substances, or waste within 1/4 mile 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 interfere 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;*
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.*

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

Construction of the proposed project (solar facilities, energy storage, grid interconnection, and associated appurtenances) would not involve the routine transport, use, or disposal of significant quantities of

hazardous materials, as defined by the Hazardous Materials Transportation Uniform Safety Act. Most of the hazardous materials use and hazardous waste generated by the project would occur during the temporary construction period. Materials may include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, herbicides, and welding materials/supplies. Some solid hazardous waste, such as welding materials and dried paint, may also be generated during construction. Materials would be transported to the project site during construction, and any hazardous wastes produced as a result of project construction would be collected and transported away from the site in accordance with best management practices (BMP).

During construction of the project, material 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,* of this EIR). Workers would be trained to properly identify and handle all hazardous materials and the project proponent would implement a site-specific HASP in accordance with OSHA requirements. 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.

Any non-hazardous debris generated during project construction would be disposed of in local landfills. Sanitary waste would be managed using portable toilets located at a reasonably accessible onsite location.

Hazardous materials such as petroleum 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 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 and small quantities 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, impacts during construction would be less than significant.

Operation

Primary O&M activities that would occur on the project site during operation would consist of periodic panel washing but would also include without limitation: liaison and remote monitoring; administration and reporting; semi-annual and annual services; remote operations of inverters and battery energy storage systems; site security and management; additional communication protocol; as-needed repair and maintenance of project facilities; and mowing and vegetation control. No heavy equipment would be necessary during normal project operations. It is anticipated that approximately six permanent full-time staff employees would be needed to maintain the facility. It is expected that staff will primarily operate from an operations facility that is off-site. However, small satellite portable office trailers may be placed on the project site to help facilitate rapid repair of equipment.

O&M activities associated with PV solar facilities are relatively minor when compared to conventional power plants or even other industrial land uses, and would require very limited use of hazardous materials

and generation of hazardous waste. 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. The project has an anticipated operational life of up to approximately 35 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.

Hazardous materials in quantities that would create a significant risk to the public or environment generally are not stored onsite during operations except for the onsite batteries, which will be stored in compliance with the Fire Code requirements. Limited amounts of hazardous materials would be used on the site during operations, which includes diesel fuel, gasoline and motor oil for vehicles, mineral oil to be sealed within the transformers. 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.

The PV modules installed on the project site could utilize CdTe thin film technology and/or crystalline silicon panels. As described above in Section 4.9.2, *Environmental Setting*, in the event that CdTe thin film technology is selected, it 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 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- to 35-year life. Studies indicate that unless the PV module is purposefully ground to a fine dust, use of CdTe in PV modules does 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, in the event CdTe PV systems are selected for the project, they 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.

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. Any hazardous materials that would be used would be stored onsite and in designated areas in accordance with an HMBP.

All transformers would be equipped with spill containment areas and battery storage would be in accordance with OSHA requirements. 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. SR-14 and SR-58 would be the likely designated routes 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 potential impacts related to hazards and hazardous materials to a less-than-significant level.

The five non-contiguous sites, including four solar facility sites plus the step-up substation site (Site 1 through 5), would be secured and enclosed by a fence surrounding each site to prevent public access to the project site. The project would interconnect to the grid via a new double-circuit gen-tie line to be installed within the gen-tie corridor as part of the previously approved Sanborn Solar Project (2020). These connections would not require use of hazardous materials during operation (see EMF discussion below).

Further, implementation of the project would not result in the significant risk of EMFs associated with overhead power lines, as the project would interconnect into the existing Windhub Substation and from there the electricity would be transmitted through existing SCE high-voltage transmission lines. In addition, the project would adhere to applicable CPUC and SCE requirements and guidelines on location of gen-tie lines and gen-tie connections. Accordingly, impacts in this regard would be less than significant.

Decommissioning and Disposal

During the decommissioning and disposal process, it is anticipated that project facilities would be fully removed from the ground. Aboveground equipment that would be removed would include module posts and support structures, on-site transmission poles that are not shared with third parties, and the overhead collection system within the site, inverters, transformers, electrical wiring, battery storage equipment, and equipment on the inverter pads. The substation would be removed if it is owned by the project proponent; however, if a public or private utility assumes ownership of the substation, the equipment may remain on-site to be used as part of the utility service to supply other applications.

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 off-site site to be recycled or disposed of at an appropriately licensed disposal facility. Removal of the solar modules would include removing the racks on which the solar panels are attached and placing them in secure transport crates and a trailer for storage for ultimate transportation to another facility or to a recycling or disposal facility. The project would include BMPs to ensure the collection and recycling of modules and to avoid the potential for modules to be disposed of as municipal waste.

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 concrete posts will be removed to grade level. The fence and gates would be removed, and all materials would be recycled to the extent feasible. Project roads would be restored to their preconstruction condition unless the landowner elects to retain the improved roads for access throughout that landowner's property. 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. A collection and

recycling program would be executed to promote recycling of project components and minimize disposal in landfills.

The PV module manufacturer would likely provide module collection and recycling services. In any case, current PV modules pass federal leaching criteria for non-hazardous waste, due in part to the low solubility of, which means they would not pose a significant risk for cadmium leaching if they reached a landfill. Several peer-reviewed studies have evaluated the environmental, health, and safety aspects of PV modules. Disposal risks of end-of-life PV modules are minimized because of the low solubility of PV panel materials and because the modules can be effectively recycled at the end of their approximately 30- to 35-year life. Studies indicate that unless the PV module is purposefully ground to a fine dust, use of PV modules do not generate any emissions (Fthenakis, 2003). These studies have consistently concluded that use of PV modules do not present an environmental risk.

Batteries may be considered hazardous waste in California when they are discarded. Batteries will remain sealed when on the project site. As batteries are removed, they will be discharged, hauled offsite, and recycled or disposed of at an appropriate location in accordance with all applicable hazardous waste requirements.

Mitigation Measures

MM 4.9-1: During the life of the project, including decommissioning, the project operator shall prepare and maintain a Hazardous Materials Business Plan (HMBP), 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 (CERS) at http://cers.calepa.ca.gov/ for review and acceptance by the Kern County Environmental Health Services Division/Hazardous Materials Section. The HMBP 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 HMBP as well as ensure that one copy is available at the project site at all times. In addition, a copy of the accepted HMBP from CERS shall be submitted to the Kern County Planning and Natural Resources Department for inclusion in the project's permanent record.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.9-1, potential 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 CalGEM, 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, 2023). 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. In addition, the Phase I ESA Summary Report prepared for the proposed project did not identify any RECs on the project site (Appendix I of this EIR).

During project construction, equipment used may require minimal onsite fueling and limited maintenance, which could potentially result in spills of petroleum products or hazardous materials. In addition, oil-containing transformers will be filled onsite with biodegradable oils prior to completion of construction. The likelihood of incidental spills would be minor because of the following reasons:

- Storage of any hazardous materials onsite during construction will be on appropriately sized secondary containment; fueling will occur over appropriate spill containment.
- Filling of transformers will be on appropriately sized secondary containment.
- Maintenance activities during construction will occur at an offsite location.

As part of BMPs, an SPCC Plan will be developed for both construction activities and operations following construction. The project will implement applicable BMPs included in a National Pollutant Discharge Elimination System-mandated Stormwater Pollution Prevention Plan (SWPPP) during construction to minimize this potential. Relevant BMPs would include designated fueling and maintenance areas that are supplied with temporary spill containment equipment, such as absorbent booms and pads, and petroleum waste disposal containers. Further discussion regarding the construction SWPPP is provided in Section 4.7, *Geology and Soils,* of this EIR. Similarly, as part of BMPs, workers will be protected from exposure to hazardous wastes through the development and implementation of the Site Management/Health and Safety Plans in accordance with applicable laws and regulations.

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 project 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 installation and use of transformers, 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

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. Appropriate spill containment and cleanup kits would be maintained during operation of the project. 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 crystalline silicon PV systems does not result in pollution emissions to air, water, or soil. Crystalline 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 crystalline silicon solar panels. Similarly, fire damage would not result in the release of hazardous materials. The crystalline silicon PV panel does not pose a threat to nearby residences. In the event that CdTe PV modules are used for the project, the CdTe PV module 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 degree 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., 2012)

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, one 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. Environmental risks of both crystalline silicon and thin film CdTe PV technologies have been evaluated by the International Energy Agency, using USEPA environmental Fate (eFate) and transport methods for potential emissions to air, water, and soil from non-routine events such as fire and field breakage. Based on comparisons with USEPA health screening levels, crystalline silicon and thin film CdTe PV technologies do not present a health risk in the

event of fire or breakage, with regards to their use of lead and cadmium compounds, respectively (Sinha et al., 2018; Sinha et al., 2019).

Under normal operations, energy storage facilities do not store or generate hazardous materials in quantities that would represent a risk to offsite receptors and no reportable quantities of acutely or extremely hazardous materials will be transported, stored, or used at the site. In addition, the project would include preventative measures, such as energy management systems and building management systems, to reduce the potential for accidents to occur. Nevertheless, because battery facilities do store energy, a battery thermal runaway can occur if a cell, or area within a cell, achieves elevated temperatures due to thermal failure, mechanical failure, internal/external short circuiting, and electrochemical abuse. In this event, state-of-the-art fire and safety systems would mitigate the thermal runaway event. The facility has been designed and equipped with UL-compliant operation energy and safety management equipment, and integrated fire protection systems designed to manage and prevent fire risk or thermal runaway events.

Specifically, the energy storage enclosures would conform with CFC, National Fire Protection Association code, County standards, and thermal runaway management systems per UL 9540A. The project would utilize pre-engineered battery storage systems designed and tested to receive UL 9540 and UL 9540A listing. UL 9540 contains safety standards for the system's construction (e.g., frame and enclosure, including mounting, supporting materials, barriers and more); the insulation, wiring, switches, transformers, spacing and grounding; safety standards for performance of over 20 different elements, such as tests for temperature, volatility, impact, overload of switches, and an impact drop test; and standards for manufacturing, ratings, markings, and instruction manuals. In addition to the many individual standards referenced, CFC compliance requires a Failure Mode and Effects Analysis be performed and requires a test to ensure safe compatibility of the system's parts. This includes the UL 1973 standard, in which a battery manufacturer must prove that a failed cell inside will not cause a fire outside the system. The project's compliance with the CFC, UL 9540/9540A requirements, and industry standards for adequate separations, cascading protections, and suppression systems to limit failure to a single cell or module. In the unlikely event of thermal runaway, the project's preventative measures and fire and safety systems are designed to limit the event to a single battery enclosure as well as reduce the duration and intensity of an event, if it occurs.

Removal and/or maintenance of vegetation may require 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 routes for the transport of hazardous materials are SR-14 and SR-58, which are located adjacent to the project site, and specifically Site 2 (Western) and Sites 1 (Northern) and 3 (Eastern), respectively. 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 Measures MM 4.9-1 and 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. The PV module manufacturer provides module collection and recycling services. In any case, current PV modules pass federal leaching criteria for non-hazardous waste, due in part to the low solubility of PV modules, 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.

Batteries may be considered hazardous waste in California when they are discarded. Batteries will remain sealed when on the project site. As batteries are removed, they will be discharged, hauled offsite, and recycled or disposed of at an appropriate location in accordance with all applicable hazardous waste requirements.

Mitigation Measures

Implementation of Mitigation Measure MM 4.9-1 would be required.

MM 4.9-2: The project proponent/operator shall continuously comply with the following:

1. The construction contractor or project personnel shall use herbicides that are approved for use in California and are appropriate for application adjacent to natural vegetation areas (i.e., non-agricultural use). Personnel applying herbicides shall have all appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use.
2. Herbicides shall be mixed and applied in conformance with the manufacturer's directions.
3. 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.
4. 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.
5. 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.
6. A written record of all herbicide applications on the site, including dates and amounts shall be furnished annually to the Kern County Planning and Natural Resources Department.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1 and MM 4.9-2, potential 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 mile of an existing or proposed school.

The nearest populated area to the project site is the unincorporated community of Mojave, which is located approximately 1 mile north of Site 2 (Western) and 1 mile northwest of Site 1 (Northern). The closest schools to the project site are the Mojave Elementary School and Mojave Junior/Senior High School, located adjacent to one another approximately 1.3 miles northeast of Site 2 (Western). These schools are also located approximately 2 miles northwest of Site 1 (Northern). No schools are proposed in the vicinity of the project site. Project-related infrastructure would not emit hazardous materials or involve handling hazardous or acutely hazardous materials, substances, or waste within a quarter mile of an existing or proposed school. Therefore, impacts related to hazardous emissions within a 0.25 mile of a school would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.9-4: The project would 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, create a significant hazard to the public or the environment.

As discussed above, none of the project parcels are identified in any of the California hazardous materials databases. Searches were completed for the project parcels in the following hazardous materials lists: Cal/EPA's Cortese List including the California DTSC's EnviroStor database of hazardous substances release sites; and GeoTracker, the California database of leaking underground storage tanks (DTSC, 2023; SWRCB, 2023; Appendix I of this EIR). Finally, there are no active Cease and Desist Orders or Clean Up and Abatement Orders for hazardous materials/facilities in the immediate vicinity of the project site (SWRCB, 2023). Based on the records search, review of historical use, site visit, and interviews, the Phase 1 ESA Summary Report for the project revealed no evidence of RECs, controlled RECs (CREC), historical RECs (HREC), or de minimis conditions in connection with the project site. Therefore, potential impacts would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.9-5: 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 vicinity of a private airstrip.

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 FAR Part 77. Section 4.9.5 of the ALUCP defines policies associated with the Mojave Air and Space Port, including requirements regarding the height of proposed structures as well as certain land use characteristics, such as glare. Portions of the project site are located within the Airport Influence Area of the Mojave Air and Space Port: Site 1 (Northern) is located within Compatibility Zones B1 and C, Site 2 (Western) is located within Compatibility Zones D and E1, and Site 3 (Eastern) is located within Compatibility Zones B2 and C. The eastern portion of the proposed 230-kV gen-tie line spans across Compatibility Zones B2, C, D, and E1. Site 4 (Southern) and Site 5 (Step-up Substation) are not located in any Compatibility Zones.

The County's Zoning Ordinance also establishes height limits for structures in the vicinity of airports through the Airport Approach Height (H) Combining District overlay. All project parcels that contain the (H) Combining District are located within Site 3 (Eastern). Under the County's Zoning Ordinance, structures that will exceed a height of 35 feet within a H Combining District require a letter from the FAA that states that the proposed development does not constitute a hazard to air traffic and does not violate any federal regulations. Additionally, the County's Zoning Ordinance requires review by the Edwards AFB for all structures over 100 feet within the R-2508 Complex.

As stated in Chapter 3, *Project Description*, solar energy would be captured by PV panels, provided on either a fixed-mount array system or a single-axis tracker system. Depending on the type of technology (modules) used, the total height of the panel system measured from ground surface would be approximately 7 to 12 feet. In addition, the project includes onsite collector substations, likely to be constructed within Site 3 (Eastern) at the northeast corner of the general alignment of Purdy Avenue and 10th Street, and within Site 2 (Western) north of Purdy Avenue just west of SR-14. Collector substation equipment would generally be between 15 and 35 feet tall, with the exception of the transmission tower, which would be a maximum of 60 feet in height and a lightning protection mast, which would not exceed 75 feet in height (transmission tower plus 15 feet). The project's energy storage system would be housed in a structure or within conex boxes. The maximum height (including any screening for HVAC) of the energy storage system is anticipated to be approximately 35 feet. Project-related telecommunications facilities and site security systems would be up to 20 feet tall.

The project also includes infrastructure associated with grid interconnection. From the 230-kV project collector substation in Site 3 (Eastern), the energy generated would interconnect via a new double-circuit gen-tie line to be installed within the same gen-tie corridor for the approved and constructed Sanborn Solar Project. The collector substation in Site 2 (Western) would interconnect via a direct tap or other high-voltage connection into the gen-tie line. At Site 5 (Step-up Substation), the energy would be stepped up to 500-kV and a new 500 kV transmission line will be built from the 230-kV to 500-kV substation into Windhub for ultimate grid connection. Infrastructure associated with the project's step-up substation may be up to 90 feet tall. Poles associated with the 230-kV gen-tie line may be up to 180 feet tall, while poles associated with the 500-kV gen-tie may be up to 285 feet tall. Site 5 (Step-up Substation) and the 500-kV

gen-tie line are located in an area with existing utility-scale wind energy facilities, which include turbines over 480 feet in height.

The ALUCP generally prohibits structures exceeding 100 feet in height in Zone E1. Transmission poles associated with the project's 230-kV gen-tie line would exceed the 100-foot height limit for structures in Zone E1. However, Section 4.9.5(1)(b) of the ALUCP provides an exemption to these height requirements for gen-tie lines, which are subject to review on a case-by-case basis. The poles would be subject to FAA review under FAR Part 77 and require issuance of a Determination of No Hazard to Air Navigation prior to construction. Notably, these poles would be co-located within the gen-tie line corridor approved as part of the Sanborn Solar project in 2020 and constructed in 2021, which received FAA clearance. Although not located within the boundaries of the ALUCP, the poles associated with the project's 500-kV line would require FAA review and issuance of a Determination of No Hazard to Air Navigation prior to construction, as they exceed 200 feet in height. These poles would be located near existing wind turbines that are over 480 feet tall and have received FAA approval. Finally, all project structures exceeding 35 feet in height and subject to the H Combining District under the County's Zoning Ordinance also would require FAA review.

The ALUCP also contains specific development conditions for other Compatibility Zones. Those applicable to the project would be for project areas within Compatibility Zones B1 and B2. A portion of Site 3 (Eastern) is within Compatibility Zone B2, and a portion of Site 1 (Northern) is within Compatibility Zone B1. A portion of Site 3 (Eastern) and Site 1 (Northern) are located within Compatibility Zone C and a portion of Site 2 (Western) is located within Compatibility Zone D; however, those zones are associated with limited or negligible risks and do not impose any applicable development conditions or restrictions on the project.

In sum, the project would be required to comply with the County's ALUCP and applicable FAA regulations to ensure that there is no conflict with airport operations and no safety hazards. The project's tallest structure (i.e., gen-tie poles) also would be located nearby other similarly sized structures that have already received FAA approval. Further, Section 4.17.3 of the ALUCP and Section 19.08.160 of the County's Zoning Code require notification of project construction to Edwards AFB to ensure no conflict with their operations. Section 1.7.1 of the ALUCP requires that, prior to approval of any type of land use development, findings shall be made that such development is compatible with training and operational missions of relevant military operations. Additionally, as detailed in Section 4.1, *Aesthetics*, project solar panels would be composed of anti-reflective material; therefore, glare resulting from the panels is not expected to be a concern for pilots. Finally, 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 only mode of transport affected by the proposed project is automobile/truck operations).

For the reasons described above, 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. Implementation of Mitigation Measures **MM 4.9-3** and **MM 4.9-4** would ensure the proposed project would be consistent with the ALUCP and applicable Kern County regulations by requiring the developer to coordinate with the Department of Defense and obtain approval from FAA and the public airports and military installations in the area. 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.

Excessive Noise

The project would require approximately six full-time employees during operation, who could experience airport noise. However, employees working in the project area would not be exposed to excessive noise from the Mojave Air and Space Port. A portion of the Site 1 (Northern) and Site 3 (Eastern) are located within the 60 decibel (dB) Community Noise Equivalent Level contour line for Mojave Air and Space Port. However, the ALUCP provides that industrial uses are "clearly acceptable" within that contour. Further, the project is not considered a sensitive use and would not introduce new residences on the project site which could experience excessive noise from the Mojave Air and Space Port. Therefore, the project would not result in excessive noise for people residing or working in the project area and potential impacts would be less than significant.

Summary

With implementation of Mitigation Measures MM 4.9-3 and MM 4.9-4, the project would comply with the County's Zoning Ordinance, ALUCP, applicable FAA regulations, and military review requirements to ensure that there is no conflict with airport operations and no safety hazards are presented. Implementation of Mitigation Measures MM 4.9-3 and MM 4.9-4 would also ensure the proposed project would be consistent with the General Plan policies of Kern County by requiring the developer to obtain approval from FAA and obtain approval by the Edwards AFB. Potential impacts would be less than significant with mitigation incorporated.

See also Section 4.1, *Aesthetics*, and Section 4.13, *Noise*, of this EIR for analysis of glare impacts and noise impacts, respectively.

Mitigation Measures

MM 4.9-3: Prior to the issuance of building and grading permits, the project proponent/operator shall comply with the following:

1. 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.
2. Obtain a Federal Aviation Administration issued "Determination of No Hazard to Air Navigation." This documentation shall include written concurrence from the military authority responsible for operations in the flight area depicted in the Kern County Zoning Ordinance Figure 19.08.160 that all project components in the flight area would create no significant military mission impacts.
3. Provide documentation to the Kern County Planning and Natural Resources Department demonstrating that a copy of the final site plans have been provided to the operators of Mojave Air Space and Port.

MM 4.9-4: Prior to issuance of building and grading permits, the project proponent/operator shall comply with the following:

1. Submit the project plans to the Edwards AFB for review if any project components would exceed 100 feet in height.
2. Obtain written concurrence that the height of the proposed project components would create no significant military mission impacts.

3. Alternatively, in instances where the required written concurrence from the military is requested but not received within a reasonable period of time, the height exceedances may be considered for approval by the County Board of Supervisors upon a finding that the benefits of the requested height deviation outweigh the potential impacts on military flight operations.

Level of Significance after Mitigation

Impacts would be less than significant with implementation of Mitigation Measures MM 4.9-3 and MM 4.9-4.

Impact 4.9-6: The project would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

As discussed in Section 4.15, *Traffic and Transportation*, of this EIR, the project site is located in a rural area with the primary access roads (Oak Creek Road, Purdy Avenue, Camelot Boulevard, Decatur Avenue, Sunset Avenue, Silver Queen Road, 10th Street via East Proteus and 20th Street E) allowing adequate egress/ingress to the site in the event of an emergency. Additionally, as part of the project, additional onsite access roadways (internal to the site) would be constructed. Therefore, the development of the proposed project would not physically interfere with emergency vehicle access or personnel evacuation from the site.

As further described in Section 4.15, *Traffic and Transportation*, of this EIR, increased project-related traffic would not cause a significant increase in congestion and or significantly worsen the existing service levels at intersections on area roads; therefore, project-related traffic would not affect emergency access to the project site or any other surrounding location. The proposed project would not require closures of public roads, which could inhibit access by emergency vehicles. For these reasons, construction and operation would have a less-than-significant impact on emergency access.

While potential impacts would be less than significant, Mitigation Measure MM 4.15-1 would provide further assurances for emergency access. Mitigation Measure MM 4.15-1 requires the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site.

Mitigation Measures

Implementation of Mitigation Measure MM 4.15-1 would further reduce potential impacts (See Section 4.15, *Traffic and Transportation*, of this EIR for full mitigation text.)

Level of Significance after Mitigation

Impacts would be less than significant. Implementation of Mitigation Measure MM 4.15-1 would further reduce impacts.

Impact 4.9-7: 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 not located within a high or very high fire hazard severity zone (CAL FIRE, 2022). 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 an energy storage facility component which, while they generally burn with difficulty, can in fact burn or become damaged by fire and generate fumes and gases that are extremely corrosive. Dry chemical, carbon dioxide, and foam are the preferred methods for extinguishing a fire involving batteries as water is not useful in extinguishing battery fires. The energy storage batteries would be housed in a structure or within conex-type boxes. All non-battery rooms would have County-approved fire suppression systems. The structure would also have HVAC cooling in the battery room to maintain energy efficiency and to protect the batteries. The CFC and associated standards, such as UL 9540A, require rigorous large-scale fire testing which requires these systems to pass performance-based criteria so that enclosures of energy storage systems may not pose a fire or explosion risk to adjacent exposures. To achieve these results, energy storage systems typically employ various types of active thermal runaway mitigation systems. Regardless of the design basis, these thermal runaway mitigation systems are required to be tested in order to manage fire and exposure risks. Some energy storage systems comply with these performance based requirements without the use of active suppression systems, rather, they use passive design features or thermal management features that prevent or limit thermal runaway. Either design-based or active thermal runaway mitigation approaches must achieve the UL 9540A criteria; accordingly, all systems must demonstrate that they pose no explosion or fire risk to adjacent exposures.

The proposed energy storage system would be designed, constructed, operated, and maintained in accordance with applicable best practices and regulatory requirements, including fire safety standards. Batteries would be housed in an enclosure that contains integrated fire safety system and controls. If smoke, heat, or flammable gas were detected, an alarm would sound, strobes would flash, and any thermal runaway mitigation systems present would be activated. The energy storage structure would have a fire rating, if required, based on large-scale fire test results. Final fire safety design would follow applicable codes and referenced standards and would be specific to the battery technology that is ultimately implemented.

Components of an integrated fire and safety system within an energy storage structure include module-level monitoring and continuous control of the system, and internal cooling/HVAC system. The fire and safety system may include fire panels, aspirating hazard detection system, smoke/heat detectors, gas ventilation and deflagrations systems, and suppression or thermal runaway systems. Over the long term, project operation and maintenance could introduce potential ignition sources such as maintenance vehicles used for project maintenance activities. The proposed inverters and solar panels may represent a potential ignition source; however, the potential for fire risk for these components is considered low as the Project will comply with the KCFD vegetation clearance requirements. Project vehicles will travel on roads that have been cleared of vegetation. As such, vegetation-related fires would be unlikely to occur on the site. Battery components for the project would be installed within non-walking outdoor enclosures on electrically grounded concrete pads or foundations to minimize the potential for sparks or ignition to occur and include the integrated fire and safety systems within each enclosure as described above. Compliance with these standards would minimize the potential for the occurrence of fire.

Additionally, 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 energy storage facility, 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*, of this EIR, 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 not adjacent to urbanized areas and the desert flora is sparse and minimal; however, there are isolated 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.

Mitigation Measures

Implementation of Mitigation Measure MM 4.14-1 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.14-1, potential impacts would be less than significant.

Impact 4.9-8: The project would generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste? Specifically, would the proposed project exceed the following qualitative threshold: the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the proposed 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; or**
- **ii. are associated with design, layout, and management of proposed project operations; or**
- **iii. disseminate widely from the property; or**
- **iv. cause detrimental effects on the public health or well-being of the majority of the surrounding population.**

Project-related infrastructure is not expected to result in features or conditions that could potentially provide habitat for vectors such as mosquitoes, flies, cockroaches, or rodents (such as standing water, agricultural products, or agricultural 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 waste. These wastes would be segregated, where practical, 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. 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. Therefore, potential impacts would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

SCE will relocate a 66-kV transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. All work, including electrical work, will be performed under a site-specific health and safety plan in accordance with OSHA requirements.

The impacts associated with construction of the relocated transmission line and interconnection work would be similar to those described above for the rest of the project. SCE would implement BMPs as part of the work and comply with applicable state and federal regulations. Accordingly, all impacts related to hazards and hazardous materials associated with the SCE transmission line relocation and interconnection work would be less than significant.

4.9.5 Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, of this EIR, multiple projects, including several utility-scale solar and wind energy production facilities, are proposed throughout Kern County. As shown in **Table 3-6**, *Cumulative Project List*, other solar energy projects are either operational, in construction or proposed within the region. The geographic scope of impacts associated with hazardous materials generally encompasses the project site and a 0.25-mile-radius area around the site. 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. The project's compliance with Mitigation Measures MM 4.9-1 and MM 4.9-2 is similar to existing regulatory requirements that other projects would be required to adhere to and would avoid hazardous material-related impacts from occurring at any of the schools of the area.

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 and MM 4.9-2 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. While the project would be proximate to other solar PV projects that may include similar battery energy storage systems, all battery energy storage systems would be required to include fire preventative measures and fire and safety systems to reduce the potential for battery thermal runaway and other potentially hazardous events. All construction, operation, and decommissioning of the solar projects would need to follow the same safety standards and suppression systems.

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 of Section 4.14, *Public Services* (Fire Safety Plan), 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 hazardous materials would not be cumulatively significant.

Portions of the project site are located within the Mojave Air and Space Port ALUCP Airport Influence Area. The project would be required to comply with the ALUCP policies and FAA notification and approval requirements listed in Mitigation Measure MM 4.9-3, and the military review requirements listed in Mitigation Measure MM 4.9-4, as would other projects within these influence areas. Thus, the project would not combine with any other to become cumulatively significant and there would be less than significant cumulative impacts associated with airports or airstrip land use plans or air traffic hazards.

Mitigation Measures

Implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.9-3, MM 4.9-4, MM 4.14-1, and MM 4.15-1would be required (see Section 4.14, *Public Services*, and Section 4.15, *Transportation,* of this EIR for full mitigation text).

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.9-2, MM 4.9-3, MM 4.9-4, MM 4.14-1, and MM 4.15-1, cumulative impacts would be less than significant.

Section 4.10
Hydrology and Water Quality

4.10.1 Introduction

This section of the 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, if applicable. The information in this section is based on the Water Supply Assessment (Jacobs, 2023) prepared by Jacobs Engineering Group, located in Appendix M1 of this EIR; the Hydrology Study (Westwood, 2022) prepared by Westwood, located in Appendix J of this EIR; the Geotechnical Study (Ninyo & Moore, 2023) included as Appendix H1 of this EIR; and multiple online sources and published documents.

4.10.2 Environmental Setting

Regional Setting

The project site is located in the northwestern portion of the Mojave Desert on the western edge of the Antelope Hydrologic Unit (Lahontan RWQCB, 2021). The Antelope Valley Region is a triangular-shaped, topographically closed basin bordered on the southwest by the San Gabriel Mountains, on the northwest by the Tehachapi Mountains, and on the east by a series of hills and buttes that generally follow the Los Angeles/San Bernardino County line.

Antelope Hydrologic Unit

The Antelope Hydrologic Unit is part of the Lahontan Regional Water Quality Control Board (RWQCB). The Antelope Hydrologic Unit includes portions of Los Angeles, Kern, and San Bernardino Counties and corresponds to the Antelope Valley basin, which is a closed topographic basin with an area of about 2,400 square miles. Under the California Department of Water Resources mapping system used in the Lahontan Basin Plan, the Antelope Hydrologic Unit includes eight Hydrologic Areas: Chafee, Gloster, Willow Springs, Neenach, Lancaster, North Muroc, Buttes, and Rock Creek (Lahontan RWQCB, 2021). The project is located in the Willow Springs Hydrologic Area or sub-watershed. In the Antelope Valley, water flows east towards Rosamond Lake.

Climate

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 near the community of Mojave, where, according to the nearest weather station, temperature ranges from an average monthly high of 97.6 degrees Fahrenheit in July to a low of 32.9 degrees Fahrenheit in December (WRCC, 2023). Average rainfall is approximately 5.93 inches annually.

Site Hydrology

Surface Hydrology and Drainage

The project is located at the western edge of the Antelope Valley in the southeastern corner of the desert region in unincorporated Kern County. The project site has a relatively flat terrain with site elevations ranging between 2,520 and 2,750 feet above mean sea level due to being south of the Tehachapi Mountains where lands gradually slope downward from the northwest towards the southeast. In general, the site is relatively flat with slopes of less than 1 percent (Westwood, 2022). **Figure 4.10-1**, *Surface Hydrology and Drainage*, identifies mapped watercourses on the project site.

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 (06029C3295E, 06029C3325E, 06029C3700E, and 06029C3275E), and as shown on **Figure 3-6**, *FEMA Flood Zone Hazard*, most of the project site is designated as Zone "X", which indicates the site is not in an area of flood hazard. However, five parcels within the project site (427-100-22, 427-100-24, 427-100-27, 429-030-02, and 244-234-10) are in Zone A of the FEMA FIRM, which indicates a Special Flood Hazard Area. A FEMA Zone A flood hazard is a 100-year flood hazard with no base flood elevation determined.

Soil Types and Erosion

Surficial soils at the project site consist of fill, alluvium, and igneous rock as discussed in the *Preliminary Geotechnical Study for the Enterprise Solar Storage Project* (Ninyo & Moore, 2023), included as Appendix H1 of this EIR. Soils are primarily classified as Hydrologic Soil Group A and C within the project site, as described in the *Hydrology Study* (Westwood, 2022) included as Appendix J of this EIR. Group A soils, which are less present than Group C soils, have a high infiltration rate (low runoff potential) when thoroughly wet. These are mainly deep well-drained to excessively drained sands or gravelly sands. Sandy soils typically have low cohesion and have a relatively higher potential for erosion when exposed to wind or moving water. Group C soils are defined as having a slow infiltration rate when thoroughly wet and having a soil layer that impedes the downward movement of water or soils of moderately fine texture. These soils are considered to have a slow rate of water transmission. Since the project site has minimal to no vegetation cover, erosion potential is slightly higher than it would be if it was densely vegetated. Conversely, the low topographic relief of the site reduce the erosion potential. See also Section 4.7, *Geology and Soils*, for more information on soil erosion potential.

Groundwater Resources

Fremont Valley Groundwater Basin

The project site is located in the Fremont Valley Groundwater Basin (FVGB), which underlies an extensive alluvial valley in the western Mojave Desert. The FVGB is bounded to the south and southeast by the Antelope Valley Groundwater Basin, to the east by the crystalline rocks of Red Mountain, the Rand Mountains, Castle Butte, the Bissell Hills, and the Rosamond Hills; and to the west and north by the Sierra Nevada, the Tehachapi Mountains, and the El Paso Mountains (DWR, 2004). The boundary between the FVGB and the Antelope Valley Groundwater Basin occurs along a groundwater divide approximated by a line connecting the mouth of Oak Creek through Middle Butte to the exposed basement rock near Gem Hill, and to the southeast of California City. **Figure 4.10-2,** *Groundwater Basins*, displays the groundwater basins near the project site.

Natural recharge of the basin includes percolation of ephemeral streams that flow in from the Sierra Nevada. The general groundwater flow direction is toward Koehn Lake at the center of the Fremont Valley (one basin north of the Antelope Valley Hydrologic Unit), with no appreciable quantity of groundwater flowing out of the basin (DWR, 2004). Total storage capacity is estimated at 4,800,000 acre-feet (AF). Groundwater quality is generally adequate for domestic, agricultural, and municipal uses, being of sodium bicarbonate character in the southeastern part of the basin and of sodium bicarbonate or calcium–sodium sulfate character in the southwest part of the basin (DWR, 2004). Historical total dissolved solids (TDS) content has ranged from 400 to 700 milligrams per liter (mg/L) in the southeastern part of the FVGB, and from 800 to 1,000 mg/L in the southwestern part of the FVGB (DWR, 2004). Data from 10 public supply wells in the basin show an average TDS content of 596 mg/L and a range of 398 to 1,400 mg/L (DWR, 2004). Groundwater in parts of the FVGB is locally impaired with high concentrations of fluoride and sodium; however, these impairments are more common in the northern and central subunits, especially in the Koehn Subunit.

Prior to the California 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 Assembly Bill No. 1390, which is legislation that provides a comprehensive adjudication process for all groundwater basins that are regulated under the SGMA. Groundwater basins that have been adjudicated by court decision are subject to management by a court-approved Watermaster.

As stated above, the project site is within the FVGB, which is not subject to a court adjudication. Groundwater pumping within the FVGB peaked in the 1950s with the cultivation of agricultural crops such as alfalfa, pasture, and field crops, then declined as greater pumping lifts and increasing energy costs made the use of groundwater in the area less economical for agricultural uses. The delivery of SWP water to the region starting in 1972 also decreased farmers' reliance on groundwater for irrigation. Agriculture within the FVGB largely ceased by the late 1970s. In more recent years, groundwater pumping has lessened because of reduced agricultural production in the area and the availability of imported State Water Project (SWP) supplies. Groundwater within the FVGB is currently extracted to support domestic, industrial, and renewable energy and limited municipal demands (Jacobs, 2023).

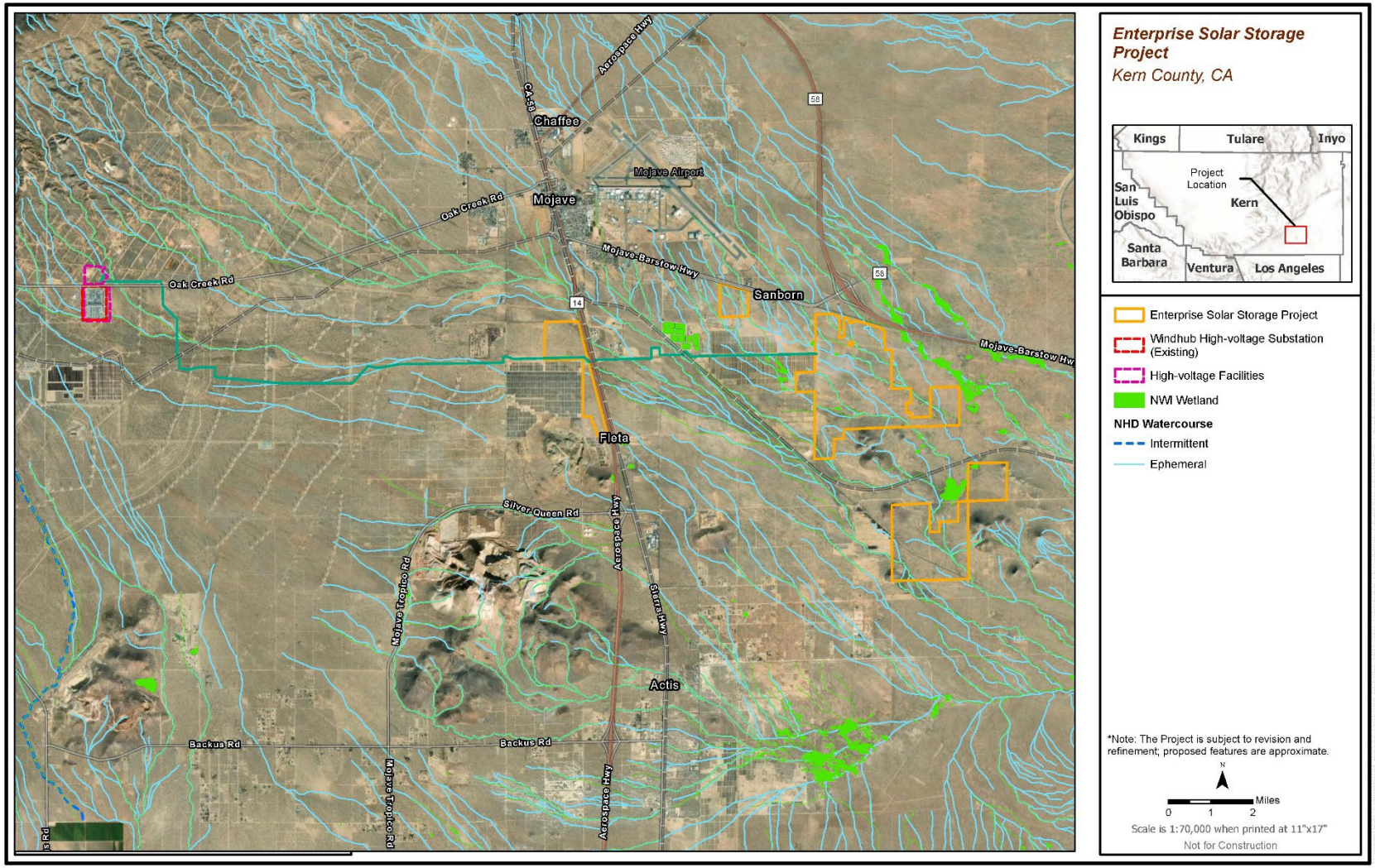


Figure 4.10-1 Surface Hydrology and Drainage

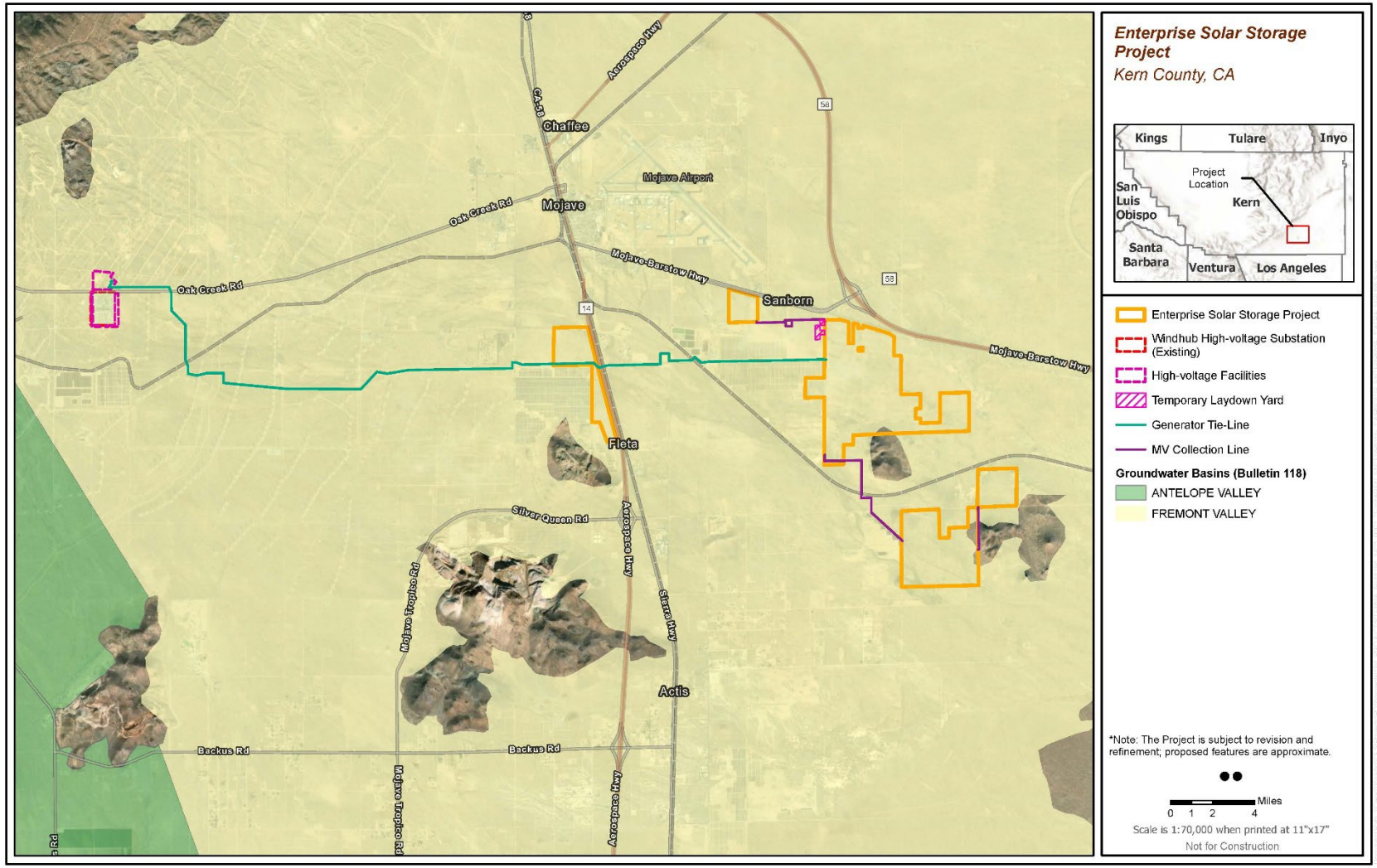


Figure 4.10-2 Groundwater Basins

Based on low population density, negative growth projections, low numbers of private and public supply wells, and the lack of irrigated agriculture within the FVGB, it is designated as a low-priority basin by the California Department of Water Resources (DWR). As a low-priority basin, the FVGB is not required to develop a groundwater sustainability plan in accordance with the SGMA; however, California City, Mojave Public Utility District (MPUD), and other regional stakeholders have partnered in the development of a Fremont Valley Basin Groundwater Management Plan to promote regional groundwater sustainability. The FVGB Groundwater Management Plan provides supporting information used in the Fremont Basin Integrated Regional Water Management Plan. The Regional Plan discusses overall water supply reliability within the Fremont Basin region, including the integrated use of surface and groundwater supplies and the interrelationship of the Fremont Basin with the Antelope Valley East Kern Water Agency's (AVEK) integrated management of surface and groundwater supplies within the Antelope Valley Basin to the south.

4.10.3 Regulatory Setting

Federal

Clean Water Act

The Clean Water Act (CWA) (33 United States Code [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 the 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 RWQCBs. The project site is within the Lahontan RWQCB. Projects that disturb one or more acres, including the proposed project, are required to obtain NPDES coverage under the Construction General Permits.

Section 401, Water Quality Certification. Section 401 of the CWA requires that, prior to issuance of any federal permit or license, any activity, including river or stream crossing during road, pipeline, or transmission line construction, which may result in discharges into waters of the U.S., must be certified by the state, as administered by the RWQCB. This certification ensures that the proposed activity does not violate state and/or federal water quality standards.

Section 402, National Pollutant Discharge Elimination System. Section 402 of the CWA authorizes the State Water Resources Control Board (SWRCB) to issue an NPDES General Construction Storm Water 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 Storm Water Pollution Prevention Plan (SWPPP) that 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 offsite 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.

Section 404, Discharge of Dredged or Fill Materials. Section 404 of the CWA establishes programs to regulate the discharge of dredged and fill material in waters of the U.S., including wetlands. For purposes of section 404 of the CWA, the limits of non-tidal waters extend to the ordinary high water line, defined as the line on the shore established by the fluctuation of water and indicated by physical characteristics, such as natural line impressed on the bank, changes in the character of the soil, and presence of debris. When an application for a Section 404 permit is made, the applicant must show it has:

- Taken steps to avoid impacts to wetlands or waters of the U.S. where practicable;
- Minimized unavoidable impacts on waters of the U.S. and wetlands; and
- Provided mitigation for unavoidable impacts.

Section 404 of the CWA requires a permit for construction activities involving placement of any kind of fill material into waters of the U.S. or wetlands. A water quality certification pursuant to Section 401 of the CWA is required for Section 404 permit actions. If applicable, construction would also require a request for water quality certification (or waiver thereof) from the Lahontan RWQCB. Project activities would adhere to state and federal water quality standards and would be in compliance with Sections 401 and 404 of the CWA.

Section 303, Water Quality Standards and Implementation Plans. Section 303(d) of the CWA (33 U.S.C. 1250, et seq., at 1313(d)) requires states to identify "impaired" water bodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to the U.S. Environmental Protection Agency for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of total maximum daily load (TMDL) requirements. The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements.

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 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 Sections 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 CWA Sections 401 through 402 and 303(d) to the SWRCB and the nine RWQCBs.

The Porter-Cologne Water Quality Control 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) (Lahontan RWQCB, 2016).

Sustainable Groundwater Management Act

SGMA requires the formation of locally 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 (GSP) to ensure the basin is operated within its sustainable yield without causing undesirable results. The FVGB is currently designated as a low-priority basin under SGMA. Thus, the agencies within the region are not subject to SGMA requirements for the groundwater basin at this time.

Although a GSP is not required, California City, MPUD, and other regional stakeholders have partnered in the development of a Groundwater Management Plan to promote regional groundwater sustainability (California City, 2018). The Groundwater Management Plan was developed to document groundwater conditions to help inform future decisions regarding long-term sustainable management. The plan describes high levels of groundwater pumping for agricultural use from the late 1950s through the 1970s and by MPUD from 1968 through 1980, with resulting declines in groundwater levels. In more recent years, groundwater pumping has lessened because of reduced agricultural production in the area and the availability of imported SWP supplies. In general, the reduced pumping has resulted in more stable groundwater levels with recovery in some areas (California City, 2018). Overall, the basin has been able to provide sufficient supply to meet demands, but there is a limited understanding of storage and withdrawal capacity. For this reason, the Groundwater Management Plan targets to define the basin's safe yield by 2027 and to manage the basin such that the 10-year average change in groundwater levels is zero. The Groundwater Management Plan provides background technical information used in the Fremont Basin Integrated Regional Water Management Plan (Fremont Basin Regional Water Management Group, 2019). The regional plan provides additional information about overall water supply reliability within the Fremont Basin region, including the integrated use of surface and groundwater supplies. Importantly, the regional plan addresses the interrelationship of the Fremont Basin with the AVEK's integrated management of surface and groundwater supplies within the Antelope Valley Basin to the south. To increase regional water supply reliability, AVEK has developed groundwater banking programs that allow storage of excess SWP supplies during wet years, allowing for recovery when needed. These programs increase water supply reliability throughout AVEK's entire service area, including customers within the Fremont Basin (Fremont Basin Regional Water Management Group, 2019).

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 the California Environmental Quality Act (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

Construction and operation of the project would be subject to policies and regulations contained within the County's general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to hydrology and water quality name. The policies and implementation measures in the Kern County General Plan related to hydrology and water quality 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.

Kern County General Plan

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 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 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.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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. The implementation measures in the Mojave Specific Plan for hydrology and water quality applicable to the project are provided below. The Mojave 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 Mojave Specific Plan are incorporated by reference.

Chapter 3. Land Use

Policy

Policy 3.6.3 New development shall provide adequate flood control to protect properties within the 100-year floodplain.

Chapter 4. Conservation Element

Objective

Objective 4.2 Maintain groundwater quality to allow local resources to meet local needs.

Policies

Policy 4.2.1 Support regional efforts by the South Lahontan Regional Water Quality Control Board to improve and protect water quality. Promote compliance with the measures contained in the California Water Code and other requirements.

Policy 4.2.2 If required, new development projects shall implement Best Management Practices (BMPs) under the National Pollution Discharge Elimination System (NPDES) permit. These practices are designed to reduce pollution runoff during construction of new projects and rehabilitation projects. Investigate and implement methods as appropriate over time to address the control of pollutants stormwater runoff from development sites, and to encourage the recycling of runoff for groundwater recharge and similar beneficial purposes.

Chapter 9. Seismic and Safety Objectives and Policies

Objective

Objective 9.2 Prevent loss of life, reduce personal injuries and property damage, and minimize economic loss resulting from flood hazards.

Policies

Policy 9.2.1 Require new construction within a special flood hazard area, as specified on Flood Insurance Rate Maps (FIRMs) (shown on the Physical Constraints Overlay Map in this Plan), to conform to the Kern County Floodplain Management Ordinance.

Policy 9.2.3 Investigate and mitigate flood hazards, or locate development away from such hazards, to preserve life and protect property.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan addresses issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. The general provision in the West Edwards Road Settlement Specific Plan for hydrology and water quality applicable to the project is provided below. The West Edwards Road Settlement 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 West Edwards Road Settlement Specific Plan are incorporated by reference.

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

Policy

Policy 1.1.3.3 Development shall occur outside areas identified as primary floodways. All development projects will incorporate measures to ensure that the proposed project will not be hazardous, increase flood depth so velocities, or cause water quality to deteriorate.

Implementation Measures

Measure 1.1.4.1 Site development shall be accomplished in compliance with Kern County Flood Damage Prevention Ordinance and Kern County Zoning Ordinance. Development prohibitions shall be the same in those ordinances.

Measure 1.1.4.3 Drainage improvement plants shall be approved for projects pursuant to the Kern County Zoning Ordinance.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. The recommendations, analysis, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan for hydrology and water quality applicable to the project are provided below. The Soledad Mountain Elephant Butte Specific Plan contains additional recommendations, analysis, and implementation measures that are more general in nature and are not specific to developments such as this project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan are incorporated by reference.

Conservation

Item 1. Conservation, Development, and Utilization of Natural Resources

Including:

a) Underground waters
b) Surface waters
c) Forests [Not applicable]
d) Vegetation and soils [Not applicable]
e) Rivers, creeks, and streams
f) Fish and wildlife [Not applicable]

Recommendation - a) Underground Waters - The quality and quantity of underground waters shall not be degraded.
b) Surface Waters - None in the area.
e) Rivers, Creeks, and Streams - None in the area.

Analysis - The Developer reports that the underground water supply will be adequate to serve the development. Should overdraft occur in the future, rationing could be necessary, or annexation to the Mojave Public Utility District may be considered.

Implementation - a) Quality and quantity of underground water supply shall be monitored by the appropriate agency.
b) None necessary.
e) None necessary.

Item 2. Standards for Flood Control

Recommendation - All residential properties shall be free from flooding.

Analysis - Most flood control problems will be solved in accordance with the requirements of the Public Works Department. All sub-divisions should come under this control.

Implementation - Compliance with the requirements of the Public Works Department.

Item 3. Standards for Prevention and Control of Pollution of Rivers, Streams, and Creeks

Recommendation - None necessary.

Analysis - There are no bodies of running water within the Plan boundaries.

Item 4. Standards of Protection of Watershed Areas

Recommendation - No watershed area shall be degraded as a result of a development within the area.

Analysis - Review of watersheds is made in conjunction with drainage control and water quality control. Standards have been established.

Implementation - Compliance with the existing standards of the Regional Water Quality Control Board and the Public Works Department.

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 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 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 that 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 Engineering and Survey Services Department requires the completion of an NPDES applicability form for all construction projects disturbing one or more acre 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 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 to 5 acres and an Erosivity Waiver was granted by the SWRCB. BMPs must be implemented.*

4.10.4 Impacts and Mitigation Measures

Methodology

This section analyzes potential impacts on hydrology and water quality from implementation of the project based on changes to the environmental setting as described above, identified drainage conditions in the project site, and the current regulatory framework. The project's potential impacts to hydrology and water quality have been evaluated using the *Water Supply Assessment* (Jacobs, 2023), located in Appendix M1 of this EIR; the *Hydrology Study* (Westwood, 2022), located in Appendix J of this EIR; the Geotechnical Study (Ninyo & Moore, 2023), located in Appendix H1 of this EIR; and multiple online sources and published documents. 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 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 which would result in flooding on- or offsite;*

    iii. *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;*

    iv. *Impede or redirect flood flows;*

d. *Result in a flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;*

e. *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.*

Project Impacts

Impact 4.10-1: The project would violate water quality standards or waste discharge requirements, or otherwise degrade water quality.

Construction

Project construction would include mowing, excavation, and grading portions of the project site. Conventional grading would be performed selectively throughout the project site; however, because the project site is relatively flat, it is anticipated that grading would be limited in most areas. Grading and excavation would be required for project infrastructure such as the energy storage system(s), inverters, and transformers. Installation of the solar panels would not require grading of the site with the exception of roads to meet fire code standards and micro-grading in select areas to accommodate solar tracker grade tolerances. These activities would affect current drainage patterns and erosion on the 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 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 4.10-1**, 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 generation tie (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.

Mitigation Measure **MM 4.10-2** would require the preparation of a hydrologic study and drainage plan per the Kern County Development Standards and the Kern County Code of Building Regulations prior to issuance of a grading permit. Based on the findings of the hydrologic study, the drainage plan would recommend an onsite design that ensures facilities are located in such a way to lessen their impact on drainage patterns and erosion. Designing the site grading and access roads in compliance with County standards and as required by MM 4.10-2 would prevent substantial alterations to drainage patterns and erosion within the project site. Impervious surfaces from construction of access roads, photovoltaic module foundations, substations, and other improvements would be relatively limited compared to the overall perviousness of the remaining approximately 2,230-acre project site plus 300 acres of laydown areas.

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 materials, 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. With implementation of this mitigation measure, the potential for the accidental release of hazardous materials would be reduced. Therefore, with implementation of Mitigation Measures MM 4.9-1, MM 4.10-1, and MM 4.10-2, 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 the interconnections to the gen-tie lines.

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 4.10-2, 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 Measure MM 4.9-1 and MM 4.10-2, project operation would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality.

Mitigation Measures

Implementation of Mitigation Measures MM 4.9-1, 4.10-1, and 4.10-2 would be required (see Section 4.9, *Hazards and Hazardous Materials*, for full text of Mitigation Measure MM 4.9-1).

MM 4.10-1: Prior to issuance of a grading permit, the project proponent/operator shall submit a Stormwater Pollution Prevention Plan (SWPPP) for review and approval by the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department. The SWPPP shall be designed to minimize runoff and shall specify best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sediment or any other pollutants from moving offsite and into receiving waters. The requirements of the SWPPP shall be incorporated into design

specifications and construction contracts. Recommended best management practices to be incorporated in the SWPPP may include the following:

a. Minimization of vegetation removal;

b. Implementing sediment controls, including silt fences a necessary;

c. Installation of a stabilized construction entrance/exit and stabilization of disturbed areas;

d. Properly containing and disposing of hazardous materials used for construction onsite;

e. Properly covering stockpiled soils to prevent wind erosion;

f. Proper protections and containment for fueling and maintenance of equipment and vehicles; and

g. Appropriate disposal of demolition debris, concrete and soil, and aggressively controlling litter.

h. Cleanup of silt and mud on adjacent street due to construction activity.

i. Checking all lined and unlined ditches after each rainfall.

j. Restore all erosion control devices to working order to the satisfaction of the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department after each rainfall run-off.

k. Install additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances which may arise.

MM 4.10-2: Prior to the issuance of a grading permit, the project proponent/operator shall complete a hydrology 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. A numerical stormwater model for the project site that evaluates 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. 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. A specification that 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 the Mitigation Measures MM 4.9-1, MM 4.10-1, and MM 4.10-2, impacts would be less than significant.

Impact 4.10-2: The project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Construction of the project is anticipated to use approximately 335 AF of water over the approximately 28-month construction period (equivalent to 163,000 gallons per day of construction). Water needed for construction is anticipated to be purchased from MPUD and/or other water purveyor with additional potential use of existing or new water wells either on-site or off-site adjacent to Site 3 (Eastern) on land owned by the project proponent. Water demand during construction is expected to be the same if the proposed project is constructed during a year with normal precipitation, a year with less than average precipitation, or a multiyear period of less than average precipitation.

MPUD has provided a will serve letter for the project for a total of 300 AF during the planned construction period, or approximately 90 percent of the estimated demand. This amount is within MPUD's available surplus in all year types. Based on the information presented above, sufficient water is available for construction of project, especially given the surplus water available from MPUD (808 to 888 AF) during the construction period. The Water Supply Assessment for the project (Jacobs, 2023) identifies that groundwater level data for two wells in the project area indicates that groundwater levels in the vicinity of the Project have been increasing over the last five decades. The amount of water stored in the FVGB is relatively large compared to the proposed demand associated with the project.

Sufficient water is also available for project operations. The operational water requirement is expected to be approximately 25 AFY and would be provided from the MPUD and/or existing or new onsite or off-site water wells extracting groundwater from the FVGB. In both of these cases, groundwater would be wholly or partially used to supply the project's demands. Project operations will require a modest yield, is considered negligible within the overall context of the groundwater in storage and ongoing annual extractions from this nonadjudicated, low-priority basin that is not in, or projected by DWR to be in, a state of overdraft. Therefore, extractions from either an onsite or off-site well or from MPUD for project operations are not expected to affect the FVGB.

The project would result in an increase in impervious surfaces on the site due to project facilities and equipment foundations. The access roads would not be paved. The improved roads would be constructed of compacted earthen or gravel materials that are pervious. Although the panels and panel foundations are impervious, stormwater falling on the panels would drip off and infiltrate the surrounding pervious ground surfaces. Otherwise, even if the access roads are paved, the majority of the site would remain pervious and, thus would 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 supplies related to groundwater recharge at the site.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

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.

Drainage patterns within the project site are muted, with drainage entering the project site from the northwest and exiting to the southeast. The site is located on a broad alluvial slope and consists of a network of channels, playas, wales, and one wash, as described in the *Aquatic Resource and Other Watercourse Delineation Report* included as Appendix E3 of this EIR (Jacobs, 2023b). The project site is currently largely undeveloped and has mostly been used for grazing. Maintained and unmaintained dirt roadways and roadway berms are present throughout most of the project site.

The site has been designed to minimize grading in order to reduce the possibility for erosion or siltation onsite or offsite. The project would include limited grading such that off-site flow that enters the site would continue to flow through the site much as it does currently. However, installation of the proposed facilities discussed in Chapter 3, *Project Description,* of this EIR could alter existing onsite drainage patterns and flowpaths to some degree and could alter the way that stormwater from upgradient flows across the project site during major events. Given the unconsolidated and erosive nature of soils within the project site and its vicinity, these changes could result in increased erosion onsite. Additionally, if the project controls stormwater runon to the site through berms or other engineered channels, increased concentration of flows could cause head cutting, scour, and other erosional processes. Increases in erosion could result in sedimentation downstream. Finally, the new impervious surfaces created by development of the project would generate additional stormwater runoff onsite. This could exacerbate potential erosion and sedimentation onsite or downstream.

As described above, the proposed project would implement a SWPPP per Mitigation Measure MM 4.10-1 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 4.10-2 would require the submittal of a final drainage plan for the project and would evaluate and minimize potential increases in runoff and ensure that the retention basins and other

stormwater management features are implemented consistent with existing regulatory requirements. With mitigation, impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.10-1 and MM 4.10-2, 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, in a manner that would result in flooding onsite or offsite.

As discussed under Impact 4.10-3 above, grading and installation of project facilities could alter existing onsite drainage patterns and flowpaths. This could cause localized flooding during major events along the margins of the project site, or within the project site, depending upon how stormwater is managed under final project design. As described above, the proposed project would implement a SWPPP per Mitigation Measure MM 4.10-1 that would require preservation of existing vegetation and topography to the maximum extent feasible to minimize risk of flooding. During operation of the project, a large amount of pervious ground surface would remain onsite that would continue to absorb the majority of surface flows. In addition, Mitigation Measure MM 4.10-2 would require the preparation of a final 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 4.10-2 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, with the implementation of Mitigation Measures 4.10-1 and 4.10-2, potential impacts related to flooding would be less than significant.

Mitigation Measures

Implementation of Mitigation Measures MM 4.10-1 and 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1 and 4.10-2, 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 storm water 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. As described above, the proposed project would implement a SWPPP per Mitigation Measure MM 4.10-1, which would include BMPs designed to prevent the occurrence of soil erosion and discharge of other construction-related pollutants that could contaminate water quality. Mitigation Measure MM 4.10-2 would require the submittal of a final drainage plan for the project and would evaluate and minimize potential increases in runoff and ensure that the retention basins and other stormwater management features are implemented consistent with existing regulatory requirements. 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 Measures MM 4.10-1 and MM 4.10-2 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 and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1 and MM 4.10-2, impacts would be less than significant.

Impact 4.10-6: The project would place within a 100-year flood hazard area structures that would impede or redirect flood flows.

As noted in Section 4.10.3, *Regulatory Setting*, above, the FEMA FIRMs show that five parcels within the project site (427-100-22, 427-100-24, 427-100-27, 429-030-02, and 244-234-10) are within Zone A of the FEMA FIRM, which indicates a Special Flood Hazard Area. The project would introduce structures on the project site such as substation and battery energy storage foundations that could impede or redirect flood flows. However, most of the improvements of the project consist of solar panels, mounted on steel support posts that spread out across the project site and would not be expected to impede or redirect flood flows. As described above, the proposed project would implement a SWPPP per Mitigation Measure MM 4.10-1 that would require preservation of existing vegetation and topography to the maximum extent feasible to minimize risk of flooding. Implementation of Mitigation Measure MM 4.10-2 would require preparation of a hydrology study and 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 4.10-2, grading for the project would be designed so that water surface elevations during flood events would not be increased by more than one foot. Therefore, impacts related to flooding would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-1 and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1 and 4.10-2, impacts would be less than significant.

Impact 4.10-7: The project would result in a flood hazard, tsunami, or seiche zone, and risk release of pollutants due to project inundation.

As described above, the project site includes five parcels that are in the 100-year flood zone. As noted above, implementation of the drainage plan required by Mitigation Measure MM 4.10-1 would ensure that improvements that would include the storage of hazardous materials would be required to have at least one foot of freeboard above the calculated flood depth. 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. 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, considering the limited area of the site that is in the flood hazard area, the limited amount of storage of hazardous materials at the site. A SWPPP per Mitigation Measure MM 4.10-1 would be required that would require preservation of existing vegetation and topography to the maximum extent feasible to minimize risk of flooding and polluted runoff, and with the implementation of the drainage plan required by Mitigation Measure MM 4.10-2, which would provide flood protection measures, the potential for release of pollutants due to project inundation would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10-1 and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.10-1 and MM 4.10-2, impacts would be less than significant.

Impact 4.10-8: 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 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. As discussed above, the project would include required BMPs and drainage control requirements that would be consistent with the Basin Plan.

The project site is also located within the FVGB, which is not an adjudicated groundwater basin. The FVGB is currently designated as a low-priority basin under SGMA. Thus, the agencies within the region are not subject to SGMA requirements for the groundwater basin at this time and are not required to prepare and implement a sustainable groundwater management plan. Although a GSP is not required, California City, MPUD, and other regional stakeholders have partnered in the development of a Groundwater Management Plan to promote regional groundwater sustainability (California City, 2018). Overall, the basin has been able to provide sufficient supply to meet demands, and the Groundwater Management Plan targets to define the basin's safe yield by 2027 and to manage the basin such that the 10-year average change in groundwater levels is zero. As discussed above, with the commitment from MPUD to supply the project with water along with water supplied by another water purveyor and an on-site/off-site water well, there is sufficient water

available for the proposed project through 2040, including single-dry and multiple-dry water years (Jacobs Engineering, 2023). The Water Supply Assessment for the project (Appendix M1; Jacobs, 2023) identifies that groundwater level data for two wells in the project area indicates that groundwater levels in the vicinity of the Project have been increasing over the last five decades. The amount of water stored in the FVGB is relatively large compared to the proposed demand associated with the project; therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

SCE will relocate a 66-kV transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. The water demand for the SCE realignment work was included in the Water Supply Assessment prepared for the project, such that the impacts to water supply are included in the above discussion. Potential impacts would be less than significant for SCE's work with SCE's standard BMPs and Applicant Proposed Measures, and no mitigation would be required.

4.10.5 Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description,* of this EIR, 18 cumulative projects are proposed throughout the Antelope Valley in Kern County and in the desert portion of Kern County outside the Antelope Valley, and an additional 27 cumulative projects proposed throughout Lancaster, Palmdale, and unincorporated Los Angeles County. All projects except for those in Lancaster, Palmdale, and unincorporated Los Angeles County are located within the Antelope Valley Hydrologic Unit and FVGB.

Similar to the proposed project, all cumulative projects would not discharge to waters of the United States due to their location within the Antelope Valley, which is a closed basin with no outlet to the Pacific Ocean. All projects that would not retain all runoff onsite would be required to prepare a SWPPP, just as with the proposed project under Mitigation Measure MM 4.10-1, 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 also 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 regard to water supply, the proposed project would have some options but would primarily obtain its water supply from the FVGB. The Basin is not in a state of overdraft and is currently considered a low-priority basin by SGMA. The rating is based on low population density, negative growth projections, low numbers of private and public supply wells, and a lack of irrigated agriculture within the FVGB. The Water Supply Assessment determined that there are sufficient supplies for both project construction and operation until 2040. Further, the groundwater management plan for the basin is considered a preliminary step towards developing a GSP. GSPs are currently only required for medium- and high-priority basins under SGMA, but low priority basins are anticipated to eventually need a GSP. Groundwater levels appeared to stabilize after the 1980s after declining levels of the 1950s and 1960s and have started recovering since that time as a result of decreased groundwater pumping for agriculture and imported surface water deliveries to urban users being introduced to the groundwater management plan area. Therefore, considering the relatively low demand associated with solar projects in general and the increasing monitoring and management of the basin through development and implementation of a groundwater management plan, together with the projected surplus for water supplies as determined in the Water Supply Assessment, the proposed project would not combine with the cumulative projects to create an adverse effect to water supplies of the FVGB. The cumulative impact would be less than significant.

With respect to erosion, drainage, and flooding, the project would implement Mitigation Measure MM 4.10-1 and MM 4.10-2, 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 4.9-1, MM 4.10-1, and MM 4.10-2 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-1, MM 4.10-1, and 4.10-2, impacts would be less than significant.

Section 4.11
Land Use and Planning

4.11.1 Introduction

This section of the 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 project's consistency with the Kern County General Plan, the Mojave Specific Plan, West Edwards Road Settlement Specific Plan, Soledad Mountain Elephant Butte Specific Plan, and the Kern County Zoning Ordinance.

4.11.2 Environmental Setting

Onsite Land Uses

The project site is currently vacant and undeveloped, with no existing residences or other structures. Elevations across the project site range from approximately 2,750 feet above mean sea level in the northwest portion of the site to approximately 2,520 feet above mean sea level in the southeast portion of the site.

As discussed in Section 4.1, *Agriculture and Forestry Resources*, the project site is not designated by the California Department of Conservation (DOC) as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The project site is designated as Grazing Land or Nonagricultural or Natural Vegetation. Additionally, none of the project parcels are subjected to a Williamson Act Land Use contract or within an Agriculture Preserve boundary.

The majority of the project site is not located within a Federal Emergency Management Agency (FEMA) designated flood zone. However, five parcels within the project boundaries (427-100-22, 427-100-24, 427-100-27, 429-030-02, and 244-234-10) are in Zone A of the FEMA Flood Insurance Rate Maps (FIRM), which indicates a Special Flood Hazard Area as shown on **Figure 3-6**, *Flood Hazard.*

While Kern County produces a significant amount of oil compared to the rest of the country, the project is neither located within a known oil production field, nor does the site have known active or abandoned wells (CalGEM, 2023). Additionally, the majority of the project site is not located within a designated mineral and petroleum resource site within the Kern County General Plan (County of Kern, 2009). Although Site 5 (Step-up Substation) is located in an area designated by the County General Plan as 8.4 Mineral and Petroleum (Minimum 5 Arce Parcel Size), there are no active or inactive petroleum extraction facilities within or immediately adjacent to Site 5. The project site is not located within the NR (Natural Resources) or PE (Petroleum Extraction) zoned districts.

Portions of the project site are located within the Mojave Airport Sphere of Influence for the East Kern Airport District, per the Kern County Airport Land Use Compatibility Plan (ALUCP; County of Kern, 2012), and within the vicinity of Edwards AFB, which is a military aviation installation. **Figure 3-7***,*

Existing ALUCP Map, shows the parcels within the ALUCP zones and identifies the location and impact elements for those zones.

As shown in **Table 4.11-1**, *Project Site and Surrounding Land Uses*, below, the project site is subject to provisions of the adopted Mojave Specific Plan, West Edwards Road Settlement Specific Plan, Soledad Mountain Elephant Butte Specific Plan, and the Kern County General Plan.

As shown in **Table 4.11-1**, *Project Site and Surrounding Land Uses,* a majority of the project parcels are zoned A (Exclusive Agriculture) and A-1 (Limited Agriculture) with many also having a Floodplain Secondary Combining, Precise Development Combining, and/or Airport Approach Height Combining District Overlay. Additional zoning of the project includes Commercial (General, Highway, and Office), Estate 0.25 acre, Residential (Low-Density and Medium-Density), and Open Space Districts. The project site would be rezoned to A or A H, with the exception of those portions which are already in the A Zone District. According to the Kern County Zoning Ordinance Section 19.12.030 G, solar energy electrical generators, when not accessory to a permitted or conditionally permitted use, are permitted within the A Zone District subject to the approval of a Conditional Use Permit (CUP).

TABLE 4.11-1: PROJECT SITE AND SURROUNDING LAND USES

Location	Existing Land Use	Existing Map Code Designation	Existing Zone Classification
Project Site			
Site 1 (Northern)	Undeveloped	*Mojave Specific Plan:* 8.5 (Resource Management - Minimum 20 Acre Size)	A-1 (Limited Agriculture)
Site 2 (Western)	Undeveloped	*Mojave Specific Plan:* 3.1 (Parks and Recreation), 3.1/2.5 (Parks and Recreation/Flood Hazard) 5.2 (Residential – Maximum of 16 Units/Net Acres), 5.2/2.5 (Residential – Maximum of 16 Units/Net Acres, Flood Hazard) 5.3 (Residential – Maximum 10 Units/Net Acre) 5.4 (Residential – Maximum 4 Units/Net Acre) 6.2 (General Commercial), 6.2/2.5 (General Commercial/Flood Hazard) 6.3 (Highway Commercial), 6.3/2.5 (Highway Commercial/Flood Hazard) *Soledad Mt – Elephant Butte Specific Plan* LDR (Low Density Residential)	C-2 PD FPS (General Commercial, Precise Development Combining, Floodplain Secondary Combining) CH-PD (Highway Commercial, Precise Development Combining) CH PD FPS (Highway Commercial, Precise Development Combining, Floodplain Secondary Combining) CO PD (Commercial Office, Precise Development Combining) E (1/4) (Estate District. Min One-Quarter Acre) OS (Open Space) OS FPS (Open Space, Floodplain Secondary Combining) R-1 (Low Density Residential District) R-1 FPS (Low-Density Residential District, Floodplain Secondary Combining)

Location	Existing Land Use	Existing Map Code Designation	Existing Zone Classification
			R-2 PD (Medium-Density Residential District, Precise Development Combining) R-2 PD FPS (Medium-Density Residential District, Precise Development Combining, Floodplain Secondary Combining)
Site 3 (Eastern)	Undeveloped	*Kern County General Plan* *8.5* (Resource Management, Min. 20 Acre Parcel Size) *Mojave Specific Plan* *8.5* (Resource Management, Min. 20 Acre Parcel Size)	A (Exclusive Agriculture), A-1 (Limited Agriculture), A-1 H (Limited Agriculture, Airport Approach Height Combining)
Temporary Laydown Yards	Undeveloped	*Mojave Specific Plan* 8.5 (Resource Management, Min. 20 Acre Parcel Size)	A-1 H (Limited Agriculture, Airport Approach Height Combining)
Site 4 (Southern)	Undeveloped	*Kern County General Plan* 8.5(Resource Management, Min. 20 Acre Parcel Size), 2.4 (Steep Slope) *Kern County General Plan/Western Edwards Road Settlement Specific Plan* 1.1 (State and Federal Land), 8.5 (Resource Management, Min. 20 Acre Parcel Size)	A-1 (Limited Agriculture),
Site 5 (Step-up Substation)	Undeveloped	*Kern County General Plan* 8.4 (Mineral and Petroleum (Min. 5-Acre Parcel Size)	A WE (Exclusive Agriculture, Wind Energy Combining)
Surrounding Lands			
North	Mojave Air and Spaceport; Scattered commercial; and Undeveloped Vacant Open Apace	7.1 (Light Industrial) 7.2 (Service Industrial	A-1 (Limited Agriculture) M-1 PD (Light Industrial-Precise Development) M-1 PD H (Light Industrial, Precise Development, Airport Approach Height Combining) M-2 PD H (Light Industrial, Precise Development, Airport Approach Height Combining)
East	Undeveloped Vacant Open Space	3.3 (Other Facilities) 8.5 (Resource Management - Minimum 20 Acre Size);	A-1 (Limited Agriculture)

Location	Existing Land Use	Existing Map Code Designation	Existing Zone Classification
		8.5/2.4 (Resource Management - Minimum 20 Acre Size/Steep Slope)	
South	Sporadic Single Family Residences; Undeveloped Vacant Land	3.3 (Other Facilities) 8.5 (Resource Management - Minimum 20 Acre Size); 8.5/2.4 (Resource Management - Minimum 20 Acre Size/Steep Slope)	A-1 (Limited Agriculture)
West	Residential Development; Solar and Wind Renewable Energy Facilities; and Undeveloped Vacant Open Space	3.1 (Parks and Recreation) 3.2 (Educational Facilities) 5.2 (Max. 16 Units/Net Acre) 5.3 (Max. 10 Unit/Net Acre) 5.4 (Max. 4 Units/Net Acre) 6.2 (General Commercial) Low Density Residential	A (Exclusive Agriculture) A-1 (Limited Agriculture)

Surrounding Land Uses

As described in **Table 4.11-1**, *Project Site and Surrounding Land Uses*, surrounding land uses are composed primarily of undeveloped land, scattered single-family homes, and wind and solar energy facilities. Existing development in the project vicinity includes single-family homes, rural access roads, scattered rural residences, large-scale renewable energy facilities, and scattered commercial uses. The project site is directly south of the unincorporated community of Mojave, 9.5 miles southwest of the unincorporated community of California City, 10 miles north of the unincorporated community of Rosamond, and 16 miles southeast of the City of Tehachapi. The Mojave Air and Space Port is north of State Route (SR) 58, which is directly north of Site 1 (Northern). SR-14 is directly adjacent to Site 2 (Western).

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 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. 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. The most relevant regulations pertaining to solar energy development are presented below.

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.

The project site is located within unincorporated Kern County and the administrative boundaries of the Kern County General Plan, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, and Soledad Mountain Elephant Butte Specific Plan. The existing General and Specific Plan designations are shown in **Figure 3-8a**, *Site 1 (Northern) Existing General and Specific Plan Designations,* **Figure 3-8b**, *Site 2 (Western) Existing General and Specific Plan Designations,* **Figure 3-8c**, *Site 3 (Eastern) Existing General and Specific Plan Designations,* **Figure 3-8d**, *Site 4 (Southern) Existing General and Specific Plan Designations,* **Figure 3-8e**, *Site 5 (Step-Up Substation) Existing General and Specific Plan Designations,* and listed in **Table 3-3**, *Existing Project Site and Surrounding Properties, Existing Land Use, Existing General Plan Map Code Designations, and Existing Zoning*. 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.

Chapter 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 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.

Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.

Goal 7: Facilitate the provision of reliable and cost effective utility services to residents of 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 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.

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.

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.

1.9 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 17: Lands classified as MRZ-2, as designated by the State of California, should be protected from encroachment of incompatible land uses.

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 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.

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:

(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 PM2.5 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. Provide bicycle lockers and shower facilities on site.

h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86).

i. The use and development of park and ride facilities in outlying areas.

j. Other strategies that may be recommended by the local Air Pollution Control Districts.

Measure J: The County should include PM_{10} 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

Goals

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: 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 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.

1.10.6 Surface Water and Groundwater

Policies

Policy 34: Ensure that water quality standards are met for existing users and future development.

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;
- 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 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 1: Provide a means for guiding decisions on vacating public roads.

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.

2.3.10. Congestion Management Programs

Goals

Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern COG's CMP.

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 the Kern COG as the County's Congestion Management Agency (CMA).

Policy 2: The CMA is responsible for developing, adopting, and annually updating a CMP. The CMP is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also the Kern COG), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Implementation Measures

Measure A: The Kern COG 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: 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.

2.5.4 Transportation of Hazardous Materials

Goal

Goal 1: Reduce risk to public health from transportation of hazardous materials.

Policy

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.

Policy 2: Kern County and affected cities should reduce use of County-maintained roads and city-maintained streets for transportation of hazardous materials.

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 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 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 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 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

Goal

Goal 1: Minimize injuries and loss of life and reduce property damage.

4.2 General Policies and Implementation Measures, Which Apply to More Than One Safety Constraint

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 Measure

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

5.2 Importance of Energy to Kern County

Policies

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.

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.

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.

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.

Mojave Specific Plan

The Mojave Specific Plan was drafted in 2003 for the unincorporated eastern Kern County community of Mojave. The Mojave 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. The Plan works in tandem with the Kern County General Plan and Zoning Ordinance to direct land use and development decisions, establishing a single set of communitywide policies and implementation strategies. The Plan includes the following elements: Land Use, Conservation, Open Space, Circulation, Housing and Community Development, Noise, and Seismic and Safety. The goal, policies, and implementation measures of the plan that are relevant to the proposed project are included below.

Chapter 3. Land Use Element

Objective

Objective 3.6: Ensure that public services and utilities are provided commensurate with established needs and projected growth.

Policies

Policy 3.6.2: Coordinate with the Mojave Public Utility District, County Sheriff's Department, County Library Department and County Fire Department to ensure sufficient services are provided to community residents and businesses.

Policy 3.6.3: New development shall provide adequate flood control to protect properties within the 100-year floodplain.

Policy 3.6.4: Work with service providers to facilitate and encourage modifications and improvements to existing water, sewer, drainage, electric, natural gas, and other utility systems.

Chapter 4. Conservation Element

Goal

Goal 5: Designate and control mineral extraction areas.

Objectives

Objective 4.2: Maintain groundwater quality to allow local resources to meet local needs.

Objective 4.3: Encourage conservation of energy resources.

Objective 4.4: Maintain and promote the retention of natural settings and use of native or adaptable vegetation.

Objective 4.5: Conserve known areas of mineral resources by limiting encroachment of incompatible urban uses.

Objective 4.6: Promote the improvement of air quality and the maintenance of State and federal air quality standards in the Mojave area.

Policies

Policy 4.2.1: Support regional efforts by the South Lahontan Regional Water Quality Control Board to improve and protect water quality. Promote compliance with the measures contained in the California Water Code and other requirements.

Policy 4.2.2: If required, new development projects shall implement Best Management Practices (BMPs) under the National Pollution Discharge Elimination System (NPDES) permit. These practices are designed to reduce pollution runoff during construction of new projects and rehabilitation projects. Investigate and implement methods as appropriate over time to address the control of pollutants in stormwater runoff from development sites, and to encourage the recycling of runoff for groundwater recharge and similar beneficial purposes.

Policy 4.3.1: Promote energy conservation measures contained in Title 24 of the California Code of Regulations.

Policy 4.4.3: For development projects that are located outside the identified urbanized nonsensitive area (Figure 4-2) for biological resources, a biological survey shall be conducted. Alternatively, a project applicant may demonstrate urbanized, nonsensitive status through the identification of applicable studies.

Policy 4.4.4: Encourage the preservation of Joshua trees, Joshua tree woodlands, known wildflower displays or other biologically sensitive flora determined during biological surveys.

Policy 4.5.1: Require mining activities to comply with California Surface Mining and Reclamation Act (SMARA) requirements.

Policy 4.6.3: Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.

Chapter 6. Circulation Element

Goal

Goal 1 Provide for adequate circulation to support future growth.

Objective

Objective 6.1: Provide adequate transportation facilities to serve area residents and commercial and industrial businesses.

Policies

Policy 6.1.1: Provide and maintain a circulation system that supports the types and intensities of land use in Mojave.

Policy 6.1.4: With the exception of State highways, all roadways and rights-of-way shall be constructed to Kern County Development Standards. State highways shall be constructed to Caltrans standards.

Policy 6.1.6: Coordinate with developers for the improvement of local streets in conjunction with an approved phased development, subject to approval of the Roads Department in accordance with the Kern County Land Division Ordinance and Kern County Development Standards.

Policy 6.1.8: Maintain a minimum service level of "D" or better on Circulation Element roadways. Maintain a minimum service level of "C" or better on Caltrans roadways.

Policy 6.1.9: Require new development to contribute to the financing of roadway improvements, including, lighting, roadway, railroad crossings, and traffic signals required to meet the demand generated by the project.

Policy 6.1.13: Roadways for new development shall be developed in accordance with Kern County Development Standards.

Policy 6.1.14: Final driveway access locations and design shall be determined through acquisition of an encroachment permit from the Kern County Roads Department at the time development occurs.

Mitigation/Implementation Measures

Measure F-4: As a part of discretionary permit approval, plans should be reviewed for street improvements, including landscaping and lighting. Where necessary, require establishment of a County Service Area (CSA) to maintain lighting and landscaping adjacent to County roads.

Measure F-12a: New development projects will have conditions of approval applied requiring construction of roadway improvements, dedications, and/or payment of in-lieu fees to provide circulation system improvements consistent with the Specific Plan Circulation Element.

Measure F-12d: No development or building permit will be approved unless the County finds that adequate circulation system capacity exists or can be made to exist to accommodate the demands of the use/development proposed.

Measure F-12e: A traffic analysis shall be submitted with any submittal of a precise development plan, division application, or zone change that implements the plan, and/or conditional use permit. The traffic analysis shall provide a trip generation for all vehicular traffic, the necessary improvements to the existing circulation system and the project's pro-rata share of signalization, and improvements on Kern County and the State Department of Transportation network. The traffic analysis shall be reviewed and approved by the Kern County Roads Department and the State Department of Transportation. Recommendations, as approved by the Roads Department, shall become conditions of approval. This requirement may be waived by the Roads Department, in conjunction with the State Department of Transportation.

Measure F-12f: Amendments to the Plan shall require preparation of a traffic study, including site-specific and regional current traffic counts for review and approval by the Roads Department and the State Department of Transportation. Recommendations for regional improvements and development contribution to maintain adopted Levels of Service shall be included.

Chapter 8. Noise Element

Goals

Goal 1: Evaluate transportation-related noise.

Goal 2: Evaluate noise during land use planning efforts.

Objectives

Objective 8.1: Minimize the effects of transportation-related noise.

Objective 8.2: Minimize the effects of noise through proper land use planning.

Policies

Policy 8.1.1: Reduce transportation-related noise impacts on sensitive land uses (as defined in the Kern County Noise Element) through the use of noise control measures.

Policy 8.1.2: Incorporate sound-reduction designs in development projects impacted by transportation related noise.

Policy 8.1.3: Identify potential impacts from transportation noise during the planning stages of the development process. Mitigation measures (such as buffering, clustering or sound walls) shall be used as needed to meet County Noise Element and/or Airport Land Use Compatibility Plan standards.

Policy 8.2.3: Ensure consistency of development proposals with the Kern County Airport Land Use Compatibility Plan and Mojave Specific Plan to reduce potential for noise conflicts.

Policy 8.2.4: Identify noise-impact areas exposed to existing or projected noise levels exceeding 65 dB CNEL (exterior) or the performance standards described in this element.

Policy 8.2.6: Industrial uses adjacent to residences shall minimize potential noise and health hazards. Buffers may be required and shall be reviewed during the Precise Development review process and may be imposed when necessary to maintain noise standards. Landscaping,

picnic areas, parking, offices, warehousing, or other more compatible uses may be incorporated within identified buffer zones.

Policy 8.2.7: Noise attenuation measures as defined by the Kern County Noise Element, Development Standards, and any pertinent noise studies (such as setbacks, clustering, berming, and sound walls) shall serve as a guide for future planning and development decisions.

Policy 8.2.9: Amendments to the plan proposing sensitive uses adjacent to noise contours above 65 CNEL (see Figure 8-2 and 8-1) shall require preparation of a site-specific noise study including proposed mitigation.

Implementation Measures

Measure G-2: Noise Attenuation Measures. Noise attenuation measures (such as setbacks, clustering, berming, and sound walls) shall be required as conditions of project approval prior to or as part of construction in areas subject to excessive noise. Examples of cases that may require such attenuation measures include: a) Commercial and residential development where noise levels exceed adopted standards in the Kern County Noise Element. b) Residential and other sensitive uses with direct exposure to highway activities and/or railroad noise. c) Between residential land uses and commercial or industrial land uses.

Measure G-3: Airport-Related Noise and Safety. Implement the following measures to reduce the impact of airport-related noise and safety issues on development in surrounding areas: a) All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the Mojave Airport and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.

Measure G-4: Vehicular Noise. Implement the following measures to reduce the impact of vehicle-related noise on development in adjacent areas: a) New construction shall include sound walls as recommended by required acoustic studies. b) New development shall be required to identify and mitigate for vehicular noise impacts as a condition of approval for construction of new noise-sensitive land uses. c) Request that other agencies construct noise barriers as part of future highway, roadway, and rail projects to mitigate significant impacts beyond County jurisdiction. d) Landscaping or other project design measures are required in all new public and private projects to address potentially significant aesthetics impacts associated with noise barriers. e) Regulate traffic flow and coordinate with the California Highway Patrol to enforce speed limits. f) Incorporate noise impact considerations, particularly the relationship of parking ingress/egress, loading, and refuse collection areas to surrounding residential and other noise-sensitive uses.

Chapter 9. Seismic and Safety Objectives and Policies

Objectives

Objective 9.1: Minimize the potential damage to structures and loss of life that could result from earthquakes.

Objective 9.2: Prevent loss of life, reduce personal injuries and property damage, and minimize economic loss resulting from flood hazards.

Policies

Policy 9.1.1: Safety measures required by the Uniform Building Code and the Kern County Seismic Safety Element during construction of new buildings are hereby incorporated by reference.

Policy 9.2.1: Require new construction within a special flood hazard area, as specified on Flood Insurance Rate Maps (FIRMs) (shown on the Physical Constraints Overlay Map in this Plan), to conform to the Kern County Floodplain Management Ordinance.

Policy 9.2.3: Investigate and mitigate flood hazards, or locate development away from such hazards, to preserve life and protect property.

Policy 9.4.2: Work with the Kern County Fire Department and the Kern County Sheriff's Department to ensure sufficient services can adequately protect and serve the community.

Policy 9.4.3: Ensure that street widths and clearance areas are sufficient to accommodate fire protection and emergency vehicles during land division review and site plan review.

Policy 9.4.5: Continue to enforce the Kern County Health, Fire and Building standards for new development and rehabilitation of existing structures.

Chapter 10. Implementation

Mitigation/Implementation Measures

Measure C-6a: Require a biological survey to be conducted in nonurbanized sensitive areas (not developed, not previously developed, or not previously mitigated) with potentially significant biological resources.

Measure H-4b: Prior to discretionary development of any individual project within the Specific Plan area, a complete records and literature search and/or a Phase 1 Assessment shall be conducted to identify the presence of any specific cultural resources and/or Native American sacred lands at the project site. Recommendations shall be incorporated into project approval.

Measure L-1: Adequate Services: Require applicants to demonstrate the availability of fire, police, emergency response and solid waste disposal services during discretionary environmental review.

Measure L-2: Fire and Police Protection Implement the following measures to ensure adequate fire and police protection in the Mojave community: a) Work with the Kern County Sheriff's Department and Kern County Fire Department to ensure the continuation of an adequate level of services for the Specific Plan Area. b) If additional Fire Department or Sheriff station sites are required, identify sites and require dedication of land for such purposes or payment of proportional share of services as a condition of development. c) Work with local organizations and the County Sheriff and Fire Department to continue administration of the Mojave Desert Community Response Plan.

Measure N-2b: Air Quality studies will be required for industrial zone changes and conditional use permit projects which may emit affected pollutants, or toxic air contaminants. Prior to the approval

of any industrial zone changes and/or conditional use permits, a level of impact determination shall be made, at which time the appropriate air quality analysis will be conducted.

Measure N-3a: Review construction plans prior to the issuance of building permits to ensure that energy efficiency requirements of Title 24 of the California Administrative Code are met.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan was certified in 1992 for the community of West Edwards Road Settlement in order to recognize existing development and prepare for projected community growth. The Plan includes the following elements: Land Use, Open Space, and Conservation; Circulation; and Safety.

Each element establishes goals, policies, and implementation measures that guide planning decisions in the West Edwards Road Settlement Specific Plan area. Policies and implementation measures of the plan that are relevant to the proposed project are included below.

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

Policies

Policy 1.1.3.3: Development shall occur outside areas identified as primary floodways. All development projects will incorporate measures to ensure that the proposed project will not be hazardous, increase flood depths or velocities, or cause water quality to deteriorate. Developments which would be hazardous to the public health and safety will be prohibited.

Policy 1.2.3.1: New development shall be required to pay its proportional share of the costs of local infrastructure improvements such as public streets, and water and sewer systems.

Policy 1.2.3.2: Development shall be encouraged to utilize existing utility purveyors.

Implementation

1.1.4.1: Site development shall be accomplished in compliance with Kern County Flood Damage Prevention Ordinance and Kern County Zoning Ordinance. Development prohibitions shall be the same in those ordinances.

1.1.4.3: Drainage improvement plans shall be approved for projects pursuant to the Kern County Zoning Ordinance.

1.2.4.3: Plans for adequate fire flows and access shall be approved by the Kern County Fire Department prior to issuance of a building permit.

Chapter 2. Circulation Element

Goal

Goal 2.1.13: To promote adequate road improvement standards for all new developments.

Policy

Policy 2.1.3.1: When development occurs, street rights-of-way shall be improved and dedicated to the County in accordance with all applicable County standards and ordinances.

Implementation

2.1.4.1: Streets shall be improved to Type A Subdivision Standards as a requirement for a conditional use permit, final map subdivision, or parcel map.

2.1.4.2: The developer shall be responsible for the construction of street improvements in accordance with the Kern County Land Division Ordinance.

Chapter 4. Safety Element

Policies

Policy 4.1.3.2: New development will be allowed only when it can meet standard levels of service from fire and water service delivery systems.

Policy 4.1.4.3: All new development shall provide for the containment of drainage water generated on site. Drainage plans must meet the approval of the Kern County Public Works Department.

Policy 4.1.4.4: Prior to the issuance of building or grading permits, all development plans will need approval of Kern County Department of Planning and Development Services/Floodplain Management Section.

Measure

Measure 4.1.4.2: All construction shall comply with the requirements of the Kern County Code of Building Regulations and the Uniform Fire Code (UFC) regarding water supply, fire flow, and construction standards.

Soledad Mountain Elephant Butte Specific Plan

A. Land Use

Item 5. Agriculture

Recommendation - Grazing shall be allowed only in accordance with the Zoning Ordinance and where permitted by right.

Analysis - Two-thirds of the land within the Plan area is zoned either A-1 or A-2, which allows grazing. Approximately one half of this would have grazing capabilities. Grazing should be kept to a minimum to protect the desert ecosystem.

Implementation - Compliance with the existing Zoning Ordinance.

B. Circulation

Item 1. Location & Extent of Existing Streets

Recommendation - All roads shall be maintained as they now exist. An O.P. line shall be established for a 110-foot right-of-way along the general alignment of Silver Queen Road from the State Route 14 interchange to the South line of Section 12, T.10N., R.13W., S.B.B.&M.

Analysis - Silver Queen Road may be expected to carry a substantial volume of traffic as future development occurs due to its geographic location and full interchange at State Route 14.

Implementation - The County Surveyor and Road Commissioner to furnish data necessary to compile maps by the Planning Staff; hearings to be held in accordance with effective laws.

Item 4. Proposed Local Streets

Recommendation - Location, extent and improvement of local streets should be reviewed during consideration of tentative subdivision or parcel maps.

Analysis - Since the parcel map procedure has all but replaced sub• divisions in eastern Kern County, review of such maps should include requests for reservation of easements for future local street alignments.

Implementation - Compliance with applicable Sections of the Subdivision of Land Ordinance.

D. Conservation

Item 1. Conservation, Development, and Utilization of Natural Resources

Including:

a) Underground waters
b) Surface waters
c) Forests (not applicable)
d) Vegetation and soils (not applicable)
e) Rivers, creeks, and streams
f) Fish and wildlife (not applicable)

Recommendation a) Underground Waters - The quality and quantity of underground waters shall not be degraded.

d) Vegetation and Soils – All existing vegetation that must be cleared for building sites shall be removed from the site prior to completion of construction. Preservation of native plant life pursuant to Item C-2 herein.

f) Fish and Wildlife – Adherence to the guidelines recommended herein will produce the least negative effect on wildlife, other than no development at all.

Analysis	The Developer reports that the underground water supply will be adequate to serve the development. Should overdraft occur in the future, rationing could be necessary, or annexation to the Mojave Public Utility District may be considered.
Implementation	a) Quality and quantity of underground water supply shall be monitored by the appropriate agency. d) Compliance with and review by the Public Works Department for appropriate approval. f) Compliance with Specific Plan Recommendations.

Item 5. Standards for Prevention, Control, and Correction of Soil Erosion Caused by Subdivision Roads and Other Sources

Recommendation	No construction shall be allowed unless mitigating measures are implemented to prevent erosion.
Analysis	In an area of naturally scenic landscape, all measures should be taken to prevent unsightly scarring of land. Cuts, fills, and "padding" of lots should be minimized.
Implementation	Initially, compliance with the Building Code and reseeding of all fill or cut with native seed mix at 40 pounds per acre properly fertilized; development and adoption of a grading and erosion control ordinance for lot grading and road construction.

Item 6. Standards of Protection of Watershed Areas

Recommendation	No watershed area shall be degraded as a result of a development within the area.
Analysis	Review of watersheds is made in conjunction with drainage control and water quality control. Standards have been established.
Implementation	Compliance with the existing standards of the Regional Water Quality Control Board and the Public Works Department.

E. Open Space

Item 1(a). Natural Resource Land, Botanical Communities

Recommendation	All possible safeguards shall be initiated to prevent destruction of Joshua Trees.
Analysis	There are no botanical communities designated within the Plan area, however, there are scattered stands of Joshua Trees which should be protected.
Implementation	Review by local agencies as development occurs.

Item 4. Scenic Lands

Recommendation	All possible safeguards should be made to protect the scenic lands along State Route 14, designated as a proposed Scenic Highway, and other County roadways.

Analysis	No billboards or unsightly construction should be allowed within the scenic lands along roadways. All utilities along the route should be underground. State Route 14 provides an excellent example of scenic desert lands for visitors traveling through eastern Kern County and should be protected.
Implementation	Compliance with existing Zoning Ordinance, where applicable.

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.

Regional Transportation Plan

The latest Regional Transportation Plan (RTP) was prepared by the Kern Council of Governments (COG) and was adopted on July 21, 2022. The 2022 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 2022 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 targets for Kern's greenhouse gas (GHG) emissions reductions from passenger vehicles and light-duty trucks at 9 percent per capita by 2020 and 15 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. Kern COG closely coordinated the RHNA and RTP/SCS development process using the same oversight committee for both. Local jurisdictions will use the RHNA to identify locations to 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 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 the community's future.

The 2022 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 may be considered reasonably available over the time horizon of the RTP/SCS. This RTP promotes a more efficient transportation system that calls for fully funding alternative transportation modes, while emphasizing transportation demand and transportation system management approaches for new capacity (Kern COG, 2022).

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 potential impacts associated with the project are evaluated on a qualitative basis through 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 could have a have a significant adverse effect on land use if the project would:

a. Physically divide an established community;

b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect;

Project Impacts

Impact 4.11-1: The project would physically divide an established community.

The project would be developed on primarily vacant, undeveloped desert land. Land uses surrounding the project are primarily open desert, permitted solar energy generating facilities, or scattered residential uses. The project site is directly south of the community of Mojave. However, the project is sited in a manner that would not physically divide or restrict access to the community of Mojave, as development is limited in the project area due to the location of the Mojave Air and Spaceport and Burlington Northern Sante Fe (BNSF) Railroad tracks.

The project will also include street vacations to remove roads and public street easements within the proposed solar facility and will process parcel maps to merge smaller parcels into larger ones. (see Section 3.6, *Project Description*, of Chapter 3, *Project Description,* for details). The purpose of the street vacations/parcel mergers is to facilitate the optimal layout of solar panels by removal of recorded but unused/undeveloped public rights-of-way on vacant land. These easements and offers of dedication have been created by grant deed or parcel maps, and some dirt roads exist within the project footprint. The easement vacations would not eliminate any legal access for any property or persons in the area. In the cases where one of the proposed vacations remove primary access to a parcel, the project proponent would be responsible for recording private easements for access purposes prior to the vacation being recorded such that legal access remains. In most cases, the proposed private easements would be recorded along with the vacation of the original public easement. Therefore, the project is not anticipated to physically divide or restrict access to the community of Mojave or any other community and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.11-2: The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The Kern County General Plan, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, Soledad Mountain Elephant Butte Specific Plan, and the Kern County Zoning Ordinance 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 approval of Zone Change Case No. 60, Map 196; Zone Change Case No. 61, Map 196; Zone Change Case No. 3, Map 195 and Map No 212; Zone Change Case No. 62, Map 196; and Zone Change Case No. 4, Map 195 to rezone various parcels to A or A H, with the exception of those parcels which are already in the A Zone District. With the requested zone change, the entirety of the project would be zoned A (Exclusive Agriculture). The project would require approval of CUP No. 62, Map 196; CUP No. 63, Map 196; CUP No. 2, Map 195;

CUP No. 64, Map 196; CUP No. 65, Map 196; CUP No. 3, Map 195; CUP No. 6, Map 212, and CUP No. 20, Map 197 to allow for the construction and operation of a solar facility and associated infrastructure, including energy storage, under this zoning. The project would also require Specific Plan Amendment (SPA) No. 34, Map 196 of the Mojave Specific Plan to redesignate various parcels to 8.5 (Resources Management); SPA No. 35, Map 196 to the Circulation Element of the Mojave Specific to remove future road reservations on section and mid-section lines within the project boundary; and SPA No. 4, Map 212 to the West Edwards Road Settlement to redesignate various parcels to 8.5 (Resources Management). Additionally, the Project would include General Plan Amendment No. 3, Map 212 to the Circulation Element of the Kern County General Plan to remove future road reservations on section and mid-section lines within the project boundary.

Kern County General Plan, Mojave Specific Plan, West Edwards Road Settlement Plan, and Soledad Mountain Elephant Butte Specific Plan

Table 4.11-2, *Consistency Analysis with Kern County General Plan for Land Use*, presents an evaluation of the project's consistency with the Kern County General Plan. **Table 4.11-3,** *Consistency Analysis with the Mojave Specific Plan for Land Use*, presents an evaluation of the project's consistency with the Mojave Specific Plan. **Table 4.11-4,** *Consistency Analysis with the West Edwards Road Settlement Specific Plan for Land Use*, presents an evaluation of the project's consistency with the West Edwards Road Settlement Specific Plan. **Table 4.11-5,** *Consistency Analysis with the Soledad Mountain Elephant Butte Specific Plan for Land Use,* presents an evaluation of the project's consistency with the Soledad Mountain Elephant Butte Specific Plan. The tables list the goals and policies identified above in the regulatory setting and provide analysis on the project's general consistency with overarching policies. Additionally, the tables provide goals and policies of issue areas that are presented in more detail in other sections of the EIR. As evaluated in detail in **Table 4.11-2**, *Consistency Analysis with Kern County General Plan for Land Use,* **Table 4.11-3**, *Consistency Analysis with the Mojave Specific Plan for Land Use*, **Table 4.11-4**, *Consistency Analysis with the West Edwards Road Settlement Specific Plan for Land Use*, and **Table 4.11-5**, *Consistency Analysis with the Soledad Mountain Elephant Butte Specific Plan for Land Use,* the project is consistent with the goals and policies of the Kern County General Plan, Mojave Specific Plan, the West Edwards Road Settlement Specific Plan, and the Soledad Mountain Elephant Butte Specific Plan.

Removal of Future Road Reservations

The project will include Street Vacations to remove roads and public street easements within the proposed solar facility and will process parcel maps to merge smaller parcels into larger ones. The easements that will be requested to be vacated are shown in **Figure 3-11a**, *Site 1 (Northern) Street Vacations,* **Figure 3-11b**, *Site 2 (Western) Street Vacations,* **Figure 3-11c**, *Site 3 (Eastern) Street Vacations,* and **Figure 3-11d**, *Site 4 (Southern) Street Vacations*. There are no street vacations included for Site 5 (Step-Up Substation). The proposed removal of future road reservations at section and mid-section lines is shown on **Figure 3-12**, *Circulation Element Amendment*.

Implementation of the Circulation Element of the Kern County General Plan and the Mojave Specific Plan Circulation Element goals, policies, and implementation measures would ensure consistency between the project and land use plan for the project area. Furthermore, the proposed amendment would be consistent with the surrounding land uses in the project vicinity. Therefore, the project's proposed amendment to the Circulation Element of the Kern County General Plan and the Circulation Element of the Mojave Specific

Plan would not result in conflict with the applicable land use plan, and impacts would be less than significant.

Kern County Zoning Ordinance

As described above, the project is subject to the provisions of the Kern County Zoning Ordinance. As shown in **Table 4.11-1**, *Project Site and Surrounding Land Uses*, and **Figure 3-9a**, *Site 1 (Northern) Existing Zoning Classifications,* **Figure 3-9b**, *Site 2 (Western) Existing Zoning Classifications,* **Figure 3-9c**, *Site 3 (Eastern) Existing Zoning Classifications,* **Figure 3-9d**, *Site 4 (Southern) Existing Zoning Classifications,* **Figure 3-9e**, *Site 5 (Step-Up Substation) Existing Zoning Classifications,* in Chapter 3, *Project Description*, the Kern County Zoning Ordinance designates portions of the project site as being within the A (Exclusive Agriculture), A-1 (Limited Agriculture), A-1 H (A-1, Airport Approach Height Combining), C-2 PD FPS (General Commercial, Precise Development Combining, Floodplain Secondary Combining), CH PD (Highway Commercial, Precise Development Combining), CH PD FPS (Highway Commercial, Precise Development Combining, Floodplain Secondary Combining), CO PD (Commercial Office, Precise Development Combining), E (1/4) (Estate District, Min. one-quarter acre), OS (Open Space), OS FPS (Open Space, Floodplain Secondary Combining), R-1 (Low Density Residential District), R-1 FPS (Low Density Residential District, Floodplain Secondary Combining), R-2 PD (Medium-Density Residential District, Precise Development Combining), R-2 PD FPS (Medium-Density Residential District, Precise Development Combining, Floodplain Secondary Combining) Zone Districts.

The project proponent is requesting Zone Change Cases within Zone Maps 195, 196, 197, and 212. The Zone Change Cases, if approved, would rezone the project site to A, A FPS, or A H (Exclusive Agriculture, Floodplain Secondary Combining, or Airport Approach Height Combining). In addition, the project would require the approval of a CUP for each Zone Map in the project area per Sections 19.12.030 G and 19.14.030 G of the Kern County Zoning Ordinance. With the Zone Change and CUP approvals, the project would be consistent with the Exclusive Agriculture zoning classification, which allows solar facilities as a permitted use with a CUP.

Because the project's zoning classifications are consistent with current Kern County Zoning Ordinance land use designations which allow solar development with a CUP, the project would be consistent with the zoning classification with this discretionary approval. As such, with approval of the CUPs, the project would be consistent with applicable land use policies and regulations, and impacts related to consistency with the zoning ordinance would be less than significant.

Kern County Airport Land Use Compatibility Plan

Portions of the project site are located within the Airport Influence Area of the Mojave Air and Space Port: Site 1 (Northern) is located within Compatibility Zones B1 and C, Site 2 (Western) is located within Compatibility Zones D and E1, and Site 3 (Eastern) is located within Compatibility Zones B2 and C. The eastern portion of the proposed 230-kV gen-tie line spans across Compatibility Zones B2, C, D, and E1. Site 4 (Southern) and Site 5 (Step-up substation) are not located in any Compatibility Zones. The project would be required to comply with the County's ALUCP and applicable Federal Aviation Administration (FAA) regulations regarding project approval to ensure that there would be no conflict with airport operations and no safety hazards are presented. As discussed in Section 4.9, *Hazards and Hazardous Materials*, implementation of Mitigation Measures MM 4.9-3 and MM 4.9-4 would ensure the project

would be consistent with the ALUCP and applicable Kern County regulations by requiring the developer to coordinate with the Department of Defense and obtain approval from FAA and the public airports and military installations in the area. With implementation of these mitigation measures, impacts would be less than significant. For a more detailed discussion of consistency with the ALUCP, see Section 4.9, *Hazards and Hazardous Materials*, Impact 4.9-5.

Mitigation Measures

Implementation of Mitigation Measures MM 4.9-3 and MM4.9-4would be required (see Section 4.9, *Hazards and Hazardous Materials*, for text of Mitigation Measures MM 4.9-3 and MM 4.9-4.

Level of Significance

With implementation of Mitigation Measures MM 4.9-3 and MM 4.9-4, impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

Southern California Edison (SCE) will relocate an existing 66-kV transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the transmission line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. The SCE work would result in impacts similar to those described above for the rest of the project and would not physically divide an established community or conflict with applicable land use plans or policies. SCE would implement BMPs during construction and operation, as well as comply with applicable state and federal laws, such that impacts would be less than significant.

4.11.5 Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope of analysis for this chapter is the Western Antelope Valley within Kern County. 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 these regions. As described in more detail in **Table 3-6**, *Cumulative Projects List* in Chapter 3, *Project Description*, of this EIR, 18 projects are proposed within the geographic scope. 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. As discussed above, the project would

generally be located in an undeveloped and unincorporated area of Kern County with little residential development, and would not divide an established community. Related projects in Kern County would be developed in similarly low-populated and relatively undeveloped areas. 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 **Table 4.11-2**, *Consistency Analysis with Kern County General Plan for Land Use,* **Table 4.11-3**, *Consistency Analysis with the Mojave Specific Plan for Land Use*, **Table 4.11-4**, *Consistency Analysis with the West Edwards Road Settlement Specific Plan for Land Use*, and **Table 4.11-5**, *Consistency Analysis with the Soledad Mountain Elephant Butte Specific Plan for Land Use* below, the project would be consistent with the goals and policies of the Kern County General Plan, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, and the Soledad Mountain Elephant Butte Specific Plan, respectively. In addition, with approval of the CUPs, the 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 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 separately 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, the Mojave, West Edwards Road Settlement, and Soledad Mountain Elephant Butte Specific Plans, 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. While the potential is low for the related projects to be within the Kern County ALUCP and potentially combine with the proposed project to result in impacts, implementation of Mitigation Measures MM 4.9-3 and MM 4.9-4 would ensure that the project's contribution to potential impacts in an airport land use plan influence area is less than significant. Additionally, should any related projects be within the Kern County ALUCP 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. Compliance with such regulations would ensure that cumulative impacts are less than significant.

With regard to cumulative effects of utility-scale 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 be abandoned. 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, Mitigation Measure **MM 4.11-1**, which would require the implementation of a decommissioning plan to be carried out by the project proponent once the life of the project has ended, has been included to establish safeguards to ensure the maintenance of the health, safety, and welfare of the citizens of the County. Mitigation Measure **MM 4.11-2** is also being included to ensure that the proposed solar facility does not interfere with the telemetry operations associated with the nearby military installations. 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. With the implementation of Mitigation Measures MM 4.11-1 and 4.11-2, cumulative land use impacts would be considered less than significant.

Mitigation Measures

MM 4.11-1: 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 180 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 twelve 12 months that portion of the site shall be deemed abandoned and shall be

removed within sixty (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 sixty (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 twelve (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 forty-eight (48) months from the date the solar facility was first deemed abandoned.

MM 4.11-2: Prior to the operation of the solar facility, the operator shall consult with the Department of Defense and Mojave Air and Space Port to identify the appropriate Frequency Management Office officials to coordinate the use of telemetry to avoid potential frequency conflicts with military and facility operations.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.9-3, MM 4.9-4, MM 4.11-1 and MM 4.11-2, cumulative impacts would be less than significant.

Project Consistency with the Kern County General Plan, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, and Soledad Mountain Elephant Butte Specific Plan

Table 4.11-2, *Consistency Analysis with Kern County General Plan Policies for Land Use*, summarizes the consistency of the project with all applicable goals and policies of the Kern County General Plan**, Table 4.11-3**, *Consistency Analysis with the Mojave Specific Plan for Land Use*, presents an evaluation of the project's consistency with the Mojave Specific Plan, and **Table 4.11-4**, *Consistency Analysis with the West Edwards Road Settlement Specific Plan for Land Use*, presents an evaluation of the project's consistency with the West Edwards Road Settlement Specific Plan applicable to the project site. **Table 4.11-5**, *Consistency Analysis with the Soledad Mountain Elephant Butte Specific Plan for Land Use*, presents an evaluation of the project's consistency with the Soledad Mountain Elephant Butte Specific Plan.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 4.10-2.	Consistent with this policy, the project includes construction and operation of solar PV power generation, energy storage, and support facilities that are not located on a hazardous site. See Section 4.9, *Hazards and Hazardous Materials*, of this EIR. As described in Section 4.7, *Geology and Soils*, of this EIR, the project site is not transected by a known active or potentially active fault and is not located within a State of California Alquist-Priolo Earthquake Fault Zone. In addition, construction of the project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Adherence to all applicable regulations would mitigate any potential impacts associated with fault rupture adjacent to the project site. Based on the absence of any known active faults that cross, or are located in proximity to, the project site and project compliance with applicable ordinances of the Kern County Building Code, the potential impact of fault rupture would be less than significant. Additionally, the project would implement the recommendations of the final design level geotechnical report. The final report's recommendations would be consistent with the Kern County Building Code (Chapter 17.08) and the most recent version of the California Building Code. As described in Section 4.10, *Hydrology and Water Quality*, of this EIR, the project site is located within the 100-year floodplain and is classified as having a 1 percent annual chance of flooding. Implementation of Mitigation Measure MM 4.10-2 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 and 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. Thus, final review of the project by the Kern County Planning and Natural Resources Department, as well as adherence to all

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		applicable local, state and federal regulations, would ensure that the project would not pose significant environmental or public health and safety hazards. As such, with implementation of mitigation measures the project would be consistent with this goal.
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, *Physical and Environmental Constraints*, Goal 1, of the Kern County General Plan, above.
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 4.10-2.	See Section 4.10, *Hydrology and Water Quality*, 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 4.10-2, as described above. Therefore, the 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 4.10-2.	See Section 4.10, *Hydrology and Water Quality*, 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 4.10-2, as described above. Therefore, the project would be consistent with this policy.
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	Consistent with implementation of Mitigation Measure MM 4.10-2.	See Section 4.10, *Hydrology and Water Quality*, of this EIR. As described therein, 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

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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		would not establish a permanent population onsite. Further, the project would be developed in accordance with the General Plan and Floodplain Management Ordinance and would implement Mitigation Measure MM 4.10-2, as described above. Therefore, the project would be consistent with this policy.
Policy 11: Protect and maintain watershed integrity within Kern County.	Consistent with implementation of Mitigation Measures MM 4.9-2 and MM 4.10-2.	As discussed in Section 4.10, *Hydrology and Water Quality*, the project would implement best management practices during construction to avoid impacts to water quality. The project would also implement Mitigation Measure MM 4.9-2, which would require the project proponent to provide a Hazardous Materials Business Plan, as described in Section 4.9, *Hazards and Hazardous Materials,* of this EIR, to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the 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 with implementation of Mitigation Measures MM MM4.10-1 and 4.10-2.	The project would implement Mitigation Measure MM 4.10-2, which would require the preparation of a hydrologic drainage plan. The hydrologic drainage plan shall be prepared in accordance with the Kern County Grading Code and Kern County Development Standards. Since project construction would disturb over an acre of ground, the project operator would conform to the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Permit Program through the preparation of a Stormwater Pollution Prevention Plan (SWPPP) that would include erosion control and sediment control best management practices (BMP) designed to prevent disturbed soils from moving offsite, as required by Mitigation Measure MM 4.10-1. The project would also be required to implement a drainage plan that would minimize the potential for changes in onsite drainage patterns that could increase erosion and sedimentation (See Section 4.10, *Hydrology and Water Quality,* of this EIR for more details). A grading permit would be obtained from the County prior to commencement of construction activities. According to Chapter 17.28 of the Kern County Grading Ordinance, this includes submittal of grading plans to the County for review prior to issuance of a grading permit and grading activities on the project site. County review of grading plans would ensure that

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		appropriate erosion control measures have been implemented on site. Therefore, the 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 4.10-2	See Section 4.10, *Hydrology and Water Quality*, of this EIR. Most of the project site is within FEMA Flood Zone X, indicating areas not in a flood hazard zone. However, five parcels within the project boundaries are within FEMA Flood Zone A, indicating a Special Flood Hazard Area (see **Figure 3-6**, *FEMA Flood Zone Hazard*, in Chapter 3 of this EIR). 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 4.10-2. Ultimately, impacts related to flooding were determined to be less than significant in this EIR. Therefore, the project would be consistent with this measure.
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 4.10-2.	As described in Section 4.10, *Hydrology and Water Quality*, of this EIR, the project site is located within the 100-year floodplain and is classified as having a 1 percent annual chance of flooding. Specifically, five parcels within the project boundaries are within FEMA Flood Zone A, indicating a Special Flood Hazard Area (see **Figure 3-6**, *FEMA Flood Zone Hazard*). Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-2. Therefore, the project would be consistent 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 4.10-2.	See 1.3, *Physical and Environmental Constraints,* 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	Consistent within implementation of Mitigation Measure MM 4.10-1	Sections 4.7, *Geology and Soils,* and 4.10, *Hydrology and Water Quality*, of this EIR discuss impacts related to soil-disturbing activities. As discussed therein and required by Mitigation Measure MM 4.10-1, the project operator would

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Regional Water Quality Control Board regarding soil disturbances issues.		conform to the requirements of State Water Resources Control Board's NPDES General Construction Permit Program through the preparation of a SWPPP that would include erosion control and sediment control BMPs designed to prevent disturbed soils from moving offsite. Thus, the project would be consistent with this measure.
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 Measures MM 4.14-2 through MM 4.14-4.	As discussed in Section 4.14, *Public Services*, of this EIR, implementation of Mitigation Measures MM 4.14-2 and MM 4.14-3 would require the project proponent to pay a Cumulative Impact Charge (CIC) assigned by the Kern County Planning and Natural Resources Department over the operational life of the project in order to mitigate potential impacts to fire or police protection services resulting from the project. Additionally, MM 4.14-4 would require the project to pay applicable taxes. With payment of the required mitigation fee as assessed by the Kern County Planning and Natural Resources Department, and payment of applicable taxes, any additional fire or police protection services, facilities or personnel required as a result of the project would be appropriately funded, and the project would be consistent with this goal.
Goal 5: Ensure that adequate supplies of quality (appropriate for intended use) water are available to residential, industrial, and agricultural users within Kern County.	Consistent.	Public utility impacts are evaluated in Section 4.17, *Utilities and Service Systems,* of this EIR. As described therein, there is sufficient water available to meet the future water demands of the project during normal, single dry, and multiple dry years through 2040. Impacts related to water supply were determined to be less than significant in this EIR. Therefore, the project would be consistent with this goal.
Goal 7: Facilitate the provision of reliable and cost-effective utility services to residents of Kern County	Consistent	The project includes the development of a solar PV power generating facility that would generate 600 megawatt (MW) of solar power with up to 4,000 megawatt-hours (MWh) of energy storage capacity, both of which would be delivered to the grid, reducing dependence on fossil fuel based energy.
Policy 1: New discretionary development will be required to pay its proportional share of the local	Consistent with implementation of Mitigation Measures MM 4.14-2 through MM 4.14-4.	The project includes the construction and operation of a 600 MW solar facility with up to 4,000 MWh of energy storage capacity. The project would also include a gen-tie line and step-

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
costs of infrastructure improvements required to service such development.		up substation to connect the project to the existing SCE Windhub Substation. All infrastructure improvements associated with the project would be fully funded by the project proponent. Additionally, implementation of Mitigation Measures MM 4.14-2 through MM 4.14-4 would require the project to pay applicable fees and taxes to reduce significant impacts to fire or police protection services resulting from the project.
Policy 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.	Consistent with implementation of Mitigation Measure MM 4.17-1.	Public utility impacts are evaluated in Section 4.17, *Utilities and Service Systems*. As described therein, the project would have less-than-significant impacts on water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities. 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 and operation, resulting in less than significant impact to solid waste providers.
Policy 6: The County will ensure adequate fire protection to all Kern County residents.	Consistent with implementation of Mitigation Measures MM 4.14-2 through MM 4.14-4.	See 1.4, *Public Services and Facilities*, Goal 1, above.
Policy 7: The County will ensure adequate police protection to all Kern County residents.	Consistent with implementation of Mitigation Measures MM 4.14-2 through MM 4.14-4.	See 1.4, *Public Services and Facilities*, Goal 1, above.
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.	Consistent with implementation of Mitigation Measure MM 4.17-1.	See 1.4, *Public Services and Facilities*, Policy 3, 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	Consistent with implementation of Mitigation Measures MM 4.14-2 through MM 4.14-4.	See 1.4, *Public Services and Facilities*, Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent	Project effects related to utilities are discussed in Section 4.17, *Utilities and Service Systems*, of this EIR. The project would result in less-than-significant impacts to utilities. Furthermore, the project included the development of a solar PV power generating facility that would generate approximately 600 MW of solar power and up to 4,000 MWh of energy storage capacity, both of which 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, *Public Services and Facilities*, 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 4.14-1 through 4.14-4.	Impacts to fire protection services are evaluated in Section 4.14, *Public Services*, 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 Measures MM 4.14-2 through MM 4.14-4 require 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 project.
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	With project approval, the project site would be located on land that is zoned as A (Exclusive Agriculture) and implementation of the project would preclude livestock grazing on the site. Other uses besides agriculture, including solar energy generation and storage, are permitted within the A District with the approval of a CUP. The project would not involve additional change in the existing environment besides those described in this Draft EIR and would not directly lead to other projects that would result in the loss of grazing land. Direct disturbance related to the project would be approximately 2,300 acres. Additionally, discussed in Section 4.12, *Mineral Resources,* of

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		this EIR, the project site is not located within the bounds of a mineral resource area. The project site is not located in areas of existing agricultural use or in areas containing petroleum, or mineral resources. These amenities would not be diminished in other parts of the County as a result of construction or operation of the project. Therefore, the 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*, Resource,* Goal 1, above. As discussed in Section 4.12, *Mineral Resources,* of this EIR, 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 would be compatible with open space, agriculture, and other neighboring 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	Consistent with this goal, the project would develop solar PV facilities that would generate 600 MW of solar energy and up to 4,000 MWh of energy storage capacity and would offset an equivalent amount of fossil fuel-generated electrical power. The site is on vacant 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.
Goal 5: Conserve prime agricultural lands from premature conversion	Consistent	As discussed in Section 4.2, *Agriculture and Forestry Resources*, of this EIR, the project site is not designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. Consistent with this policy, Prime Farmlands would not be affected by the project.
Goal 6: Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.	Consistent	Consistent with this policy, the project would develop a solar PV power generating facilities designed to generate 600 MW of solar power and up to 4,000 MWh of energy storage capacity. The project would develop a clean energy source that would create fewer fossil fuel emissions; thus, protecting the environment.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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, *Resource*, Goal 5, 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 Measures MM 4.10-1 and MM 4.10-2.	As discussed in Section 4.10, *Hydrology and Water Quality*, of this EIR, the project would be required to adhere to the Kern County Development Standards and Kern County Code of Building Regulations which require site drainage plans that include development standards designed to protect water quality. Specifically, the project proponent would be required to prepare and submit a drainage plan to the Kern County Public Works Department, for approval of post-construction structural and nonstructural BMPs that could include Low Impact Development (LID) features such as drainage swales for collection of runoff prior to offsite discharge. Routine structural BMPs are intended to address water quality impacts related to drainage that are inherent in development. Consistent with this policy, the project would require the submission of a drainage plan to the County for review would implement Mitigation Measure MM 4.10-2, which requires a final hydrologic drainage plan designed to evaluate and minimize potential increases in runoff from the project site. Also, as required by Mitigation Measure MM 4.10-1, the project operator would conform to the requirements of State Water Resources Control Board's NPDES General Construction Permit Program through the preparation of a SWPPP that would include erosion control and sediment control BMPs designed to prevent disturbed soils from moving offsite.
Policy 12: Areas identified by the Natural Resources Conservation Service (NRCS) (formerly Soil	Consistent	See 1.9, Resource, Goal 5, of the Kern County General Plan, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent	As discussed in Section 4.12, *Mineral Resources*, of this EIR, 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 17: Lands classified as MRZ-2, as designated by the State of California, should be protected from encroachment of incompatible land uses.	Consistent	As discussed in Section 4.12, *Mineral Resources*, of this EIR, the project site is not located on lands classified as MRZs by the CGS, nor is the majority of the site zoned for or immediately adjacent to lands designated as Mineral and Petroleum areas by the Mojave Specific Plan or the Kern County General Plan. Although Site 5 (Step-up Substation) is located in an area designated by the County General Plan as 8.4 Mineral and Petroleum (Minimum 5 Arce Parcel Size) there are no active or inactive petroleum extraction facilities within or immediately adjacent to Site 5. Neither the project site nor adjacent areas include land classified as MRZ. As such, no lands classified as MRZ-2 would be encroached upon from incompatible land uses.
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, *Agriculture and Forestry Resources*, of this EIR, the project site is not designated as Prime Farmland as 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 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, *Mineral Resources*, of this EIR, 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		

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 project would develop 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.
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 Measures MM 4.14-2 through MM 4.14-4.	See 1.4, *Public Facilities and Services*, Goal 1, above. Impacts to public services are evaluated in Section 4.14, *Public Services*, of this EIR.
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, *Public Services,* 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, *Public Facilities and Services*, Goal 1 and Policy 1, above.
Measure C: Project developers shall coordinate with the local utility service providers to supply adequate public utility services.	Consistent	See 1.4, *Public Facilities and Services*, Policy 3, above.
Measure D: Involve utility providers in the land use and zoning review process.	Consistent	See 1.4, *Public Facilities and Services*, Policy 3, 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	Consistent	Water and wastewater impacts are evaluated in Section 4.10, *Hydrology and Water Quality*, and Section 4.17, *Utilities and Service Systems*, of this EIR. A sanitary water supply would not be required during construction because restroom facilities

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.		would be provided by portable units to be serviced by licensed providers. The project would require approximately 6 full-time employees during operation; however, no septic tanks or offsite sewage or disposal connections to a municipal sewer system exist or are proposed. During operations, the water used will be provided from the Mojave Public Utility District or the existing or new onsite water wells. Final review of the 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 project would not pose significant environmental or public health and safety hazards, consistent with this measure.
1.10.2 Air Quality		
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.	Consistent with implementation of Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-3, and MM 4.3-4.	Air quality and GHG impacts are evaluated in Sections 4.3, *Air Quality*, and 4.8, *Greenhouse Gas Emissions,* of this EIR. Consistent with this policy, the project would implement Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-3, and MM 4.3-4, which would reduce impacts to air quality to the extent feasible. Air quality mitigation measures include diesel emission-reduction measures, fugitive dust control measures, and Valley Fever exposure minimization measures.
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	Consistent	See 1.10.2, *Air Quality*, Policy 18, above. This EIR serves to comply with this policy.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent with implementation of Mitigation Measures MM 4.3-2	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. As discussed therein, implementation of Mitigation Measure MM 4.3-2 would further reduce fugitive dust emissions through preparation of a comprehensive Fugitive Dust Control Plan, in compliance with the adopted rules and regulations of the Eastern 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 4.3-1 and MM 4.3-2.	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. As discussed in that section, implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would reduce PM_{10} and $PM_{2.5}$ emissions during construction to the extent feasible. The project would not generate ambient constructions of PM_{10} and $PM_{2.5}$ above the applicable thresholds during 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, MM 4.3-2, MM 4.3-3, and MM 4.3-4.	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. Consistent with this policy, the project would implement Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-3, and MM 4.3-4, which would reduce impacts to air quality to the extent feasible. The project would be in compliance with all applicable 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, *Air Quality*, 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 FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent with implementation of Mitigation Measures MM 4.3-1	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. Consistent with this measure, implementation of Mitigation Measure MM 4.3-1 would require diesel exhaust reduction strategies.
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. Provide bicycle lockers and shower facilities on site. h. Increasing the amount of landscaping beyond what is required in the Zoning Ordinance (Chapter 19.86). i. The use and development of park and ride facilities in outlying areas. j. Other strategies that may be recommended by the local Air Pollution Control Districts.	Consistent with implementation of Mitigation MM 4.3-1, MM 4.3-2, MM 4.3-3, and MM 4.3-4.	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. Consistent with this measure, implementation of Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-3, and MM 4.3-4 would further reduce adverse air quality effects.
Measure J: The County should include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits.	Consistent with implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2.	Air quality impacts are evaluated in Section 4.3, *Air Quality*, of this EIR. As discussed in that section, implementation of Mitigation Measures MM 4.3-1 and MM 4.3-2 would reduce PM_{10} and $PM_{2.5}$ emissions during construction to the extent

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		feasible. The project would not generate ambient constructions of PM_{10} and $PM_{2.5}$ above the applicable thresholds during operation.
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 4.5-5.	Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources,* of this EIR. This EIR serves to comply with this policy and includes Mitigation Measures MM 4.5-1 through MM 4.5-5 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 Mitigation Measures MM 4.5-3.	Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources,* of this EIR. Consistent with this measure, copies of reports will 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, per Mitigation Measure MM 4.5-3.
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 4.5-5.	Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources,* of this EIR. Consistent with this measure, impacts to archaeological and historical resources are evaluated in accordance with CEQA. This EIR serves to comply with this policy.
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 4.7-3, MM 4.7-4, and MM 4.7-6.	Paleontological resource impacts are evaluated in Section 4.7, *Geology and Soils,* of this EIR. Mitigation Measures MM 4.7-3, MM 4.7-4, and MM 4.7-6 which would reduce potential impacts to known paleontological resources through hiring a qualified paleontologist to be retained to monitor all ground-disturbing activity, document, and implement measures as needed. A Paleontological Resources Awareness Training program would also be prepared for all construction personnel working on the Project.
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.	Tribal Cultural resource impacts are evaluated in Section 4.16, *Tribal Cultural Resources,* of this EIR. Consistent with this measure, notification regarding the project would be accomplished in accordance with the established procedures for discretionary projects and CEQA documents.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 4.5-1.	Cultural resource impacts are evaluated in Section 4.5, *Cultural Resources,* of this EIR. This EIR serves to comply with this measure and includes Mitigation Measure MM 4.5-1, which would require consultation with the Native American monitor(s) to conduct a Cultural Resources Sensitivity Training for all personnel working on the project.
1.10.5 Threatened and Endangered Species		
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 with implementation of Mitigation Measures MM 4.10-2 and MM 4.14-2 through MM 4.14-4.	As described in Section 4.9, *Hazards and Hazardous Materials*, of this EIR, the project site is not located on a hazardous site. As described in Section 4.10, *Hydrology and Water Quality*, of this EIR, the project site is located within the 100-year floodplain and is classified as having a 1 percent annual chance of flooding. Specifically, five parcels within the project boundaries are within FEMA Flood Zone A, indicating a Special Flood Hazard Area (see **Figure 3-6,** *FEMA Flood Zone Hazard*). Further, the project would be developed in accordance with the General Plan, Floodplain Management Ordinance and Mitigation Measure MM 4.10-2. As discussed in Section 4.14, *Public Services*, of this EIR, implementation of Mitigation Measures MM 4.14-2 and MM 4.14-3 would require the project to pay a fee assigned by the Kern County Planning and Natural Resources Department over the operational life of the project in order to mitigate potential impacts to fire or police protection services resulting from the project. Additionally, MM 4.14-4 would require the project to pay applicable taxes. With payment of the required mitigation fee as assessed by the Kern County Planning and Natural Resources Department, and payment of applicable taxes, any additional fire or police protection services, facilities or personnel required as a result of the project would be appropriately funded. Therefore, the project would be consistent with this measure.
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 4.4-1 through MM 4.4-17.	Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, 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

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		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 4.4-17.	Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, 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, the Notice of Preparation/Initial Study Checklist (NOP/ISC) 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 4.4-1 and MM 4.4-17.	Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR. The project site is located within the Mojave Specific Plan, the West Edwards Road Settlement Specific Plan, and the Soledad Mountain Elephant Butte Specific Plan areas. Consistency with the applicable policies of these plans are discussed below. Additionally, implementation of Mitigation Measures 4.4-1 and MM 4.4-17 would further increase cooperative efforts with local, State, and federal agencies to support threatened and endangered plant and wildlife.
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*, Threatened and Endangered Species,* 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	Consistent with implementation of Mitigation Measures MM 4.4-18 through MM 4.4-19.	Biological resource impacts and impacts to riparian areas, are evaluated in Section 4.4, *Biological Resources*, of this EIR. Consistent with this measure, Mitigation Measures MM 4.4-18 through MM 4.4-19 would require consultation with the

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.		California Department of Fish and Wildlife, waste discharge requirements, a lake or streambed alteration agreement, and mitigation to jurisdictional areas. Impacts to riparian areas would be less than significant with these mitigation measures. The County will also 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, *Biological Resources*, 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 4.4-1 through MM 4.4-19.	Biological resource impacts are evaluated in Section 4.4, *Biological Resources*, of this EIR. Consistent with this measure, the project would implement mitigation measures that 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.
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, MM 4.9-2, and MM 4.10-2.	Water quality impacts are evaluated in Section 4.10, *Hydrology and Water Quality,* of this EIR. Consistent with this policy, the project would implement Mitigation Measure MM 4.10-2, which requires a final hydrologic drainage plan designed to evaluate and minimize potential increases in runoff from the project site. Also, as required by Mitigation Measure MM 4.10-1, the project operator would conform to the requirements of State Water Resources Control Board's NPDES General Construction Permit Program through the preparation of a SWPPP that would include erosion control and sediment control BMPs designed to prevent disturbed soils from moving offsite. The project would also implement Mitigation Measure MM 4.9-1, requiring preparation and maintenance of a Hazardous Materials Business Plan to reduce mixing of pollutants with stormwater onsite, thereby maintaining the integrity of the watershed.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 41: Review development proposals to ensure adequate water is available to accommodate projected growth.	Consistent	See 1.4*, Public Facilities and Services,* Goal 5, above.
Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See 1.9*, Resources,* Policy 11, above.
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 Measures MM 4.10-1, MM 4.9-2, and MM 4.10-2.	See 1.10.6*, Surface Water and Groundwater,* Policy 34, above.
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.	See 1.4*, Public Facilities and Services,* Goal 5, above.
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 4.1-5 through MM 4.1-7.	Light and glare impacts are evaluated in Section 4.1, *Aesthetics*, of this EIR. Consistent with this policy, the project would implement Mitigation Measures MM 4.1-5 through MM 4.1-7, which include design requirements to limit unnecessary lighting, minimize glare from solar panels, and utilize non-reflective materials on buildings. MM 4.1-5 also requires the project to comply with the County's Dark Skies Ordinance. Light and glare impacts were determined to be less than significant with implementation of Mitigation Measures MM 4.1-5 through MM 4.1-7.
Policy 48: Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.	Consistent with implementation of Mitigation Measures MM 4.1-5 through MM 4.1-7.	See 1.10.7, *Light and Glare*, Policy 47, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN 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	Light and glare impacts are evaluated in Section 4.1, *Aesthetics,* of this EIR. Consistent with this measure, light and glare impacts are evaluated in accordance with CEQA. This EIR serves to comply with this policy.
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, *Physical and Environmental Constraints*, 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*, Transportation,* of this EIR. Pursuant to Senate Bill (SB) 743, the focus in evaluating transportation impacts under the California Environmental Quality Act (CEQA) has shifted from traffic delays (Level of Service [LOS]) to total vehicle miles traveled (VMT). Traffic and transportation impacts have been thoroughly analyzed in this EIR, pursuant to CEQA requirements. As discussed in Section 4.15, *Transportation*, of this EIR, local roadways in the vicinity of the project site generally are free flowing, with few if any existing delays and adequate LOS (Dudek, 2019). Temporary construction traffic would not significantly alter current road conditions and would be consistent with LOS standards. Upon completion of project construction, operations and maintenance traffic would be minimal, as the project would only require approximately six permanent full-time staff employees. Additionally, as discussed in Section 4.15, *Transportation,* of this EIR, with implementation of Mitigation Measures MM 4.15-1 and MM 4.15-2, which require preparation of a Construction Traffic Control Plan and measures to reduce worker trips during peak AM and PM hours, the project would result in less than significant impacts related to traffic and transportation. Therefore, the project would be consistent with this policy.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
2.3.3 Highways Plan		
Goal 5: Maintain a minimum Level of Service (LOS) D.	Consistent	See 2.1, *Introduction,* Goal 5, above.
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*, Transportation,* 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 cooperation with the County.
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.	Consistent	Traffic impacts are evaluated in Section 4.15*, Transportation,* of this EIR. Consistent with this measure, the 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.
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.	Consistent	See 2.3.3, *Highway Plan*, Policy 3, of the Kern County General Plan, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Planning Department can help developers and property owners in identifying where planned circulation is to occur.		
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, *Highway Plan*, 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	See 2.1, *Introduction,* Goal 5, above.
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*, Highway Plan,* Policy 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 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 any proposed private access driveways would 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*, Transportation,* 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.
2.3.6 Vacation of Existing or Recorded Future Streets, Highways, or Public Easements		
Goal 1: Provide a means for guiding decisions on vacating public roads.	Consistent	As discussed in Chapter 3, *Project Description,* of this EIR, the project will include street vacations to remove roads and public street easements within the proposed solar facility and will process parcel maps to merge smaller parcels into larger ones. The purpose of the request is to facilitate the optimal layout of solar panels by removal of record but unused/undeveloped public rights-of-way on vacant land. These easements and offers of dedication have been created by grant deed or parcel maps, and some dirt roads exist within the project footprint. As requested, the easement vacations would not eliminate any legal access for any property or persons in the area. In the cases where one of the proposed vacations removes primary access to a parcel, the project applicant/proponent would be responsible for recording private easements for access purposes prior to the vacation being recorded such that legal access remains. In most cases, the proposed private easements would be recorded along with the vacation of the original public easement.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		The vacations would occur in an area that is not densely developed and would not substantially affect current or future traffic volumes, as significant traffic volumes are not generated or anticipated. Any roadway vacation requests would be subject to approval by the Kern County Board of Supervisors and public hearing as applicable in the planning and approval process. With the approval of the aforementioned requests for either a nonsummary street vacation or a parcel merger, the project would be 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, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1, 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, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1, above. All applicable information listed in Policy 2 would be included to subsequent project design and as part of the project review and approval process.
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	Consistent	See 2.3.6, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policy 2, above. If subsequent vacations are required, the applicant would adhere to the requirements of the listed policy.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent	See 2.3.6, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policy 3, above. In the cases where one of the proposed vacations removes primary access to a parcel, the project applicant/proponent would be responsible for recording private easements for access purposes prior to the vacation being recorded such that legal access remains.
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, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policies 2, 3, and 4, 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, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policies 2, 3, and 4, 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, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policies 2, 3, and 4, above. Any proposed roadway vacations would be submitted in the applicable reporting form. If a private vacation is needed, it would be handled under a civil action.
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	Consistent	See 2.3.6, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policies 2, 3, 4, and 7, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent	See 2.3.6, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policies 2, 3, 4, and 7, above.
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, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policies 2, 3, 4, and 7, 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, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policies 2, 3, 4, and 7, 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, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policies 2, 3, 4, and 7, 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, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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, *Vacation of Existing or Recorded Future Streets, Highways, or Public Easements*, Goal 1 and Policies 2, 3, 4, and 7, above.
2.3.10. Congestion Management Programs		
Goal 1: To satisfy the trip reduction and travel demand requirements of the Kern COG's CMP.	Consistent with implementation of Mitigation Measures MM 4.15-1 and 4.15-2.	Traffic impacts are evaluated in Section 4.15, *Transportation*, of this EIR. Consistent with this goal, the project would implement Mitigation Measures MM 4.15-1 and MM 4.15-2, and comply with the requirements of the Kern Council of Government's Congestion Management Program. In addition, the project consists of an alternative energy development which would not generate a substantial volume of trips or vehicle miles traveled (VMT) during construction or during operation.
Goal 2: To coordinate congestion management and air quality requirements and avoid multiple and conflicting requirements.	Consistent with implementation of Mitigation Measures MM 4.15-1 and Mitigation Measures MM 4.3-1 through MM 4.3-4.	Traffic impacts are evaluated in Section 4.15, *Transportation*, and air quality impacts are evaluated in Section 4.3, *Air Quality,* of this EIR. Consistent with this goal, the project would implement Mitigation Measures MM 4.15-1 and MM 4.15-2, requiring the approval of a Construction Traffic Control Plan, measures to reduce worker trips during peak AM and PM hours, and encroachments and or other necessary permits by Caltrans and/or the Kern County Roads Dept. The project would also implement Mitigation Measures MM 4.3-1, MM 4.3-2, MM 4.3-3, and MM 4.3-4, which would reduce impacts to air quality to the extent feasible.
Policy 1: Pursuant to California Government Code 65089(a), Kern County has designated the Kern COG as the County's Congestion Management Agency (CMA).	Consistent with implementation of Mitigation Measures MM 4.15-1 and MM 4.15-2.	See 2.3.10, *Congestion Management Programs*, Goal 1, above.
Policy 2: The CMA is responsible for developing, adopting, and annually updating a CMP. The CMP is to be developed in consultation with, and with the cooperation of, the regional transportation agency	Consistent with implementation of Mitigation Measures MM 4.15-1 and MM 4.15-2.	See 2.3.10, *Congestion Management Programs*, Goal 1 and Goal 2, above. The project would be in compliance with all

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
(also the Kern COG), regional transportation providers, local governments, Caltrans, and the air pollution control district.		applicable Eastern Kern County Air Pollution Control District, rules and regulations.
Measure A: The Kern COG should request the proper consultation from County of Kern to develop and update the proper congestion management program.	Consistent with implementation of Mitigation Measures MM 4.15-1 and MM 4.15-2.	See 2.3.10, *Congestion Management Programs*, Goal 1, above.
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.	Consistent with implementation of Mitigation Measures MM 4.15-1 and MM 4.15-2.	See 2.3.10, *Congestion Management Programs*, Goal 1, above.
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, *Hazards and Hazardous Materials*, of this EIR, provides a discussion of Hazardous Materials Transportation and existing regulatory requirements 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 1: The commercial transportation of hazardous material, identification and designation of appropriate shipping routes will be in conformance	Consistent with implementation of Mitigation Measure MM 4.9-1.	See 2.5.4*, Transportation of Hazardous Materials,* Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
with the adopted Kern County and Incorporated Cities Hazardous Waste Management Plan.		
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*, Transportation of Hazardous Materials,* Goal 1, above.
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.	Consistent with implementation of Mitigation Measure MM 4.9-1.	See 2.5.4*, Transportation of Hazardous Materials,* Goal 1, above.
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, *Noise*, of this EIR. As discussed in that section, noise impacts would be minimized during construction and decommissioning with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4. All noise impacts would be less than significant with implementation of mitigation, and sensitive receptors would not be exposed to excessive noise levels. Thus, the project would be consistent 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 project would be consistent with existing land use designations of the project site.
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.	See 3.3, *Sensitive Noise Areas*, Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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 4.13-4.	See 3.3, *Sensitive Noise Areas*, Goal 1, above. The project does not include noise sensitive uses that would be affected by roadway noise. Project-related noise would be consistent with this policy.
Policy 4: Utilize good land use planning principles to reduce conflicts related to noise emissions.	Consistent	See 3.3, *Sensitive Noise Areas*, Goal 2, above. Noise-sensitive land uses are evaluated in Section 4.13, *Noise*, of this EIR.
Policy 7: Employ the best available methods of noise control.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See 3.3, *Sensitive Noise Areas*, 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 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 project will be reviewed for conformance with the policies outlined in this element.
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 4.13-4.	See 3.3, *Sensitive Noise Areas*, Goal 1 and Measure A, above.
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.	Consistent	Consistent with this measure, the project has prepared an acoustical analysis in accordance with the requirements of Chapter 3, *Noise Element*, Measure G, of the Kern County General Plan. The acoustical analysis is included as Appendix K of this EIR.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	Consistent with this measure, a noise assessment was conducted for the project and is included as Appendix K and referenced in Section 4.13, *Noise*, of this EIR. In accordance with this measure, the noise assessment includes representative noise measurements, recommended best management practices, estimated noise levels, in terms of CNEL, and estimates of noise exposure. As discussed in that section, noise impacts would be minimized during construction and decommissioning with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4. All noise impacts were determined to be less than significant with mitigation incorporated.
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.	Consistent with this measure, the recommendations and requirements imposed pursuant to the findings of the acoustical analysis would be included with project implementation.
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.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
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, *Hazards and Hazardous Materials*, 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 project does 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	See 1.3, *Physical and Environmental Constraints*, Measure D, of the Kern County General Plan, above.
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	See 1.3, *Physical and Environmental Constraints*, Goal 1, of the Kern County General Plan, above.
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	See 1.3, *Physical and Environmental Constraints*, Goal 1, of the Kern County General Plan, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 3: Reduce potential for exposure of residential, commercial, and industrial development to hazards of landslide, land subsidence, liquefaction, and erosion.	Consistent with implementation of Mitigation Measure MM 4.10-1	As discussed in Section 4.7, *Geology and Soils*, of this EIR, conditions for landslides are also not present at the site which is characterized by relatively gradual inclines across the site. With implementation of Mitigation Measure MM 4.10-1, grading would be subject to compliance with the NPDES General Construction Permit requirements and the implementation of required BMPs would have the ability to minimize the potential for erosion or loss of topsoil. Adherence to the requirements of the Kern County Building Code and the CBC would also ensure that effects from seismic-related ground failure including liquefaction would be minimized. Shallow groundwater is not expected on the project site. See Section 4.7, *Geology and Soils,* of this EIR.
4.6 Wildland and Urban Fire		
Policy 1: Require discretionary projects to assess impacts on emergency services and facilities.	Consistent with implementation of Mitigation Measures MM 4.14-1 through MM 4.14-4.	Consistent with this policy, impacts on emergency services and facilities are discussed and evaluated in Section 4.14, *Public Services*, 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 Measures MM 4.14-2 through 4.14-4 require the project proponent to pay applicable fees and taxes to reduce significant impacts to fire or police protection services resulting from the project.
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. Mitigation Measure 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, *Hazards and Hazardous Materials*, and 4.14, *Public Services*, and 4.18, *Wildfire,* of this EIR.
Policy 4: Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.	Consistent with implementation of Mitigation Measure MM 4.15-1 and MM 4.15-2.	Section 4.15, *Transportation,* of this EIR includes Mitigation Measures MM 4.15-1 and MM 4.15-2, which would require the approval of a Construction Traffic Control Plan, measures to

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		reduce worker trips during peak AM and PM hours, and 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, and project site access would comply with emergency vehicle access requirements.
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 Measures MM 4.14-1 through MM 4.14-4.	Consistent with this measure, the 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 Measures MM 4.14-2 through MM 4.14-4 requiring the project proponent to pay applicable fees and taxes to reduce significant impacts to fire or police protection services resulting from the project. The project would be consistent with this policy.
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, *Wildland and Urban Fire,* Policy 6, above. The project would comply with the Uniform Fire Code.
Chapter 5. Energy Element		
5.2 Importance of Energy to Kern County		
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.	Consistent	See 1.10.5*, Threatened and Endangered Species,* Policy 28, above.
Policy 10: The County should require acoustical analysis for energy project proposals that might impact sensitive and highly-sensitive uses in	Consistent	See 3.3, *Sensitive Noise Areas*, Goal 1, above.

TABLE 4.11-2: CONSISTENCY ANALYSIS WITH KERN COUNTY GENERAL PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
accordance with the Noise Element of the General Plan.		
5.4.5 Solar Energy Development		
Goal 1: Encourage safe and orderly commercial solar development.	Consistent	Consistent with this goal, the project would develop solar PV facilities that would generate 600 MW of solar energy and up to 4,000 MWh of energy storage capacity and would offset an equivalent amount of fossil fuel-generated electrical power. The site is on vacant 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 project would develop solar PV facilities capable of generating 600 MW of solar energy and up to 4,000 MWh of energy storage capacity and would offset an equivalent amount of fossil fuel-generated electrical power in the desert region of Kern County. Operation of the project would improve air quality within the County and assist the County in meeting attainment goals. See Section 4.3, *Air Quality*, 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 PV power generation and storage facilities in the desert region of Kern County. Final review of the 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 project would not pose significant environmental or public health and safety hazards.
5.4.7 Transmission Lines		
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.	Consistent	Final review of the 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 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, Transmission Lines, Goal 1, above. Further, visual impacts are evaluated in Section 4.1, *Aesthetics*, of this EIR.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Chapter 3. Land Use Element		
Objective 3.6: Coordinate with the Mojave Public Utility District, County Sheriff's Department, County Library Department and County Fire Department to ensure sufficient services are provided to community residents and businesses.	Consistent with implementation of Mitigation Measures MM 4.14-2 through MM 4.14-4.	As discussed in Section 4.14, *Public Services*, of this EIR, implementation of Mitigation Measures MM 4.14-2 and MM 4.14-3 would require the project to pay a fee assigned by the Kern County Planning and Natural Resources Department over the operational life of the project in order to mitigate potential impacts to fire or police protection services resulting from the project. Additionally, MM 4.14-4 would require the project to pay applicable taxes. With payment of the required mitigation fee as assessed by the Kern County Planning and Natural Resources Department, and payment of applicable taxes, any additional fire or police protection services, facilities or personnel required as a result of the project would be appropriately funded. Public utility impacts are evaluated in Section 4.17, *Utilities and Service Systems,* of this EIR. There would not be an additional demand to library services, parks, or other public facilities as a result of construction and operation of the project. See 1.4, *Public Services and Facilities*, above.
Policy 3.6.2: Ensure that public services and utilities are provided commensurate with established needs and projected growth.	Consistent with implementation of Mitigation Measures MM 4.14-2 through MM 4.14-4.	See **Table 4.11-2,** Section 1.4, *Public Services and Facilities*, above. Public utility impacts are evaluated in Section 4.17, *Utilities and Service Systems,* of this EIR.
Policy 3.6.3: New development shall provide adequate flood control to protect properties within the 100-year floodplain.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See **Table 4.11-2,** Section 1.3, *Physical and Environmental Constraints*, Goal 1, Policy 9, Policy 10, Measure F, Measure H, and Measure J, and 1.9, *Resources*, Policy 11 above.
Policy 3.6.4: Work with service providers to facilitate and encourage modifications and improvements to existing water, sewer, drainage, electric, natural gas, and other utility systems.	Consistent	See Objective 3.6 above.
Chapter 4. Conservation Element		
Goal 5: Designate and control mineral extraction areas.	Consistent	See **Table 4.11-2**, Section 1.9*, Resource,* Goal 1, above. As discussed in Section 4.12, *Mineral Resources,* of this

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		EIR, the project site is not located within the bounds of a mineral resource area.
Objective 4.2: Maintain groundwater quality to allow local resources to meet local needs.	Consistent with implementation of Mitigation Measure MM 4.9-2 and MM 4.10-2.	See **Table 4.11-2**, Section 1.3, *Physical and Environmental Constraints*, Policy 11 and Measure N above.
Objective 4.3: Encourage conservation of energy resources.	Consistent	As discussed in Section 4.6, *Energy*, of this EIR, the project would be built in accordance with the current Title 24 standards at the time of construction. See Table 4.11-2, Section 1.9*, Resource,* Goal 6, above. See 5.4.5, *Solar Energy Development*, Policy 1, above.
Objective 4.4: Maintain and promote the retention of natural settings and use of native or adaptable vegetation.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-19.	See **Table 4.11-2**, Section 1.10.5, *Threatened and Endangered Species*, Policy 27, Policy 28, Policy 29, Policy 32, and Measure Q above.
Objective 4.5: Conserve known areas of mineral resources by limiting encroachment of incompatible urban uses.	Consistent	See **Table 4.11-2**, Section 1.9*, Resource,* Goal 1, above. As discussed in Section 4.12, *Mineral Resources,* of this EIR, the project site is not located within the bounds of a mineral resource area.
Objective 4.6: Promote the improvement of air quality and the maintenance of State and federal air quality standards in the Mojave area.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-4.	See **Table 4.11-2**, Section 1.10.2, *Air Quality*, Policy 18, Policy 19, Policy 20, Policy 21, Policy 22, Measure F, Measure G, Measure H, and Measure J, above.
Policy 4.2.1: Support regional efforts by the South Lahontan Regional Water Quality Control Board to improve and protect water quality. Promote compliance with the measures contained in the California Water Code and other requirements.	Consistent with implementation of Mitigation Measures MM 4.9-2, MM 4.10-1, and 4.10-2.	See **Table 4.11-2**, Section 1.10.6, *Surface Water and Groundwater*, Policy 34 and Policy 44, above. Section 4.10-1, *Hydrology and Water Quality,* of this EIR discusses water quality.
Policy 4.2.2: If required, new development projects shall implement Best Management Practices (BMPs) under the National Pollution Discharge Elimination System (NPDES) permit. These practices are designed to reduce pollution runoff during construction of new projects and rehabilitation projects. Investigate and implement methods as appropriate over time to address the control of pollutants in stormwater runoff from development sites, and to encourage the recycling of runoff for	Consistent with implementation of Mitigation Measures MM 4.10-1 and 4.10-2.	See **Table 4.11-2**, Section 1.3, *Physical and Environmental Constraints*, Measure D, and 1.9, *Resources*, Policy 11, and 1.10.6, *Surface Water and Groundwater*, Policy 44 above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
groundwater recharge and similar beneficial purposes.		
Policy 4.3.1: Promote energy conservation measures contained in Title 24 of the California Code of Regulations.	Consistent	As discussed in Section 4.6, *Energy*, of this EIR, the project would be built in accordance with the current Title 24 standards at the time of construction.
Policy 4.4.3: For development projects that are located outside the identified urbanized nonsensitive area (Figure 4-2) for biological resources, a biological survey shall be conducted. Alternatively, a project applicant may demonstrate urbanized, nonsensitive status through the identification of applicable studies.	Consistent	As discussed in Section 4.4, *Biological Resources*, of this EIR, biological surveys were conducted at the project site.
Policy 4.4.4: Encourage the preservation of Joshua trees, Joshua tree woodlands, known wildflower displays or other biologically sensitive flora determined during biological surveys.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-17.	See **Table 4.11-2**, Section 1.10.5, *Threatened and Endangered Species*, Policy 27, Policy 28, Policy 29, Policy 32, and Measure Q above.
Policy 4.5.1: Require mining activities to comply with California Surface Mining and Reclamation Act (SMARA) requirements.	Consistent	See **Table 4.11-2**, Section 1.9*, Resource,* Goal 1, above. As discussed in Section 4.12, *Mineral Resources,* of this EIR, the project site is not located within the bounds of a mineral resource area.
Policy 4.6.3: Encourage development designs that promote energy conservation and that minimize the direct and indirect emissions of air contaminants.	Consistent with implementation of Mitigation Measures MM 4.3-1 through MM 4.3-4.	As discussed in Section 4.6, *Energy*, of this EIR, the project would be built in accordance with the current Title 24 standards at the time of construction. See **Table 4.11-2**, Section 1.9*, Resource,* Goal 6, above. See **Table 4.11-2**, Section 5.4.5, *Solar Energy Development*, Policy 1, above. See 1.10.2, *Air Quality*, Policy 18, Policy 19, Policy 20, Policy 21, Policy 22, Measure F, Measure G, Measure H, and Measure J, above.
Chapter 6. Circulation Element		
Goal 1: Provide for adequate circulation to support future growth.	Consistent	Consistent with this goal, the project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to circulation.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Objective 6.1: Provide adequate transportation facilities to serve area residents and commercial and industrial businesses.	Consistent	Consistent with this objective, the project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to circulation.
Policy 6.1.1: Provide and maintain a circulation system that supports the types and intensities of land use in Mojave.	Consistent	Consistent with this policy, the project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to circulation.
Policy 6.1.4: With the exception of State highways, all roadways and rights-of-way shall be constructed to Kern County Development Standards. State highways shall be constructed to Caltrans standards**.**	Consistent	Consistent with this policy, the project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to roadways and rights-of-way.
Policy 6.1.6: Coordinate with developers for the improvement of local streets in conjunction with an approved phased development, subject to approval of the Roads Department in accordance with the Kern County Land Division Ordinance and Kern County Development Standards.	Consistent	Consistent with this policy, the project would be in compliance with the road network policies and would implement the Kern County Development Standards as they relate to roadways and rights-of-way.
Policy 6.1.8: Maintain a minimum service level of "D" or better on Circulation Element roadways. Maintain a minimum service level of "C" or better on Caltrans roadways.	Consistent	See **Table 4.11-2**, Section 2.1, *Introduction,* Goal 5, above.
Policy 6.1.9: Require new development to contribute to the financing of roadway improvements, including, lighting, roadway, railroad crossings, and traffic signals required to meet the demand generated by the project.	Consistent with implementation of Mitigation Measure MM 4.15-1.	The project does not propose the improvement of any public roadways. However, consistent with this policy, the project would contribute to the financing of roadway improvements, including, lighting, roadway, railroad crossings, and traffic signals associated with increased demand generated by the project, where necessary. Mitigation Measure MM 4.15-1 requires the preparation of a Construction Traffic Control Plan, which includes the monitoring of roads used during construction to ensure the project proponent/operator shall be responsible for repairing any damage caused by project construction activities.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 6.1.13: Roadways for new development shall be developed in accordance with Kern County Development Standards.	Consistent	Traffic impacts are evaluated in Section 4.15, *Transportation,* of this EIR. Consistent with this measure, the 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.
Policy 6.1.14: Final driveway access locations and design shall be determined through acquisition of an encroachment permit from the Kern County Roads Department at the time development occurs.	Consistent	Consistent with this policy, final driveway access locations and design shall be reviewed and approached by the Kern County Roads Department.
Measure F-4: As a part of discretionary permit approval, plans should be reviewed for street improvements, including landscaping and lighting. Where necessary, require establishment of a County Service Area (CSA) to maintain lighting and landscaping adjacent to County roads.	Consistent	Consistent with this measure, the County will review all plans associated with the project for the required street improvements.
Measure F-12a: New development projects will have conditions of approval applied requiring construction of roadway improvements, dedications, and/or payment of in-lieu fees to provide circulation system improvements consistent with the Specific Plan Circulation Element.	Consistent	Consistent with this measure, the project would construct all required roadway improvements and dedications, or pay in-lieu fees, to provide circulation system improvements.
Measure F-12d: No development or building permit will be approved unless the County finds that adequate circulation system capacity exists or can be made to exist to accommodate the demands of the use/development proposed.	Consistent	Consistent with this measure, the County would review all development and building permits associated with the project to determine whether or not adequate circulation system capacity exists or can be made to exist to accommodate the demands of the project.
Measure F-12e: A traffic analysis shall be submitted with any submittal of a precise development plan, division application, or zone change that implements the plan, and/or conditional use permit. The traffic analysis shall provide a trip generation for all vehicular traffic, the necessary improvements to the existing circulation system and the project's pro-rata share of signalization, and improvements on Kern County and the State	Consistent	Consistent with this measure, and as discussed in Section 4.15, *Transportation*, of this EIR, a traffic analysis has been prepared for this project.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Department of Transportation network. The traffic analysis shall be reviewed and approved by the Kern County Roads Department and the State Department of Transportation. Recommendations, as approved by the Roads Department, shall become conditions of approval. This requirement may be waived by the Roads Department, in conjunction with the State Department of Transportation.		
Measure F-12f: Amendments to the Plan shall require preparation of a traffic study, including site-specific and regional current traffic counts for review and approval by the Roads Department and the State Department of Transportation. Recommendations for regional improvements and development contribution to maintain adopted Levels of Service shall be included.	Consistent	Consistent with this measure, and as discussed in Section 4.15, *Transportation*, of this EIR, a traffic study has been prepared for this project.
Chapter 8. Noise Element		
Goal 1: Evaluate transportation-related noise.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.
Goal 2: Evaluate noise during land use planning efforts.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.
Objective 8.1: Minimize the effects of transportation-related noise.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.
Objective 8.2: Minimize the effects of noise through proper land use planning.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.
Policy 8.1.1: Reduce transportation-related noise impacts on sensitive land uses (as defined in the Kern County Noise Element) through the use of noise control measures.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 8.1.2: Incorporate sound-reduction designs in development projects impacted by transportation related noise.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.
Policy 8.1.3: Identify potential impacts from transportation noise during the planning stages of the development process. Mitigation measures (such as buffering, clustering or sound walls) shall be used as needed to meet County Noise Element and/or Airport Land Use Compatibility Plan standards.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4, and Mitigation Measures MM 4.9.3 and MM 4.9.4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above. Additionally, airport hazards and consistency with the Kern County ALUCP are discussed in Section 4.9, *Hazards and Hazardous Materials,* of this EIR. The project would be required to comply with the County's ALUCP and applicable FAA regulations regarding project approval to ensure that there would be no conflict with airport operations and no safety hazards are presented. The project would implement Mitigation Measures MM 4.9-3 and MM 4.9-4 would ensure the project would be consistent with the ALUCP and applicable Kern County regulations by requiring the developer to coordinate with DoD and obtain approval from FAA and the public airports and military installations in the area. With implementation of these mitigation measures, the project would be consistent with the County's ALUCP.
Policy 8.2.3: Ensure consistency of development proposals with the Kern County Airport Land Use Compatibility Plan and Mojave Specific Plan to reduce potential for noise conflicts.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4, and Mitigation Measures MM 4.9.3 and 4.9.4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above. See also Mohave Specific Plan Chapter 8, *Noise Element,* Policy 8.1.3, above.
Policy 8.2.4: Identify noise-impact areas exposed to existing or projected noise levels exceeding 65 dB CNEL (exterior) or the performance standards described in this element.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.
Policy 8.2.6: Industrial uses adjacent to residences shall minimize potential noise and health hazards. Buffers may be required and shall be reviewed during the Precise Development review process and may be imposed when necessary to maintain noise standards. Landscaping, picnic areas, parking, offices, warehousing, or other more compatible uses may be incorporated within identified buffer zones.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 8.2.7: Noise attenuation measures as defined by the Kern County Noise Element, Development Standards, and any pertinent noise studies (such as setbacks, clustering, berming, and sound walls) shall serve as a guide for future planning and development decisions.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.
Policy 8.2.9: Amendments to the plan proposing sensitive uses adjacent to noise contours above 65 CNEL (see Figure 8-2 and 8-1) shall require preparation of a site-specific noise study including proposed mitigation.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.
Chapter 9. Seismic and Safety Element		
Objective 9.1: Minimize the potential damage to structures and loss of life that could result from earthquakes.	Consistent	See **Table 4.11-2**, Section 1.3, *Physical and Environmental Constraints*, Goal 1, and 4.1, *Introduction*, Goal 1, and 4.3*, Seismically Inducted Surface Rupture, Ground Shaking, and Ground Failure*, Policy 1, Measure B, and Measure C, above.
Objective 9.2: Prevent loss of life, reduce personal injuries and property damage, and minimize economic loss resulting from flood hazards.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See **Table 4.11-2**, Section 1.3, *Physical and Environmental Constraints*, Goal 1, and 1.3, *Physical and Environmental Constraints*, Goal 1 and Policy 10, above.
Policy 9.1.1: Safety measures required by the Uniform Building Code and the Kern County Seismic Safety Element during construction of new buildings are hereby incorporated by reference.	Consistent	Consistent with this policy, the project would be required to comply with Safety measures required by the Uniform Building Code and the Kern County Seismic Safety Element.
Policy 9.2.1: Require new construction within a special flood hazard area, as specified on Flood Insurance Rate Maps (FIRMs) (shown on the Physical Constraints Overlay Map in this Plan), to conform to the Kern County Floodplain Management Ordinance.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See **Table 4.11-2**, Section 1.3, *Physical and Environmental Constraints*, Goal 1, Policy 9, Policy 10, Measure F, Measure H, and Measure J.
Policy 9.2.3: Investigate and mitigate flood hazards, or locate development away from such hazards, to preserve life and protect property.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See **Table 4.11-2**, Section 1.3, *Physical and Environmental Constraints*, Goal 1, Policy 9, Policy 10, Measure F, Measure H, and Measure J, and 1.9, *Resources*, Policy 11 above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 9.4.2: Work with the Kern County Fire Department and the Kern County Sheriff's Department to ensure sufficient services can adequately protect and serve the community.	Consistent with implementation of Mitigation Measures MM 4.14-1 through MM 4.14-4.	See **Table 4.11-2**, Section 1.3, *Physical Constraints*, Goal 1, 1.4, *Public Facilities and Services*, Goal 1 and Measure L, 4.6*, Wildland and Urban Fire*, Policy 6 and Measure A, and Chapter 3, *Land Use Element of the Mojave Specific Plan*, Objective 3.6, above.
Policy 9.4.3: Ensure that street widths and clearance areas are sufficient to accommodate fire protection and emergency vehicles during land division review and site plan review.	Consistent	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. In addition, construction of the project would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08).
Policy 9.4.5: Continue to enforce the Kern County Health, Fire and Building standards for new development and rehabilitation of existing structures.	Consistent	Consistent with this policy, the project would be required to comply with the adopted Kern County Health, Fire, and Building standards.
Chapter 10. Implementation		
Implementation C-6a: Require a biological survey to be conducted in nonurbanized sensitive areas (not developed, not previously developed, or not previously mitigated) with potentially significant biological resources.	Consistent	As discussed in Section 4.4, *Biological Resources*, of this EIR, biological surveys were conducted at the project site.
Measure G-2: Noise Attenuation Measures. Noise attenuation measures (such as setbacks, clustering, berming, and sound walls) shall be required as conditions of project approval prior to or as part of construction in areas subject to excessive noise. Examples of cases that may require such attenuation measures include: a) Commercial and residential development where noise levels exceed adopted standards in the Kern County Noise Element. b) Residential and other sensitive uses with direct exposure to highway activities and/or railroad noise. c) Between residential land uses and commercial or industrial land uses.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Measure G-3: Airport-Related Noise and Safety. Implement the following measures to reduce the impact of airport-related noise and safety issues on development in surrounding areas: a) All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the Mojave Airport and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4, and Mitigation Measures MM 4.9-3 and MM 4.9-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above. See also Mohave Specific Plan Chapter 8, *Noise Element,* Policy 8.1.3, above.
Measure G-4: Vehicular Noise. Implement the following measures to reduce the impact of vehicle-related noise on development in adjacent areas: a) New construction shall include sound walls as recommended by required acoustic studies. b) New development shall be required to identify and mitigate for vehicular noise impacts as a condition of approval for construction of new noise-sensitive land uses. c) Request that other agencies construct noise barriers as part of future highway, roadway, and rail projects to mitigate significant impacts beyond County jurisdiction. d) Landscaping or other project design measures are required in all new public and private projects to address potentially significant aesthetics impacts associated with noise barriers. e) Regulate traffic flow and coordinate with the California Highway Patrol to enforce speed limits. f) Incorporate noise impact considerations, particularly the relationship of parking ingress/egress, loading, and refuse collection areas to surrounding residential and other noise-sensitive uses.	Consistent with implementation of Mitigation Measures MM 4.13-1 through MM 4.13-4.	See **Table 4.11-2**, Section 3.3, *Sensitive Noise Areas*, Goal 1 and Measure I, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Implementation H-4b: Prior to discretionary development of any individual project within the Specific Plan area, a complete records and literature search and/or a Phase 1 Assessment shall be conducted to identify the presence of any specific cultural resources and/or Native American sacred lands at the project site. Recommendations shall be incorporated into project approval.	Consistent	As discussed in Section 4.5, *Cultural Resources*, of this EIR, a cultural resources technical report was prepared which details the results of a cultural resources records search, field survey, and resource evaluations for the project site.
Measure L-1: Adequate Services: Require applicants to demonstrate the availability of fire, police, emergency response and solid waste disposal services during discretionary environmental review.	Consistent with implementation of Mitigation Measures MM 4.17-1 and MM 4.14-1 through MM 4.14-4.	Consistent with this measures, fire, police, and emergency response services are evaluated in Section 4.14, *Public Services,* and solid waste disposal is evaluated in Section 4.17, *Utilities and Service Systems,* of this EIR. With implementation of Mitigation Measure 4.17-1, which requires a recycling coordinator to ensure the separation and proper disposal of recyclable materials and solid waste during construction, impacts related to solid waste would be less than significant. Further, 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 Measures MM 4.14-2 through MM 4.14-4 require the project proponent to pay applicable fees and taxes to reduce significant impacts to fire or police protection services resulting from the project. The project would be consistent with this policy.
Measure L-2: Fire and Police Protection Implement the following measures to ensure adequate fire and police protection in the Mojave community: a) Work with the Kern County Sheriff's Department and Kern County Fire Department to ensure the continuation of an adequate level of services for the Specific Plan Area. B) If additional Fire Department or Sheriff station sites are required, identify sites and require dedication of land for such purposes or	Consistent with implementation of Mitigation Measures MM 4.14-1 through MM 4.14-4.	See Chapter 10, *Implementation,* Measure L-1, above.

TABLE 4.11-3: CONSISTENCY ANALYSIS WITH THE MOJAVE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
payment of proportional share of services as a condition of development. C) Work with local organizations and the County Sheriff and Fire Department to continue administration of the Mojave Desert Community Response Plan.		
Implementation N-2b: Air Quality studies will be required for industrial zone changes and conditional use permit projects which may emit affected pollutants, or toxic air contaminants. Prior to the approval of any industrial zone changes and/or conditional use permits, a level of impact determination shall be made, at which time the appropriate air quality analysis will be conducted.	Consistent	As discussed in Section 4.3, *Air Quality*, of this EIR, an air quality technical report was prepared in accordance with the Eastern Kern Air Pollution Control District's Guidelines for Implementation of the California Environmental Quality Act and Kern County Planning Department's Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports.
Implementation N-3a: Review construction plans prior to the issuance of building permits to ensure that energy efficiency requirements of Title 24 of the California Administrative Code are met.	Consistent	As discussed in Section 4.6, *Energy*, of this EIR, the project would be built in accordance with the current Title 24 standards at the time of construction. The County will also review the project construction plans prior to issuance of building permits.

TABLE 4.11-4: CONSISTENCY ANALYSIS WITH THE WEST EDWARDS ROAD SETTLEMENT SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Chapter 1. Land Use, Open Space, and Conservation Element		
Policy 1.1.3.3: Development shall occur outside areas identified as primary floodways. All development projects will incorporate measures to ensure that the proposed project will not be hazardous, increase flood depths or velocities, or cause water quality to deteriorate. Developments which would be hazardous to the public health and safety will be prohibited.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See **Table 4.11-2**, Section 1.3*, Physical Constraints,* Goal 1, above.
Policy 1.2.3.1: New development shall be required to pay its proportional share of the costs of local infrastructure improvements such as public streets, and water and sewer systems.	Consistent with implementation of Mitigation Measures MM 4.14-2 through MM 4.14-4.	See **Table 4.11-2**, Section 1.3*, Physical Constraints,* Goal 1, and Policy 1, above.
Policy 1.2.3.2: Development shall be encouraged to utilize existing utility purveyors.	Consistent	As discussed in Section 4.17, *Utilities*, the project would utilize existing utility purveyors.
Implementation 1.1.4.1: Site development shall be accomplished in compliance with Kern County Flood Damage Prevention Ordinance and Kern County Zoning Ordinance. Development prohibitions shall be the same in those ordinances.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See **Table 4.11-2**, Section 1.3, *Physical and Environmental Constraints*, Goal 1, Policy 9, Policy 10, Measure F, Measure H, and Measure J. The project would comply with the County's Flood Damage Prevention Ordinance and Zoning Ordinance.
Implementation 1.1.4.3: Drainage improvement plans shall be approved for projects pursuant to the Kern County Zoning Ordinance.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See **Table 4.11-2**, Section 1.3*, Physical Constraints,* Goal 1, and Measure D, above.
Implementation 1.2.4.3: Plans for adequate fire flows and access shall be approved by the Kern County Fire	Consistent with implementation of Mitigation Measures MM 4.14-1 through MM 4.14-4.	See **Table 4.11-2**, Section 4.6, *Wildland and Urban Fire*, Measure A, above.

TABLE 4.11-4: CONSISTENCY ANALYSIS WITH THE WEST EDWARDS ROAD SETTLEMENT SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Department prior to issuance of a building permit.		
Chapter 2. Circulation Element		
Goal 2.1.13: To promote adequate road improvement standards for all new developments.	Consistent	Consistent with this measure, the 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.
Policy 2.1.3.1: When development occurs, street rights-of-way shall be improved and dedicated to the County in accordance with all applicable County standards and ordinances.	Consistent	Consistent with this measure, the 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.
Measure 2.1.4.1: Streets shall be improved to Type A Subdivision Standards as a requirement for a conditional use permit, final map subdivision, or parcel map.	Consistent	Consistent with this measure, the 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.
Measure 2.1.4.2: The developer shall be responsible for the construction of street improvements in accordance with the Kern County Land Division Ordinance.	Consistent	Consistent with this measure, the project would be in compliance with the road network policies and would implement the Kern County Land Division Ordinance as they relate to road standards and planning requirements.
Chapter 4. Safety Element		
Policy 4.1.3.2: New development will be allowed only when it can meet standard levels of service from fire and water service delivery systems.	Consistent with implementation of Mitigation Measure MM 4.14-1.	See **Table 4.11-2**, Section 1.4, *Public Services and Facilities*, above.
Policy 4.1.4.3: All new development shall provide for the containment of drainage water generated on site. Drainage plans must meet the approval of the Kern County Public Works Department.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See **Table 4.11-2**, Section 1.9*, Resources,* Policy 11, above.

TABLE 4.11-4: CONSISTENCY ANALYSIS WITH THE WEST EDWARDS ROAD SETTLEMENT SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Policy 4.1.4.4: Prior to the issuance of building or grading permits, all development plans will need approval of Kern County Department of Planning and Development Services/Floodplain Management Section.	Consistent with implementation of Mitigation Measure MM 4.10-2.	See **Table 4.11-2**, Section 1.9*, Resources,* Policy 11, above.
Measure 4.1.4.2: All construction shall comply with the requirements of the Kern County Code of Building Regulations and the Uniform Fire Code (UFC) regarding water supply, fire flow, and construction standards.	Consistent with implementation of Mitigation Measure MM 4.14-1.	See **Table 4.11-2**, Section 4.6, *Wildland and Urban Fire,* Policy 6, above.

TABLE 4.11-5: CONSISTENCY ANALYSIS WITH THE SOLEDAD MOUNTAIN ELEPHANT BUTTE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
A. Land Use		
Item 5. Agriculture		
Recommendation: Grazing shall be allowed only in accordance with the Zoning Ordinance and where permitted by right.	Consistent	Consistent with this recommendation, the project would not introduce grazing uses in areas where such uses conflict with the Zoning Ordinance. As discussed in Section 4.2, *Agriculture and Forestry Resources*, of this EIR, the project would result in less than significant impacts related to agricultural resources.
Implementation: Compliance with existing Zoning Ordinance	Consistent	Consistent with this implementation measure, the project would comply with the County's Zoning Ordinance.
B. Circulation		
Item 1. Location & Extent of Existing Streets		
Recommendation: All roads shall be maintained as they now exist. An O.P. line shall be established for a 110-foot right-of-way along the general alignment of Silver Queen Road from the State Route 14 interchange to the South line of Section 12, T.10N., R.13W., S.B.B.&M.	Consistent	Consistent with this recommendation, the project would be in compliance with the road network policies and would implement the Kern County Land Division Ordinance as they relate to road standards and planning requirements. The portion of Silver Queen Road described in the recommendation is not in the vicinity of the project site.
Implementation: The County Surveyor and Road Commissioner to furnish data necessary to compile maps by the Planning Staff; hearings to be held in accordance with effective laws.	Consistent	Consistent with this implementation measure, the project would be in compliance with the road network policies and would implement the Kern County Land Division Ordinance as they relate to road standards and planning requirements.
Item 4. Proposed Local Streets		
Recommendation: Location, extent and improvement of local streets should be reviewed during consideration of tentative subdivision or parcel maps.	Consistent	Consistent with this recommendation, the project would be in compliance with the road network policies and would implement the Kern County Land Division Ordinance as they relate to road standards and planning requirements.
Implementation: Compliance with applicable Sections of the Subdivision of Land Ordinance.	Consistent	Consistent with this implementation measure, the project would be in compliance with the road network policies and would implement the

TABLE 4.11-5: CONSISTENCY ANALYSIS WITH THE SOLEDAD MOUNTAIN ELEPHANT BUTTE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
		Kern County Land Division Ordinance as they relate to road standards and planning requirements.
D. Conservation		
Item 1. Conservation, Development, and Utilization of Natural Resources		
Recommendation: a) Underground Waters – The quality and quantity of underground waters shall not be degraded. d) Vegetation and Soils – All existing vegetation that must be cleared for building sites shall be removed from the site prior to completion of construction. Preservation of native plant life pursuant to Item C-2 herein. f) Fish and Wildlife – Adherence to the guidelines recommended herein will produce the least negative effect on wildlife, other than no development at all.	Consistent with implementation of Mitigation Measures MM 4.10-2, MM 4.4-1 through 4.4-19, and MM 4.10-1.	Regarding groundwater and water quality, see **Table 4.11-2**, Section 1.3, *Physical and Environmental Constraints*, Goal 1, above. Regarding vegetation, see **Table 4.11-2**, Section 1.10.5*, Threatened and Endangered Species,* Policy 29, above. Regarding soils, see **Table 4.11-2**, Section 1.10.5*, Threatened and Endangered Species,* Measure D, above. Regarding fish and wildlife, see **Table 4.11-2**, Section 1.10.5*, Threatened and Endangered Species,* Policy 28, above.
Implementation: a) Quality and quantity of underground water supply shall be monitored by the appropriate agency. d) Compliance with and review by the Public Works Department for appropriate approval. f) Compliance with Specific Plan Recommendations.	Consistent	Consistent with these implementation measures, the project would be reviewed by the Public Works Department and would comply with all applicable recommendations of the Soledad Mountain Elephant Butte Specific Plan. Regarding groundwater and water quality, see **Table 4.11-2**, Section 1.3, *Physical and Environmental Constraints*, Goal 1, above.

TABLE 4.11-5: CONSISTENCY ANALYSIS WITH THE SOLEDAD MOUNTAIN ELEPHANT BUTTE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
Item 5. Standards for Prevention, Control, and Correction of Soil Erosion Caused by Subdivision Roads and Other Sources		
Recommendation: No construction shall be allowed unless mitigating measures are implemented to prevent erosion.	Consistent with Implementation of Mitigation Measures MM 4.9-2, MM 4.10-1 and MM 4.10-2.	See **Table 4.11-2**, Section 1.10.6, *Surface Water and Groundwater*, Policy 34, and Section 4.5, *Landslides, Subsidence, Seiche, and Liquefaction*, Policy 3, above. Section 4.7, *Geology and Soils*, of this EIR, discusses erosion. Section 4.10, *Hydrology and Water Quality,* of this EIR, discusses water quality.
Implementation: Initially, compliance with the Building Code and reseeding of all fill or cut with native seed mix at 40 pounds per acre properly fertilized; development and adoption of a grading and erosion control ordinance for lot grading and road construction.	Consistent with Implementation of Mitigation Measures MM 4.9-2, MM 4.10-1, and MM 4.10-2.	See **Table 4.11-2**, Section 1.10.6, *Surface Water and Groundwater*, Policy 34, and Section 4.5, *Landslides, Subsidence, Seiche, and Liquefaction*, Policy 3, above.
Item 6. Standards of Protection of Watershed Areas		
Recommendation: No watershed area shall be degraded as a result of a development within the area.	Consistent	See **Table 4.11-2**, Section 1.3, *Physical and Environmental Constraints,* Policy 11, of the Kern County General Plan, above.
Implementation: Compliance with the existing standards of the Regional Water Quality Control Board and the Public Works Department.	Consistent with Implementation of Mitigation Measures MM 4.9-2, MM 4.10-1, and MM 4.10-2.	See **Table 4.11-2**, Section 1.10.6, *Surface Water and Groundwater*, Policy 34 and Policy 44, above. Section 4.10, *Hydrology and Water Quality,* of this EIR, discusses water quality. The project would comply with the standards of the RWQCB and Public Works Department.
E. Open Space		
Item 1(a). Natural Resource Land, Botanical Communities		
Recommendation: All possible safeguards shall be initiated to prevent destruction of Joshua Trees.	Consistent with implementation of Mitigation Measures MM 4.4-1 through MM 4.4-17.	See **Table 4.11-2**, Section 1.10.5, *Threatened and Endangered Species*, Policy 27, Policy 28, Policy 29, Policy 32, and Measure Q above.
Implementation: Review by local agencies as development occurs.	Consistent	Consistent with this implementation measure, the County would review the project.
Item 4. Scenic Lands		
Recommendation: All possible safeguards should be made to protect the scenic lands along State Route 14,	Consistent	Impacts to scenic resources, and specifically scenic highways, are evaluated in Section 4.1, *Aesthetics*, of this EIR. Consistent with this recommendation, the project would implement Mitigation Measures MM 4.1-1 through MM 4.1-7, which would reduce impacts to the extent

TABLE 4.11-5: CONSISTENCY ANALYSIS WITH THE SOLEDAD MOUNTAIN ELEPHANT BUTTE SPECIFIC PLAN FOR LAND USE

Goals and Policies	Consistency Determination	Project Consistency
designated as a proposed Scenic Highway, and other County roadways.		feasible. The project would result in less than significant impacts related to impacts to scenic highways.
Implementation: Compliance with existing Zoning Ordinance, where applicable.	Consistent	Consistent with this implementation measure, the project would be consistent with the Zoning Ordinance.

Section 4.12
Mineral Resources

4.12.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for mineral resources. It also describes potential impacts on mineral resources that could result from implementation of the proposed project, and mitigation measures that would reduce these impacts, if applicable. Information used in the preparation of this section includes: the 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 California and 3 percent of the total U.S. oil production (Kern Economic Development Foundation, 2021). Borax, cement, and construction aggregates constitute major economic mineral resources. The Surface Mining and Reclamation Act of 1975 (SMARA) requires the State Geologist to classify land into Mineral Resource Zones (MRZs) according to its known or inferred mineral potential. The State Geologist has classified 2,971 square miles of land in Kern County as MRZs of varying significance. Mineral resources in Kern County include numerous mining operations that extract a variety of materials, including sand and gravel, stone, gold, dimensional stone, limestone, clay, shale, gypsum, pumice, decorative rock, silica, and specialty sand. Significant mineral resources located in southeastern Kern County include borates, limestone, gold, and dimension stone. The MRZ categories are defined as follows (CGS, 1999):

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
	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: CGS, 1999.

Petroleum Resources

As mentioned above, Kern County produces more oil than any other county in the United States (Kern Economic Development Foundation, 2021). 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 proposed project is neither located within a known oil production field, nor does the site have known active or abandoned wells (CalGEM, 2023). Additionally, the majority of project site is not located within a designated mineral and petroleum resource site within the Kern County General Plan. Although Site 5 (Step-up Substation) is located in an area designated by the County General Plan as 8.4 Mineral and Petroleum (Minimum 5 Acre Parcel Size), there are no active or inactive petroleum extraction facilities within or immediately adjacent to Site 5. The project site is not located within the NR (Natural Resources) or PE (Petroleum Extraction) zoned districts. No significant petroleum resources have been discovered to date in the eastern Mojave Desert.

Sand and Gravel

Construction aggregates are a major mineral resource for Kern County (CGS, 2018). 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 185 miles north 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 15 miles west of the project site. Most of the recent alluvium in the San Joaquin Valley floor is composed of sand used as a source of road base material. There are no sand and gravel extraction activities located in the project site.

Borax

Borax constitutes a major mineral resource for Kern County (CGS, 1999). 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 5 years the route traveled by Pacific Coast Borax Company's famous 20-mule team trains would pass within 15 miles of a buried deposit that would produce in about 6 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, for the manufacture of Portland cement. 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 resource in the County (CGS, 1999).

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 that 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 located in the southern portion of Kern County, directly south of the community of Mojave and consists of undeveloped open space. The project site is not designated as a mineral recovery area by the Kern County General Plan, nor is it identified as an MRZ by the Department of Conservation's State Mining and Geology Board. Neither the project site nor adjacent areas include land classified as a MRZ (Conservation Biology Institute, 2023). Site 5 (Step-up Substation) is located in an area designated by the County General Plan as 8.4 Mineral and Petroleum (Minimum 5 Acre Parcel Size). The next closest area designated by the County as 8.4 is approximately 0.3 miles to the southwest of Site 2 (Western) (CGS, 2023). There are no known oil, gas, or geothermal wells on the project site (CalGEM, 2023). Additionally, there are no active mines or petroleum extraction facilities within or immediately adjacent to the project site (USGS, 2023). The nearest mines to the project site are an inactive unnamed quarry within Site 3 (Eastern) that historically produced sand and gravel construction materials. The next closest mine is the Ladd Mine, which has a history of metallic mining, located approximately 0.06 mile south of Site 3 (Eastern). Both of these mines are classified as past producers (USGS, 2023).

There are several active and previously active mines located south of Site 2 (Western), including the Pride of Mojave Mine that is currently mining gold and has multiple locations as close as 0.20 miles south of Site 2 (Western). The Standard Group Mine is also currently mining gold and is located 0.52 miles southwest of Site 2 (Western). **Figure 4.12-1,** *Mines within the Project Vicinity,* shows the mines within a 3-mile radius of the project. **Table 4.12-2,** *Mines within the Project Vicinity,* lists the mines within a 3-mile radius of the project, their status, and the commodity being mined.

TABLE 4.12-2: MINES WITHIN THE PROJECT VICINITY

Mine Title	Status	Primary Commodities	Distance to the Project Site
Unnamed Quarry	Past Producer	Sand and Gravel, Construction	0 miles—within project site
Ladd	Prospect	Lead	0.06 miles south
Ladd Mine	Past Producer	Gold	0.21 miles south
Pride of Mojave Mine	Past Producer	Gold	0.20 miles south
Pride of Mojave	Producer	Gold	0.28 miles south

Mine Title	Status	Primary Commodities	Distance to the Project Site
Four Star	Past Producer	Gold, Silver	0.35 miles south
Gum Tree Mine	Past Producer	Gold	0.38 miles south
Yellow Rover Mine	Past Producer	Gold	0.46 miles southwest
Standard Hill Mine	Past Producer	Gold	0.48 miles southwest
Standard Group	Producer	Gold	0.52 miles southwest
Yellow Dog Extension	Past Producer	Gold	0.52 miles south
Victory	Plant	Gold	0.53 miles southwest
Desert Queen	Past Producer	Gold	0.55 miles southwest
Pride of Mojave Mine	Past Producer	Gold	0.56 miles south
Bluebird	Past Producer	Gold	0.58 miles south
Exposed Treasure Mine	Past Producer	Gold, Silver	0.61 miles southwest
Whitmore Mine	Past Producer	Gold, Silver	0.64 miles southwest
Yellow Dog Mine	Past Producer	Gold	0.64 miles southwest
Exposed Treasure Mine	Past Producer	Gold	0.66 miles southwest
Gum Tree Mine	Past Producer	Gold	0.70 miles southeast
Whitmore Mine	Producer	Gold	0.81 miles southwest
Yellow Dog Mine	Producer	Gold, Silver	0.94 miles southwest
Whitmore Mine	Past Producer	Gold	1.03 miles southwest
Caltrans #251	Unknown	Sand and Gravel, Construction	1.10 miles east
Gold Coin Claim	Prospect	Gold	1.32 miles southwest
Miller Pit	Past Producer	Sand and Gravel, Construction	1.60 miles northeast
Mojave Pit	Producer	Sand and Gravel, Construction	2.48 miles north

Source: USGS, 2023.

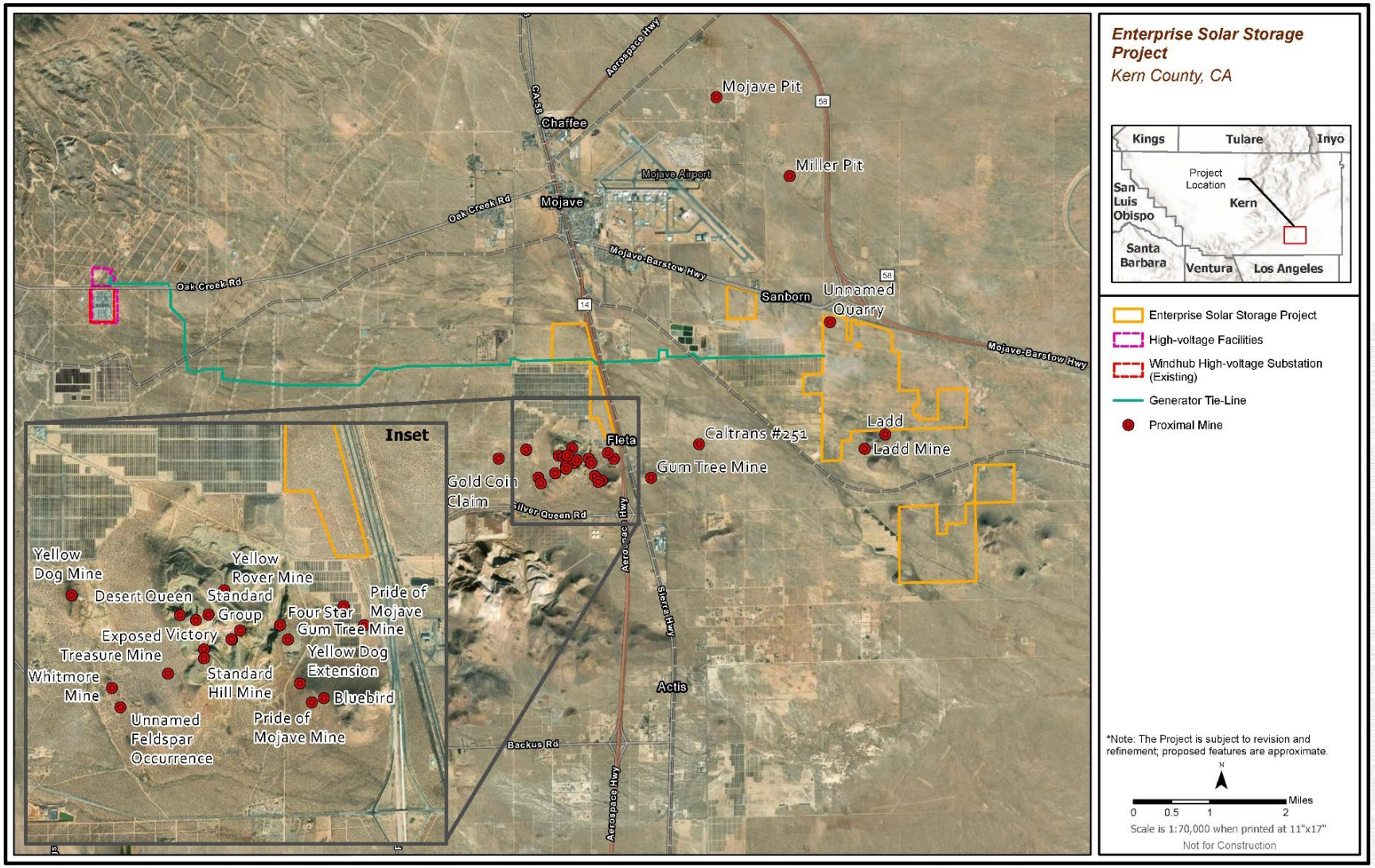


Figure 4.12-1 Mines Within the Project Vicinity

4.12.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

Division of Oil, Gas, and Geothermal Resources

The Division of Oil, Gas, and Geothermal Resources was created in 1915 to permit and regulate oil and gas wells, as well as to track information about production. Assembly Bill 1057 was signed into law in October 2019, changing the official name to California Geologic Energy Management (CalGEM) Division. CalGEM 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 (DOC, 2023).

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 products are mineral land classification maps and reports. Local agencies are required to use the classification information when developing land-use plans and when making land-use decisions (CGS, 2023). MRZs are defined in detail in the Regional Setting, above.

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.

Policy 17: Lands classified as MRZ-2, as designated by the State of California, should be protected from encroachment of incompatible land uses.

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.

Mojave Specific Plan

The policies, goals, and implementation measures in the Mojave Specific Plan for mineral resources that are applicable to the project can be found in Chapter 4, *Conservation Element*, and are provided below:

Chapter 4. Conservation Element

The key goal of the Conservation Element is to ensure a healthy environment and community. To achieve this goal, the Mojave Specific Plan sets forth policies that will encourage responsible water use, encourage conservation of energy resources, maintain and promote the retention of important desert habitat, protect economically important mineral resources for future extraction, and improve air quality.

Goals

Goal 5: Designate and control mineral extraction areas.

Objective

Objective 4.5: Conserve known areas of mineral resources by limiting encroachment of incompatible urban uses.

Policy

Policy 4.5.1: Require mining activities to comply with California Surface Mining and Reclamation Act (SMARA) requirements.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan addresses issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. There are no goals, policies, or implementation measures in the West Edwards Road Settlement Specific Plan that are applicable to mineral resources. 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. Since there are no applicable goals, policies, or implementation measures within the West Edwards Road Settlement Specific Plan, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

Soledad Mountain Elephant Butte Specific Plan

There are no recommendations, analysis, or implementation measures in the Soledad Mountain Elephant Butte Specific Plan addressing mineral resources that are applicable to the project. In Kern County, specific plans are used to implement goals, objectives, and policies of the Kern County General Plan in a more detailed and refined manner unique to a smaller area of the County. Since there are no applicable recommendations, analysis, or implementation measures within the Soledad Mountain Elephant Butte Specific Plan, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

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 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: Would the project 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 the majority of the project site located on lands designated as Mineral and Petroleum areas by the Kern County General Plan, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan. Although Site 5 (Step-up Substation) is located in an area designated by the County General Plan as 8.4 Mineral and Petroleum (Minimum 5 Acre Parcel Size), there are no active or inactive mines or extraction facilities in proximity to Site 5. A portion of Site 2 (Western) is designated by the Soledad Mountain Elephant Butte Specific Plan as Mineral Extraction and Processing; however, there are no active or inactive petroleum extraction facilities within or immediately adjacent to Site 2. There are several active and inactive mines in the vicinity of certain project sites, as shown on **Figure 4.12-1,** *Mines within the Project Vicinity* and listed in **Table 4.12-2,** *Mines within the Project Vicinity*. However, no active mines occur within the project site. The project would not interfere with nearby mineral extraction operations and would not result in the loss of land designated for mineral resources. Therefore, the proposed 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 measures would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.12-2: Would the project 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, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan. Furthermore, the installation of project facilities would not preclude future onsite mineral resource development, should the site be determined to contain mineral resources in the future. Therefore, loss of availability of mineral resources impacts would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

Southern California Edison (SCE) will relocate a 66 kilovolt transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. The impacts associated with construction of the SCE work would be similar to those described above for the rest of the project and within the area evaluated for mineral resources in the discussion above. The SCE work would not affect mineral resources, and impacts related to mineral resources associated with the SCE transmission line relocation would be less than significant.

4.12.5 Cumulative Setting, Impacts, and Mitigation Measures

As described in Chapter 3, *Project Description*, there are approximately 18 cumulative projects proposed or approved throughout the Antelope Valley in Kern County and in the desert portion of Kern County outside the Antelope Valley, including some utility-scale solar production facilities as shown in **Table 3-6**, *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 MRZs within a 0.25-mile-radius area around the project site. Although Site 5 (Step-up Substation) and additional surrounding parcels are designated 8.4 Mineral and Petroleum (Minimum 5 Acre Parcel Size), there are no active or inactive mines or extraction facilities on or in proximity to Site 5. 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 measures would be required.

Level of Significance

Cumulative impacts would be less than significant.

Section 4.13
Noise

4.13.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for noise. It also provides an analysis of potential impacts related to noise and ground-borne vibration that could result from project implementation. Additionally, mitigation measures to reduce potential noise and vibration impacts are identified, if necessary. The information and analysis in this section is largely based on the *Acoustical Analysis of the Enterprise Solar Storage Project* prepared by Jacobs Engineering (Jacobs), located in Appendix K of this EIR (Jacobs, 2023) and multiple online sources and published documents.

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 three 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 (i.e., to the body itself) and physiological (i.e., to body functions) 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 decibel, 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 (10:00 PM to 7:00 AM). 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 (7:00 p.m. to 10:00 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*.

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 PM to 10PM) and a 10 dBA penalty for sleeping hours (10 PM to 7 AM).
L_{dn}	Day-Night Average Noise	The 24-hour average sound level, expressed in a single decibel 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 PM and 7 AM.
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.

Fundamentals of Vibration

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment Manual* (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. PPV is typically 1.7 to 6 times greater than RMS vibration velocity (FTA, 2018). The decibel 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).

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. The Noise Element of the County General Plan identifies residences, schools, hospitals, parks, churches, and other similar land uses to be noise sensitive. 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, retail, and commercial developments, with the exception of commercial lodging facilities.

Land uses sensitive to vibration include concert halls, hospitals, libraries, vibration-sensitive research operations, residential areas, schools, and offices.

4.13.2 Environmental Setting

Project Location

The proposed project is located in an unincorporated area in southeastern Kern County, California, at the western edge of the Antelope Valley and south of the community of Mojave. Portions of the project site are adjacent to State Route (SR)-58 and SR-14. The project site is directly south of the unincorporated community of Mojave, 9.5 miles southwest of the unincorporated community of California City, 10 miles north of the unincorporated community of Rosamond, and 16 miles southeast of the city of Tehachapi. The project and project site are defined in Chapter 3, *Project Description,* and depicted in **Figure 3-2**, *Local Vicinity*.

Existing development in the project vicinity is primarily used for rural residential, agricultural, undeveloped land, and large-scale renewable energy purposes. The nearest sensitive noise receptor (occupied dwelling) to the project site is a residence located approximately 0.35 miles (1,860 feet) east of Site 1 (Northern) and adjacent to Highway 58. **Figure 4.13-1,** *Noise Sensitive Receptors and Noise Measurement Locations,* shows other noise-sensitive receptors (i.e., rural residential structures) in proximity to the project. No sensitive receptors are located within 1,000 feet of the proposed project, including the generation tie (gen-tie) line. The Kern County Code of Ordinances (see below) limits hours of construction for projects located within 1,000 feet of an occupied residential dwelling.

The noise sensitive receptors located in the vicinity of the proposed generation tie (gen-tie) alignment are also primarily rural residences, the closest of which are approximately 1,270 feet north of the gen-tie line, clustered in neighborhoods around Avon Drive and Somerset Drive (north of Purdy Avenue and west of SR-14). There are no rural residences or other noise sensitive land uses in proximity to Site 5 (Step-up Substation) and the existing Southern California Edison (SCE) Windhub Substation.

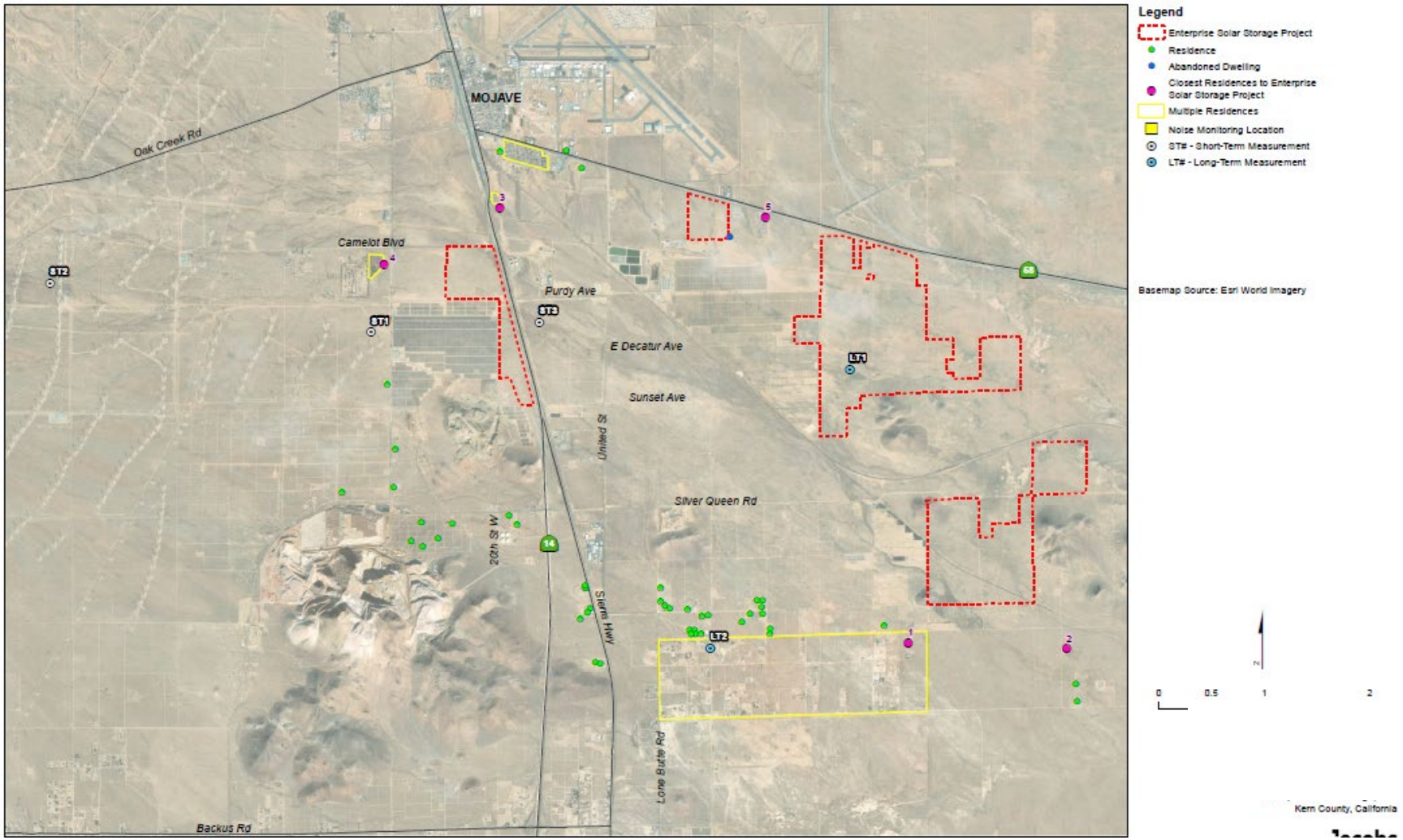


Figure 4.13-1 Noise Sensitive Receptors and Noise Measurement Locations

Existing Acoustical Environment

The existing noise environment of the project site is characteristic of its location and adjacent noise sources. The proposed project is located directly south and east of the unincorporated community of Mojave, adjacent to both SR-58 and SR-14, and northwest of Edwards Air Force Base (AFB). Additional land uses adjacent to the proposed project include the Mojave Air and Space Port, residential properties, and vacant lands to the north; vacant lands to the east; vacant lands, residential properties to the south; and wind and solar electrical generation facilities to the west. The project site is located in an area of low population density and scattered vacant land, and is traversed by a network of dirt roads. The BNSF Railway runs between Sites 1 (Northern), 2 (Western), and 3 (Eastern), and the gen-tie line crosses the BNSF Railway. The BNSF rail line separates Site 3 (Eastern) and Site 4 (Southern) with an embankment. The airports/airstrips in proximity to the project site are the Mojave Air and Space Port approximately 0.33 miles north of Site 1 (Northern), the Rosamond Skypark located approximately 10 miles southwest of Site 2 (Western), and Edwards AFB, approximately 11.5 miles southeast of Site 4 (Southern). Therefore, the existing noise environment in the project area is defined primarily by vehicular traffic on roadways, intermittent aircraft overflights, residential land uses, and bird vocalizations. Daytime ambient noise levels would be anticipated to be generally characteristic of rural areas.

Ambient noise level measurements were conducted in 2017 in proximity to the project site (Dudek, 2019). Noise measurement locations are depicted on **Figure 4.13-1**, *Noise Sensitive Receptors and Noise Measurement Locations*. Two long-term (LT) measurements (24-hour duration) and three short-term (ST) measurements (varying from 6 to 15 minutes) were conducted:

- LT1 located within Site 3 (Eastern) and LT2 located to southwest of the Site 4 (Southern)
- ST1 by nearby rural residential neighborhood, ST2 along the proposed gen-tie alignment, and ST3 adjacent to Site 2 (Western) and SR-14, which included manual traffic counts.

Sound-level measurements were performed using a total of four different integrating sound-level meters: A Larson Davis Model 800 American National Standards Institute (ANSI) Type I, a Larson Davis Model 720 ANSI Type II, and two SoftdB Piccolo Models ANSI Type II. ANSI Type I and Type II sound-level meters both have sufficient accuracy to be used for environmental noise evaluation. Sound level meters were operated on tri-pods at a height of 5 feet above ground level, consistent with standards for environmental noise assessment. The sound-level meters were calibrated before and after each series of measurements using a Larson Davis Model CAL150 calibrator (Dudek, 2019).

The two LT measurements were conducted in quiet areas removed from major roads to establish ambient noise levels in the region. LT1 was located near Decatur Road and 15th Street within Site 3 (Eastern). LT2 was located near Division Road and Reed Road, in an area southwest of the Site 4 (Southern). **Table 4.13-2**, *Ambient Noise Level Measurements (Existing) (dBA)*, summarizes the minimum (L_{min}) and maximum (L_{max}) sound levels recorded for each monitor location, as well as the calculated 24-hour weighted average noise level (L_{dn}). The sound level meter locations description, dates of the measurement, and sound sources affecting the monitoring location are also provided in **Table 4.13-2**, *Ambient Noise Level Measurements (Existing) (dBA),* for each monitor location.

TABLE 4.13-2: AMBIENT NOISE LEVEL MEASUREMENTS (EXISTING) (DBA)

Site	Noise Sources	Measurement Dates & Time Period	L_{dn}	L_{max}	L_{min}
Long-Term Monitoring Data					
LT1	Distant vehicular traffic on SR-58	06.14.17–06.15.17	64	64	38
LT2	Distant vehicular traffic on SR-14	06.14.17–06.15.17	63	61	38
Short-Term Monitoring Data					
ST1	Purdy Road at Holt Street, several turbines	3:25 p.m.–3:35 p.m. 6.14.17	34	51	31
ST2	Purdy Road at 54th Street, many turbines	3:45 p.m.–4:00 p.m. 6.14.17	52	58	51
ST3	SR-14 50 feet from edge of pavement 202 cars, 18 heavy trucks, 7 medium trucks	4:30 p.m.–4:36 p.m. 6.14.17	75	82	59

Notes: dBA = decibel; LT = long-term roadway noise measurement location; L_{dn} = day-night sound level; L_{max} = maximum sound level; L_{min} = minimum sound level; SR = State Route.
Source: Dudek, 2019.

The results of the ambient noise survey from long-term measurements reflect noise levels that range between 63 and 64 dBA L_{dn} in Site 3 (Eastern) and in the general vicinity of Site 4 (Southern). The primary noise source contributing to the ambient noise environment was traffic, despite the selection of noise monitor locations distant from principal roadways. SR-14 and SR-58 are major roadways and contributors to the ambient noise environment in the vicinity of the project site. As described previously, noise sensitive receptors should not be exposed to noise levels exceeding 65 dBA L_{dn}; the ambient noise levels recorded at each of the long-term monitor locations would fall within acceptable levels for noise sensitive land uses as specified in the Kern County General Plan (County of Kern, 2009).

One additional source of noise generation in the project vicinity is existing wind turbines. The gen-tie alignment passes through a utility-scale wind farm and would also cross SR-14. Short-term noise measurements were conducted within the wind farm adjacent to the proposed gen-tie alignment (ST1 and ST2); a short-term noise measurement with manual traffic counts was also completed adjacent to SR-14 along the gen-tie alignment (ST3). The results of these short-term noise measurements are also presented in **Table 4.13-2,** *Ambient Noise Level Measurements (Existing) (dBA)*. The short-term roadway noise measurement locations are illustrated on **Figure 4.13-1**, *Noise Sensitive Receptors and Noise Measurement Locations*. The highest recorded average noise level (ST3: 75 dBA L_{dn}) was associated with traffic on SR-14 at a distance of approximately 50 feet from the edge of pavement. The measurements conducted within various areas of the existing wind farm had average noise levels ranging from 34 to 52 dBA L_{eq}. With the exception of areas within 230 feet of SR-14, current average noise levels in the project vicinity would generally not exceed acceptable levels for noise-sensitive land uses.

4.13.3 Regulatory Setting

Federal

Department of Defense, Edwards Air Force Base Air Installation Compatible Use Zones

The Department of Defense requires military aviation facilities to prepare an Air Installation Compatible Use Zones (AICUZ) study to protect community safety and health, promote appropriate development in the vicinity of military airfields, and protect taxpayer's investment in national defense. The currently adopted AICUZ study for Edwards AFB indicates areas affected by current noise and safety impacts are confined within the boundaries of the installation.

Federal Aviation Administration Standards

Enforced by the Federal Aviation Administration (FAA), Code of Federal Regulations (CFR) Title 14, Part 150, prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. CFR Title 14 also identifies those land uses that are normally compatible with various levels of exposure to noise by individuals. FAA has determined that interior sound levels up to 45 dBA L_{dn} (or CNEL) are acceptable within residential buildings. FAA also considers residential land uses to be compatible with exterior noise levels at or less than 65 dBA L_{dn} (or CNEL).

Noise Control Act of 1972 (42 U.S.C. 4910)

This act 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.

United States Environmental Protection Agency, 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 Public 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. This document does not constitute USEPA regulations or standards but identifies safe levels of environmental noise exposure without consideration of costs for achieving these levels or other potentially relevant considerations.

Federal Energy Regulatory Commission Guidelines, Noise Guidelines

The Federal Energy Regulatory Commission (FERC) *Noise Guidelines on Noise Emissions from Compressor Stations, Substations, and Transmission Lines* (18 CFR 157.206[d]5) requires 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 USEPA-identified level of significance of 55 L_{dn} dBA.

Department of Housing and Urban Development Environmental Standards

The Department of Housing and Urban Development regulations (24 CFR Part 51) set forth the following exterior noise standards for new home construction assisted or supported by the Department:

- 65 L_{dn} or less – Acceptable
- > 65 L_{dn} and < 75 L_{dn} – Normally unacceptable, appropriate sound attenuation measures must be provided
- > 75 L_{dn} – Unacceptable

The Department of Housing and Urban Development'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

The Occupational Safety and Health Administration's (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.

Federal Transit Administration

The Federal Transit Administration (FTA) issued the *Transit Noise and Vibration Assessment Manual* (FTA manual), updated in 2018, to guide the assessment of noise and vibration impacts for federally funded transportation projects consistent with the requirements of the National Environmental Policy Act (FTA, 2018). The proposed project does not meet the criteria for a transit project defined by the FTA; however, the construction activities and equipment associated with the project are similar to those addressed in the FTA manual. The FTA manual establishes guidelines for assessing construction noise, which may be useful when local criteria are not well defined. The FTA construction noise guidelines established fixed thresholds and guidelines that consider the duration of construction activities when a detailed construction evaluation is warranted. **Table 4.13-3**, *General Assessment Construction Noise Criteria*, provides a guideline for the general assessment of noise impacts during the construction phase of a project based on the two noisiest pieces of equipment. **Table 4.13-4**, *Detailed Analysis Construction Noise Criteria*, provides a guideline for a detailed assessment of noise impacts during the construction phase of a project based on the combined

30-day average noise level of all equipment. If these thresholds are surpassed, the project, or areas of the project, may result in adverse impacts to the surrounding area.

TABLE 4.13-3: GENERAL ASSESSMENT CONSTRUCTION NOISE CRITERIA

	$L_{eq.equipment}$ (1 hour) (dBA)	
Land Use	**Day**	**Night**
Residential	90	80
Commercial	100	100
Industrial	100	100

Source: FTA, 2018.

TABLE 4.13-4: DETAILED ANALYSIS CONSTRUCTION NOISE CRITERIA

	$L_{eq.equipment}$ (8 hour) (dBA)		$L_{dn.equipment}$ (30 day) (dBA)
Land Use	**Day**	**Night**	**30-Day Average**
Residential	80	70	75
Commercial	85	85	80
Industrial	90	90	85

$L_{dn.equipment}$ = cumulative sound exposure for a receiver from equipment over a specified time period.
Source: FTA, 2018.

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.

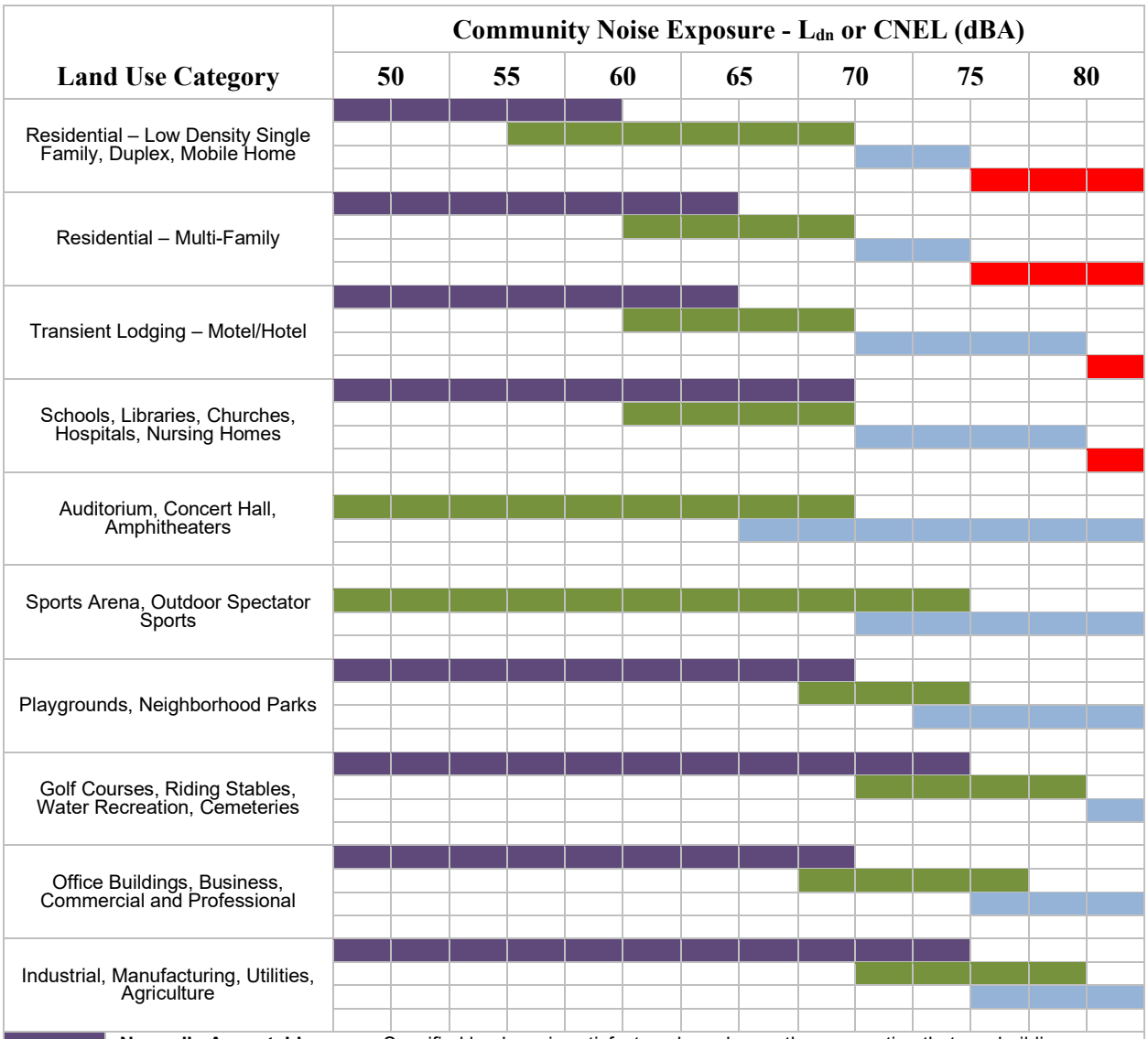
The State requires all municipalities to prepare and adopt a comprehensive long-range general plan. General plans must contain a noise element (California Government Code Section 65302(f) and Section 46050.1 of the Health Safety Code). The requirements for the noise element of the general plan include describing the noise environment quantitatively using a cumulative noise metric such as CNEL or L_{dn}, 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 are up to 70 dBA CNEL.

The CEQA *Guidelines* (Public Resources Code Section 21000 et seq.) require the identification of "significant" environmental impacts and their feasible mitigation. Section XI of Appendix G to the CEQA *Guidelines* (California Code of Regulations [CCR] Title 14, Appendix G) lists some indicators of potentially significant impacts, which are included in Section 4.13.4 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 (CCR Title 24). 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 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.



Source: State of California, Governor's Office of Planning and Research, 2017.

Figure 4.13-2 Land Use Compatibility for Community Noise Environment

Local

Construction and operation of the project would be subject to policies and regulations contained within the general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to noise. The policies, goals, and implementation measures in the Kern County General Plan related to noise 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*, of this EIR, all policies, goals, and implementation measures in the Kern County General Plan are incorporated by reference.

Kern County General Plan

The noise element of a general plan is a mandatory element as required by California Government Code Section 65302(f). The State requires that local jurisdictions prepare statements of policy indicating their intentions regarding noise and noise sources, establish desired maximum noise levels according to land use categories, set standards for noise emission from transportation and fixed-point sources, and prepare implementation measures to control noise.

The Noise Element of the Kern County General Plan identifies noise-sensitive land uses and noise sources, defines areas of noise impact, and establishes goals, policies, and programs to ensure that County residents are protected from excessive noise, and to develop an implementation program which could effectively mitigate potential noise problems. The implementation measures have been designed so that they will 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 of the Kern County General Plan, Policy 10, 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 Noise and Energy Elements of the County's General Plan, relevant to the proposed project, are summarized below.

Chapter 3. Noise Element

3.2 Noise Sensitive 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 (DOSH).

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 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 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

Policies

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.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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. The goal, policies, and implementation measures in the Mojave Specific Plan for noise and vibration applicable to the project are provided below. The Mojave 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 Mojave Specific Plan are incorporated by reference.

Chapter 8 Noise Element

Goals

Goal 1 Evaluate transportation-related noise.

Goal 2 Evaluate noise during land use planning efforts.

Objectives

Objective 8.1 Minimize the effects of transportation-related noise.

Objective 8.2 Minimize the effects of noise through proper land use planning.

Policies

Policy 8.1.1 Reduce transportation-related noise impacts on sensitive land uses (as defined in the Kern County Noise Element) through the use of noise control measures.

Policy 8.1.2 Incorporate sound-reduction designs in development projects impacted by transportation-related noise.

Policy 8.1.3 Identify potential impacts from transportation noise during the planning stages of the development process. Mitigation measures (such as buffering, clustering or sound walls)

shall be used as needed to meet County Noise Element and/or Airport Land Use Compatibility Plan standards.

Policy 8.2.3 Ensure consistency of development proposals with the Kern County Airport Land Use Compatibility Plan and Mojave Specific Plan to reduce potential for noise conflicts.

Policy 8.2.4 Identify noise-impact areas exposed to existing or projected noise levels exceeding 65 dB CNEL (exterior) or the performance standards described in this element.

Policy 8.2.6 Industrial uses adjacent to residences shall minimize potential noise and health hazards. Buffers may be required and shall be reviewed during the Precise Development review process and may be imposed when necessary to maintain noise standards. Landscaping, picnic areas, parking, offices, warehousing, or other more compatible uses may be incorporated within identified buffer zones.

Policy 8.2.7 Noise attenuation measures as defined by the Kern County Noise Element, Development Standards, and any pertinent noise studies (such as setbacks, clustering, berming, and sound walls) shall serve as a guide for future planning and development decisions.

Policy 8.2.9 Amendments to the plan proposing sensitive uses adjacent to noise contours above 65 CNEL (see Figure 8-2 and 8-1) shall require preparation of a site-specific noise study including proposed mitigation.

Implementation Measures

Implementation Measure G-2 Noise Attenuation Measures. Noise attenuation measures (such as setbacks, clustering, berming, and sound walls) shall be required as conditions of project approval prior to or as part of construction in areas subject to excessive noise. Examples of cases that may require such attenuation measures include:

a) Commercial and residential development where noise levels exceed adopted standards in the Kern County Noise Element.
b) Residential and other sensitive uses with direct exposure to highway activities and/or railroad noise.
c) Between residential land uses and commercial or industrial land uses.

Implementation Measure G-3 Airport-Related Noise and Safety. Implement the following measures to reduce the impact of airport-related noise and safety issues on development in surrounding areas:

a) All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the Mojave Airport and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.

Implementation Measure G-4 Vehicular Noise. Implement the following measures to reduce the impact of vehicle-related noise on development in adjacent areas:

a) New construction shall include sound walls as recommended by required acoustic studies.
b) New development shall be required to identify and mitigate for vehicular noise impacts as a condition of approval for construction of new noise-sensitive land uses.
c) Request that other agencies construct noise barriers as part of future highway, roadway, and rail projects to mitigate significant impacts beyond County jurisdiction.
d) Landscaping or other project design measures are required in all new public and private projects to address potentially significant aesthetics impacts associated with noise barriers.
e) Regulate traffic flow and coordinate with the California Highway Patrol to enforce speed limits.
f) Incorporate noise impact considerations, particularly the relationship of parking ingress/egress, loading, and refuse collection areas to surrounding residential and other noise-sensitive uses.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan was certified in 1992 for the community of West Edwards Road Settlement to recognize existing development and prepare for projected community growth. The plan includes the following elements: land use, open space, and conservation; circulation; and safety. Policies and implementation measures of the plan that are relevant to the proposed project are included below.

Chapter 4. Safety Element

Goals

Goal 4.1.1.2. Minimize disruption to human activities resulting from excessive noise.

Policies

Policy 4.1.3.6. Noise emissions from new development will require attenuation measures if they exceed adopted levels in the Noise Element of the Kern County General Plan.

Policy 4.1.3.8. 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. Noise levels do not affect the successful operation of the particular activity. A wide variety of uses can be included in this category, including public utilities and transportation systems.

b. Moderately Sensitive Land Uses. Some degree of noise control must be present if these activities are to be successfully carried out. Included in this category are general business and recreational uses.

c. Sensitive Land Uses. Lack of noise control will result in many of the effects described in the Element. This category primarily contains residential uses.

Implementation

7. Maximum acceptable ambient noise levels are established as follows:

Noise Level dB(A)	Day	Night
Insensitive Uses	65	55
Moderately Sensitive Uses	55	50
Sensitive Uses Day	45	35

9. Attenuation measures shall be required of all new development where noise levels exceed adopted standards. These measures shall be required as part of any PD (Precise Development) Plan, conditional use permit, subdivision map, or where an acoustical report has been required.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. There are no recommendations, analysis, or implementation measures in the Soledad Mountain Elephant Butte Specific Plan that are applicable to noise and vibration. In Kern County, specific plans are used to implement goals, objectives, and policies of the Kern County General Plan in a more detailed and refined manner unique to a smaller area of the County. Since there are no applicable goals, policies, or implementation measures within the Soledad Mountain Elephant Butte Specific Plan, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

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 L_{dn} between the hours of 7:00 AM and 10:00 PM 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 10:00 PM and 7:00 AM. Commercial or industrial facilities that are located in the M-3 zone district are exempt from these noise-generation restrictions.

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 development services agency director or their designated representative may for good cause exempt some construction work for a limited time.

2. Emergency work is exempt from this section.

Ground-borne Vibration

There are currently no federal, State, or local regulatory standards for ground-borne vibration. However, the FTA and California Department of Transportation (Caltrans) have developed vibration criteria based on potential structural damage risks and human annoyance in the FTA manual (FTA, 2018) and Caltrans *Transportation and Construction Vibration Guidance Manual* (Caltrans, 2020). While the proposed project would not be subject to FTA or Caltrans oversight, guidance by the agencies nonetheless provides ground-borne vibration criteria that are useful in establishing thresholds of impact.

The FTA and Caltrans manuals establish construction damage criteria in terms of PPV. These criteria are presented in **Table 4.13-5**, *Construction Vibration Damage Criteria,* and **Table 4.13-6**, *Vibration Criteria for Human Annoyance*. As provided below, construction vibration damage criteria range from a threshold of 0.12 inch per second for "buildings extremely susceptible to vibration damage" to 0.5 inch per second for "reinforced concrete, steel or timber (no plaster)" (FTA, 2018). With regard to human perception (refer to **Table 4.13-6**, *Vibration Criteria for Human Annoyance*), 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 (Dudek, 2019).

TABLE 4.13-5: CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	Single Event PPV (inches/sec)	Transient Source PPV (inches/sec)
1. Buildings extremely susceptible to vibration damage (construction very sensitive to vibration; objects of historic interest)	0.3	0.12
2. Nonengineered timber and masonry buildings (buildings as mentioned previously but with wooden ceilings and walls in masonry)	0.5	0.2
3. Engineered concrete and masonry (no plaster) (buildings with foundation walls and floors in concrete, walls in concrete or masonry, stone masonry retaining walls, underground chambers and tunnels with masonry alignments, and conduits in loose material)	0.7	0.3
4. Reinforced concrete, steel, or timber (no plaster) (buildings in steel or reinforced concrete, such as factories, retaining walls, bridges, steel towers, open channels, underground chambers, and tunnels with and without concrete alignment)	1.2	0.5

Source: FTA, 2018; Caltrans, 2020.

TABLE 4.13-6: 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, 2020.

4.13.4 Impacts and Mitigation Measures

Methodology

Noise impacts associated with the proposed project were assessed in this section based primarily on the *Acoustical Analysis of the Enterprise Solar Storage Project* (Jacobs, 2023), located in Appendix K of this EIR. Potential noise impacts associated with the project were evaluated on a qualitative basis through a review of existing literature and available information, and by using professional judgment in comparing the anticipated proposed project effects on noise with existing conditions. The evaluation of proposed project impacts is based on significance criteria established by Appendix G of the CEQA *Guidelines*, which the Lead Agency has determined to be appropriate criteria for this EIR.

Short-Term Construction Noise

Predicted noise levels at nearby noise-sensitive land uses were calculated utilizing typical noise levels and usage rates associated with construction equipment, derived from the FTA manual (FTA, 2018). Representative sound levels from the FTA manual are presented in **Table 4.13-7**, *Construction Equipment Noise Emission Levels*. Construction noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source.

TABLE 4.13-7: CONSTRUCTION EQUIPMENT NOISE EMISSION LEVELS

Equipment	Typical Noise Level 50 feet from Source (dBA)
Air Compressor	80
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82

Equipment	Typical Noise Level 50 feet from Source (dBA)
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Loader	80
Paver	85
Pneumatic Tool	85
Pump	77
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike Driver	77
Truck	84
Jack Hammer	88

Source: Jacobs, 2023.

Long-Term Operational Noise

Standard acoustical engineering methods were used in the noise analysis. The acoustical model, CadnaA by DataKustik GmbH of Munich, Germany, was used to calculate sound pressure levels from the operation of the project. The sound propagation factors used in the model have been adopted from International Organization for Standardization (ISO) 9613-2 *Acoustics—Sound Attenuation During Propagation Outdoors*. Atmospheric absorption was estimated for conditions of 50 degrees Fahrenheit and 70 percent relative humidity (conditions that favor propagation) and computed in accordance with ISO 9613-1.

Construction Vibration Impacts

Ground-borne vibration levels associated with construction-related activities were evaluated utilizing typical ground-borne vibration levels rates associated with construction equipment, obtained from FTA's manual (FTA, 2018). Ground-borne vibration impacts related to structural damage and human annoyance were evaluated taking into account the distance from construction activities to nearby land uses and typically applied criteria for structural damage and human annoyance (refer to **Table 4.13-5**, *Construction Vibration Damage Criteria*, and **Table 4.13-6**, *Vibration Criteria for Human Annoyance*).

Operational Vibration Impacts

Since operation of the proposed project would involve minor operational traffic, including O&M staff and regular maintenance truck and panel washing activity, project-related vibration impacts would not have any measurable effect on offsite sensitive receptors.

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.*

Substantial Temporary or Permanent Ambient Noise Increase in Excess of Standards

Temporary noise impacts associated with the proposed project would be associated with short-term construction activities, which would include the use of various types of equipment commonly associated with site preparation, grading, road, infrastructure, and solar array construction. Short-term construction noise impacts would be considered to have a significant impact if construction would exceed applicable noise standards or result in substantial increases in ambient noise levels at the nearest noise-sensitive land uses during the more noise-sensitive evening and nighttime hours.

Temporary sound levels from construction are evaluated against the FTA manual guidelines and the Kern County Code of Ordinances. Kern County regulates noise levels per the requirements of Chapter 8.36 (Noise Control) of the Kern County Code of Ordinances, which establishes hours of construction and limitations on construction-related noise impacts on adjacent sensitive receptors. Specifically, construction activities that are audible to a person with average hearing ability at a distance of 150 feet from the construction site, if the construction site is within 1,000 feet of an occupied residential dwelling, are prohibited between the hours of 9:00 PM and 6:00 AM on weekdays and 9:00 PM and 8:00 AM on weekends. However, as previously noted, the following exceptions are permitted: (1) The resource management director or a designated representative may for good cause exempt some construction work for a limited time, and (2) Emergency work is exempt from this section. Despite the County's exemption for daytime construction noise, construction activities could still result in a significant physical impact on the environment. Therefore, construction noise generated during daytime hours is compared to the existing ambient noise level to estimate temporary increases in noise over the existing ambient level. Given that a 5 dBA change in the community noise environment is considered to be readily perceptible by the human ear, construction activities that increase the ambient noise levels at a noise-sensitive land use by 5 dBA or more is considered a potentially significant impact.

Long-term permanent increases in noise levels would be primarily associated with onsite operational activities. Based on the noise standards in the Kern County General Plan (2009), long-term operational noise impacts would be considered significant if the proposed project would result in a substantial increase

in ambient noise levels that would exceed the Plan's established noise standard of 65 dBA L_{dn} at the outdoor activity area of the nearest noise-sensitive land use. For the small portion of Site 4 (Southern) located within the West Edwards Road Settlement Specific Plan, long-term operational noise impacts would be considered significant if the proposed project would result in a substantial increase in ambient noise levels that would exceed the Plan's established noise standards of 45 (daytime) and 35 (nighttime) dBA L_{dn} at the outdoor activity area of the nearest noise-sensitive land use. In instances where the ambient noise level is greater than the noise standard, the applicable noise standard would be the ambient noise level. Based on modeled sound levels of the proposed project, Kern County's noise criteria would not be exceeded by project operations.

Excessive Ground-borne Vibration

For the purposes of assessing potential ground-borne vibration impacts associated with the proposed project, the FTA's vibration criteria for potential structural damage risks was used in this analysis. Accordingly, ground-borne vibration levels would be considered significant if predicted short-term construction or long-term operational ground-borne vibration levels attributable to the proposed project would exceed the recommended criteria for structural damage or human annoyance (see **Table 4.13-10**, *Typical Construction Equipment Vibration Levels,* below) at the nearest offsite existing structure (refer to **Table 4.13-9**, *Modeled Sound Pressure Level Results for Closest Representative Residences,* below). These thresholds are considered to represent a conservative level at which construction-related activities would result in structural damage or human annoyance. The proposed project would not result in the use of equipment or processes that would result in long-term or permanent increases in ground-borne vibration.

Airport Noise Exposure

According to Kern County Airport Land Use Compatibility Plan (ALUCP) (County of Kern, 2012), the Mojave Air and Space Port's 75 dBA and 70 dBA CNEL contour is north of SR-58, outside of the proposed project area while the 65 dBA CNEL (considered normally acceptable for residential uses) extends south of SR-58. The 90 dBA single event contour and Airport Influence Area also extends south of SR-58. The ALUCP identifies that additional consideration and studies may be required when evaluating proposed "highly noise-sensitive land uses such as schools, libraries and outdoor theaters" within the single event contour. The project does not propose any highly noise-sensitive land uses.

Project Impacts

Impact 4.13-1: The project would result in the 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.

As discussed under Section 4.13.2, *Environmental Setting*, above, ambient noise levels were measured in the project vicinity. Measurements conducted within the vicinity of the project had average noise levels ranging from 63 to 64 dBA L_{dn}.

Construction

During project construction, the rural residences located nearest to the project site would be exposed to vehicle traffic noise associated with project-related construction traffic on local roadways. Traffic noise from daily trips by construction workers commuting to the site would contribute to the traffic noise levels along access routes. Construction-generated vehicle traffic would include a mix of light-duty automobiles and trucks and heavy-duty trucks. However, the project's construction vehicle traffic would not result in a substantial increase in average-daily vehicle traffic noise levels. Additionally, as indicated in **Table 4.13-7**, *Construction Equipment Noise Emission Levels*, the sound level from an individual truck is expected to be 84 dBA at 50 feet during construction. The roads that are expected to see the greatest increase in traffic volumes during construction are dirt roads which have low existing traffic volumes (Purdy Ave [east of 10th St], Camelot Blvd, 10th St, East Proteus Rd, and 20th St E). These roadways are also far from existing occupied residences. The closest residence to these roads is approximately 1,870 feet away. At this distance, the sound level of the truck would attenuate to 53 dBA (Jacobs, 2023). Construction traffic would not use roads located within the West Edwards Road Settlement Specific Plan. Thus, noise impacts associated with increases in construction-generated vehicle traffic noise would be less than significant.

Project construction activities would include site preparation and clearing/grading, underground work (trenching), collection system installation, foundations, PV system installation, testing, and site cleanup/restoration work. Most of the construction activities associated with the proposed project would be intermittent and sporadic and occur in defined construction areas with noise emanating from various points rather than occurring over the entire project site simultaneously. Typically, construction activities occur in small construction areas with noise emanating from the various points within. Noise levels would be attenuated by distance as construction activities move further away from receptors.

Solar facilities do not require substantial or deep foundations necessary to support the heavy loads associated with other power facilities. Blasting is also not required. Rather, solar panels are mounted to racks attached to metal posts that are installed with a small hydraulic driver specifically designed for this purpose. While these solar-specific drivers may use a hammering action, they should not be confused with pile drivers used in general or heavy construction; such pile drivers are substantially larger and louder. The sound levels of solar-specific drivers are expected to be similar to other general construction equipment with a nominal sound level of approximately 85 dBA at 50 feet. The earth moving, horizontal directional drilling, and equipment used to erect project structures are anticipated to be consistent with general construction equipment used on a variety of infrastructure projects (Jacobs, 2023).

As described by the FTA (2018), the average noise level from each piece of equipment is determined by the following formula for geometric spreading:

- Typical Noise Level at 50 feet + 10*log (Adjusage) – 20*log (distance to receptor/50) – 10*G*log (distance to receptor/50)

The following parameters were used in this analysis: usage factor (Adj_{usage}) is 1 (i.e., equipment is operating continuously, a conservative assumption), and ground effect factor (G) is 0, representing hard ground (i.e., a ground condition that does not result in additional attenuation). The total noise level was then solely a function of the equipment operating and distance. This results in a conservative assessment of propagation over long distances, which can be further attenuated by atmospheric absorption (Jacobs, 2023).

Review of construction equipment noise emission levels presented in **Table 4.13-7**, *Construction Equipment Noise Emission Levels*, indicates that the loudest equipment generally emits noise of

approximately 80 to 90 dBA at 50 feet. Sound levels at any specific receptor are dominated by the closest and loudest equipment. The types, numbers, and duration of equipment anticipated to be used during construction near any specific receptor location will vary over time. The construction sound level estimate was based on the conservative assumptions of multiple pieces of loud equipment simultaneously operating in close proximity. Assumptions include the following:

- One piece of equipment generating a reference noise level of 85 dBA at 50 feet at the edge of the construction activity.
- An additional two pieces of equipment generating reference noise levels of 85 dBA located 100 feet from the edge of construction.
- Two more additional pieces of equipment generating reference noise levels of 85 dBA located 150 feet from the edge of construction.

Expected average construction equipment noise levels at various distances, based on this scenario, are presented in **Table 4.13-8**, *Average Construction Equipment Noise Levels versus Distance*.

TABLE 4.13-8: AVERAGE CONSTRUCTION EQUIPMENT NOISE LEVELS VERSUS DISTANCE

Distance from Construction Activity (feet)	Anticipated Construction Activities L_{eq} Noise Level (dBA)
50	87
100	83
200	78
400	73
800	67
1,600	62
3,200	56

Source: Jacobs, 2023.

The closest occupied residences are approximately 1,860 feet or more from the project site. At this distance, the sound level is predicted to be less than 62 dBA L_{eq}. This level is less than the FTA's detailed guideline for both the day and nighttime periods, the 30-day average L_{dn} guideline presented in **Table 4.13-4**, *Detailed Analysis Construction Noise Criteria,* the General Plan standard of 65 dBA L_{dn}, and existing ambient noise levels in the area. Additionally, construction is located nearly twice the distance from residences than that identified in Kern County's Code of Ordinances (County of Kern, 2023). For the portion of Site 4 (Southern) located within the West Edwards Road Settlement Specific Plan, construction noise could temporarily exceed applicable standards; however, the nearest sensitive receptor within the Specific Plan is approximately 2,000 feet from Site 4 (Southern) and the sound level from construction in that area would be approximately 60 dBA at that distance without taking into account the topography and land formations in the area which would further attenuate construction noise. Additionally, existing ambient noise levels in this area (LT 2, 63 dBA L_{dn}) generally exceed the ambient standards established by the Specific Plan, and construction noise from Site 4 (Southern) would be below existing ambient levels.

Accordingly, construction noise would not subject residential or other sensitive noise land uses to exterior noise levels in excess of 65 dBA L_{dn} or increase the ambient noise levels at a noise-sensitive land use by 5 dBA or more. For the small portion of Site 4 (Southern) within the West Edwards Road Settlement Specific

Plan, construction noise potentially could exceed applicable standards, but any such increases would occur infrequently and would not exceed existing ambient noise levels in the area. Therefore, overall temporary construction-related noise impacts would be less than significant. However, to ensure compliance with Kern County's noise-control ordinance, the Code-required hourly limitations have been included in Mitigation Measure **MM 4.13-1**. Additional components to this mitigation measure have also been included to further minimize noise levels associated with construction activities and potential impacts to occupants of nearby residential dwellings. Implementation of Mitigation Measures MM 4.13-1 and **MM 4.13-2** below would further reduce impacts during construction activities. Mitigation Measure **MM 4.13-3** will also be implemented to notify the public of the project schedule and provide contact information, if needed. Mitigation Measure **MM 4.13-4** would ensure that onsite transformers and inverters would include noise shielding, as needed, such that the existing ambient noise level at the nearest offsite residential structure would not be exceeded by more than 5 dBA above the ambient noise level.

Gen-Tie Construction

Construction of the gen-tie line would involve clearing and grubbing of the existing vegetation at the pole locations; grading for construction of dirt access roads, where necessary, and for transmission pole foundations; and stringing of the transmission cable. The closest residences to the gen-tie alignment are a minimum of 1,270 feet. As shown in **Table 4.13-7**, *Construction Equipment Noise Emission Levels,* the average noise levels at 50 feet for typical equipment used in this type of project would range up to 88 dBA L_{max}, based upon the loudest two to three pieces of equipment being used (FHWA, 2011). This noise level would diminish to approximately 64 dBA L_{max} at 1,270 feet from the gen-tie alignment during construction, which would not subject residential or other sensitive noise land uses to exterior noise levels in excess of 65 dBA L_{dn} or increase the ambient noise levels at a noise-sensitive land use by 5 dBA or more. Accordingly, temporary construction noise impacts would be less than significant for the gen-tie line.

Operation

Solar facilities convert sunlight into electricity that is subsequently transmitted to the electrical grid as alternating current (AC). The primary sound-emitting equipment type associated with this process is the inverter, which converts the direct current (DC) from the solar panels to AC for transmission to the transformers and the grid. The transformers in turn modify the voltage to be consistent with electrical grid requirements and generate a low hum or additional sound when cooling fans operate. Battery energy storage systems consist of a battery charging and discharging system, though the sound emissions are primarily related to the fans and associated cooling system.

An acoustical model of the proposed project was developed using source input levels derived from data supplied by manufacturers, the project proponent, and information found in the technical literature. The sound levels presented represent the anticipated steady-state level from the proposed project with essentially all equipment operating. While final equipment selection would occur as design progresses, the representative acoustical model was developed based on 350 battery energy storage systems, 101 solar inverters and two onsite substations. The step-up substation at is greater than one mile away from the nearest residence, such that it was not included in the acoustical model. The sound power level of the overall battery energy storage system modeled was 115 dBA, the solar inverters were 86 dBA each, and each substation was 112 dBA.

Modeled sound pressure level contours are presented on **Figure 4.13-3**, *Predicted Sound Level*, as hourly L_{eq}. Model results are tabulated in **Table 4.13-9**, *Modeled Sound Pressure Level Results for Closest*

Representative Residences, at the closest occupied residences in terms of both the hourly L_{eq} and 24-hour L_{dn} presuming all project equipment operated continuously at full load over a 24-hour period. When the proposed project is not operating at full load, the sound level would be less. During the nighttime hours, the solar inverters would not operate at full capacity and would emit substantially less noise. As noted in Section 4.13.2, *Environmental Setting*, the closest residential uses are identified as R1 through R5; R1, R3, and R4 are within groupings of residences.

TABLE 4.13-9: MODELED SOUND PRESSURE LEVEL RESULTS FOR CLOSEST REPRESENTATIVE RESIDENCES

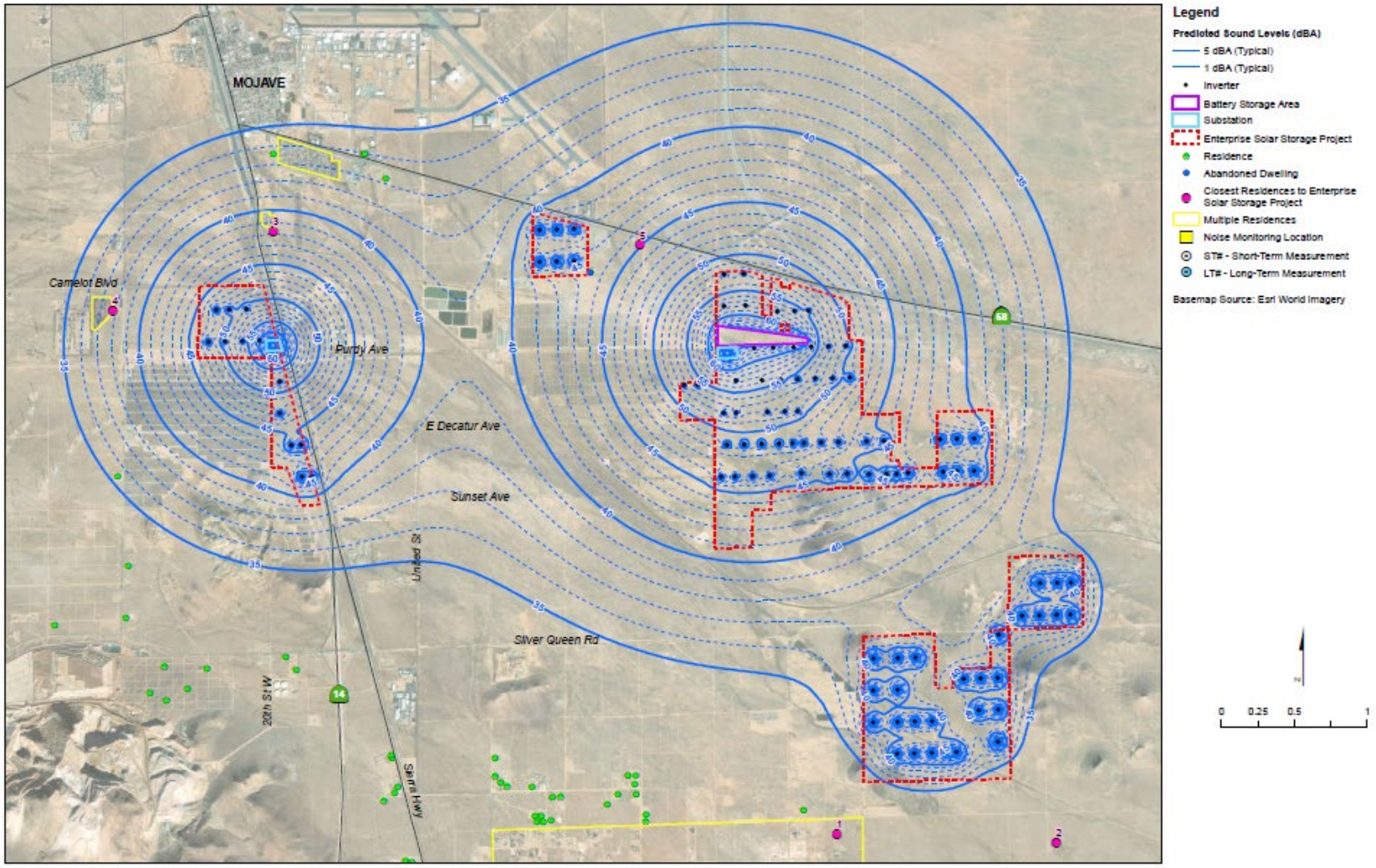
Location	Distance to Project Site (feet)	Distance to Project Sound Source (ft)	Predicted Sound Pressure Level (Hourly L_{eq}, dBA)	Predicted Sound Pressure Level (24-hour L_{dn}, dBA)
R1	2,100	3,620	30	37
R2	2,840	4,210	28	35
R3	1,940	2,930	42	48
R4	3,120	3,650	38	44
R5	1,860	2,420	45	51

Source: Jacobs, 2023.

As indicated in **Table 4.13-9**, *Modeled Sound Pressure Level Results for Closest Representative Residences*, and **Figure 4.13-3**, *Predicted Sound Level*, the closest occupied residences are approximately 1,860 feet or more from the project site and the modeled project sound levels are well below Kern County's 65 dBA criteria and existing ambient noise levels, even when the 24-hour average L_{dn} is calculated presuming the entire proposed facility operates at full load during the nighttime hours. For the portion of Site 4 (Southern) within the West Edwards Road Settlement Specific Plan, noise from project operations would be contained within the boundaries of the site and would not impact any nearby residences or exceed applicable ambient standards.

Noise generated during the testing and commissioning phase of the proposed project is not expected to be substantially different from that produced during normal full-load operation. Operational traffic is anticipated to be minimal, primarily pickup trucks used by a small operation and maintenance staff for periodic maintenance.

Operation of the proposed gen-tie line would have little potential for the generation of substantial noise. However, transmission lines are subject to a phenomena called "corona discharge noise." Corona discharge results from the partial breakdown of the electrical insulating properties of the air surrounding electricity conductors. When the intensity of the electric field at the surface of the conductor exceeds the insulating strength of the surrounding air, a corona discharge occurs at the conductor surface, representing a small dissipation of heat and energy. Some of the energy may dissipate in the form of small local pressure changes that result in audible noise or in radio or television interference. Audible noise generated by corona discharge is characterized as a hissing or crackling sound that may be accompanied by a hum.



Source: Jacobs, 2023

Figure 4.13-3 Predicted Sound Level

To address the potential significance of corona noise, research was conducted to determine the sound level associated with this phenomenon. Veneklasen Associates conducted noise measurements of a 500-kV double-circuit transmission line. Since corona noise is relative to the capacity of a transmission line, the noise levels from a 500-kV line would be greater than for a 230-kV transmission line. Veneklasen conducted noise measurements on a 15-minute average for a 500-kV double-circuit transmission line near Serrano Substation in Anaheim Hills, when humidity was greater than 80 percent, and temperatures were in the range of 60 degrees Fahrenheit (conditions contributing to high corona noise). Directly under the transmission line tower, the measured level of corona noise, when ideal conditions existed for this phenomenon to occur, were 46 dBA (Dudek, 2019. Beyond 100 feet of the transmission line, the corona noise level drops at a rate of approximately 4 dB for each doubling of the distance.

Therefore, at a distance of approximately 1,270 feet from the proposed gen-tie line (the closest residence), the corona discharge noise level would be less than 40 dBA, which is lower than the existing ambient noise levels in the project area. Consequently, corona noise would not have the potential to create an operational noise level of 65 dBA CNEL, or to increase noise levels greater than 5 dBA above ambient.

Therefore, overall permanent operational-related noise impacts would be less than a significant impact.

Project Decommissioning

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 the project's construction activities. Therefore, activities associated with project decommissioning would be expected to result in similar or lower noise levels than those that would be experienced under the loudest phases of construction. Thus, similar to construction, potential noise impacts during decommissioning of the project are considered less than significant.

Summary

In summary, construction activities associated with the proposed project would generally be limited to daytime hours in accordance with the hourly limitations specified in the Kern County Code of Ordinances, with certain limited exceptions in accordance with code requirements. Although temporary construction noise impacts would be less than significant, to ensure compliance with Kern County's noise-control ordinance, the Code-required hourly limitations have been included in Mitigation Measure MM 4.13-1. Additional components to this mitigation measure have also been included to further minimize noise levels associated with construction activities and potential impacts to occupants of nearby residential dwellings. Implementation of Mitigation Measures MM 4.13-1 and MM 4.13-2 below would further reduce impacts during construction activities. Mitigation Measure MM 4.13-3 will also be implemented to notify the public of the project schedule and provide contact information, if needed. Mitigation Measure MM 4.13-**4** would ensure that onsite transformers and inverters would include noise shielding, as needed, such that the existing ambient noise level at the nearest offsite residential structure would not be exceeded by more than 5 dBA.

Operational noise impacts would be well below County noise standards and would result in less than significant impacts.

Activities associated with decommissioning of the project would result in similar or lower noise levels than those that would be experienced under the loudest phases of construction. Impacts would be less than

significant; however, to reduce any potential noise impact to offsite sensitive receptors, Mitigation Measures MM 4.13-1 and 4.13-2 would be implemented.

Mitigation Measures

The project proponent would implement typical construction noise minimization measures as outlined below.

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. 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 9:00 p.m. to 6:00 a.m. on weekdays, and between 9:00 p.m. to 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. 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.

b. 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.

c. 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.

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: Prior to the issuance of grading permits, 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.), 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.

MM 4.13-4: Adequate noise shielding shall be provided to the project's onsite transformers and inverters such that the existing ambient noise level at offsite residential receptors would not exceed 65 L_{dn} and interior noise levels would not exceed 45 dB L_{dn}. For any portion of the project within five hundred (500) feet of property developed residentially and zoned for residential use (E, R-1, R-2, and R-3), except those portions within the M-3 District, adequate noise shielding shall be provided to the project's onsite transformers and inverters such that the equipment would not exceed an average 65 dB L_{dn} (24-hour median) between the hours of 7:00 a.m. and 10:00 p.m. and would not exceed 65 dB, or result in an increase of 5 dB or more from ambient sound levels, whichever is greater, between the hours of 10:00 p.m. and 7:00 a.m. The project proponent/operator shall submit photographic evidence of this technology and clearly demonstrate on a site plan where adequate noise shielding will be located, if necessary. No shielding shall be required if the noise levels would not exceed these standards.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact 4.13-2: The project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.

In addition to noise, ground-borne vibration and ground-borne noise would be generated by project construction and operational activities. The proposed project would not involve the long-term operational use of any equipment or processes that would result in potentially significant levels of ground vibration. Construction activities that may result in ground-borne vibration and/or ground-borne noise (such as use of heavy equipment) would be temporary and only during daylight hours. Short-term construction activities

associated with the proposed project may cause an increase in ground-borne vibration levels, which decrease rapidly with distance.

Construction

Construction activities have the potential to result in varying degrees of temporary ground-borne vibration, depending on the specific equipment used and operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. **Table 4.13-10**, *Typical Construction Equipment Vibration Levels*, displays vibration levels for typical construction equipment.

TABLE 4.13-10: TYPICAL CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Equipment	PPV at 25 feet (in/sec)
Pile Driver (Impact – Upper Range)	1.518
Pile Driver (Impact – Typical)	0.644
Pile Driver (Sonic – Upper Range)	0.734
Pile Driver (Sonic – Typical)	0.170
Large Bulldozer	0.089
Caisson Drilling	0.089
Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003

Source: FTA, 2018.

Bulldozers and other general construction equipment would regularly be used during construction. In addition, heavy trucks would be used to deliver materials to the project site. As referenced in **Table 4.13-10**, *Typical Construction Equipment Vibration Levels*, the largest vibration source is an impact pile driver—this is a larger more impactful piece of equipment used to install piles for bridge or other foundations compared to the small piece of equipment to install posts to support the solar panel racking systems. According to the FTA, vibration levels associated with the upper range of an impact pile driver is 1.518 in/sec PPV at 25 feet. Trucks generate lower vibration levels of 0.076 in/sec PPV at 25 feet (FTA, 2018).

The risk of construction vibration damage from each piece of equipment can be assessed by adjusting the PPV from the reference PPV at 25 feet to the actual distance from the equipment to the receiver by the application of the formula below:

$$PPV_{equip} = PPV_{ref} \times \left(\frac{25}{D}\right)^{1.5}$$

where:

PPV_{equip} = the peak particle velocity of the equipment adjusted for distance, in/sec

PPV_{ref} = the source reference vibration level at 25 feet, in/sec

D = distance from the equipment to the receiver, feet

To determine the closest distance each type of equipment or activity can be from the various building categories (defined in **Table 4.13-5**, *Construction Vibration Damage Criteria*), the above equation was used. Shorter distances than those presented in **Table 4.13-11**, *Typical Construction Equipment Vibration Levels in PPV*, would exceed the FTA's respective damage criteria.

TABLE 4.13-11: TYPICAL CONSTRUCTION EQUIPMENT VIBRATION LEVELS IN PPV

Equipment	PPV at 25 feet (in/sec)	Building Category (Construction Vibration Damage Criteria)			
		1 (0.5 in/sec)	2 (0.3 in/sec)	3 (0.2 in/sec)	4 (0.12 in/sec)
Pile Driver (Impact – Upper Range)	1.518	50	75	100	135
Pile Driver (Impact – Typical)	0.644	30	40	55	75
Pile Driver (Sonic – Upper Range)	0.734	30	45	60	85
Pile Driver (Sonic – Typical)	0.170	<25	<25	<25	30
Large Bulldozer	0.089	<25	<25	<25	<25
Caisson Drilling	0.089	<25	<25	<25	<25
Trucks	0.076	<25	<25	<25	<25
Jackhammer	0.035	<25	<25	<25	<25
Small Bulldozer	0.003	<25	<25	<25	<25

Source: FTA, 2018.

Building Category 1 includes reinforced concrete, steel, or timber buildings in steel or reinforced concrete, such as factories, retaining walls, bridges, steel towers, open channels, underground chambers, and tunnels with and without concrete alignment. Building Category 2 includes engineered concrete and masonry buildings with foundation walls and floors in concrete, walls in concrete or masonry, stone masonry retaining walls, underground chambers and tunnels with masonry alignments, and conduits in loose material. Building Category 3 includes nonengineered timber and masonry buildings with wooden ceilings and masonry walls in masonry. Building Category 4 includes buildings extremely susceptible to vibration damage, such as objects of historic interest). For building categories 1 through 4, general construction equipment (e.g., bulldozers, trucks) must be less than 25 feet from the structure for the damage criteria to be exceeded. Impact pile driving in the upper range has the greatest potential to cause damage to buildings, with 135 feet as the closest distance at which pile driving can occur to a Category 4 building type. Category 4 buildings, which may be objects or buildings of historical interest, are "extremely susceptible to vibration damage," the most sensitive building category. Residential buildings typically are considered Category 1, 2, or 3 buildings. No sensitive receptors have been identified within 200 feet of the project site and the closest occupied residences are approximately 1,860 feet or more from the project site.

Additionally, as shown in **Table 4.13-12**, *Representative Vibration Source Levels for Construction Equipment*, the maximum ground-borne vibration levels generated by project construction equipment would be 0.14 in/sec PPV at 100 feet and 300 feet from the source of activity. These would be the vibration levels from post driving that are conservatively approximated as pile driving. Post driving would only occur during construction of the PV modules onsite. Post drivers used during construction would be crawler or truck mounted, which generally result in less impact (i.e., lower vibration levels). At both 100 and 300 feet, these values are below the 0.2 in/sec PPV significance threshold for non-engineered timber and masonry

buildings and the 0.4 in/sec PPV human annoyance criteria. No pile driving equipment is necessary for construction of the gen-tie line. Therefore, no sources of ground-borne vibration would be expected to impact receptors outside of the work areas, and there would not be any potential for excessive exposure of persons to or generation of ground-borne vibration levels. Thus, there would be no impact from ground-borne vibration or ground-borne noise levels during construction.

TABLE 4.13-12: REPRESENTATIVE VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate Peak Particle Velocity at 100 Feet (inches/second)	Approximate Peak Particle Velocity at 300 Feet (inches/second)
Large bulldozer	0.011	0.006
Loaded trucks	0.01	0.005
Small bulldozer	0.0004	0.00019
Jackhammer	0.005	0.002
Vibratory roller	0.03	0.013
Vibratory Pile Driver	0.14	0.14
Caisson Drilling	0.01	0.006

Source: Caltrans, 2020

Operation

Project operation would have O&M components that may generate vibration, such as HVAC systems, maintenance vehicles, small-scale inverters, medium voltage transformers, and substation transformers. However, vibration from these operational sources would generally occur within 50 feet of the generating source due to the rapid attenuation of vibration over distance. The nearest sensitive receptors are located approximately 1,860 feet or more from the project site. Due to distance attenuation from these sources to the surrounding sensitive receptors, vibration effect from project operation would be minimal. Therefore, ground-borne vibration impacts resulting from project operation would be less than significant.

Decommissioning

At such time the proposed project is decommissioned, equipment operation and site restoration activities would create temporary vibration in the immediate vicinity. 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 the project construction activities. Therefore, project decommissioning would be expected to result in unnoticeable vibration levels at offsite receptors. Therefore, ground-borne vibration impacts resulting from project construction, operation and decommissioning would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

There would be no impacts.

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.

Once constructed, 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 in Section 4.13.1, *Introduction*, and shown in **Table 4.13-9**, *Modeled Sound Pressure Level Results for Closest Representative Residences*, project operation would generate noise levels ranging from 35 to 51 dBA L_{dn} at surrounding noise sensitive receptors, approximately at or below the long-term measured ambient noise levels (not adjacent to roadways) of 63 to 64 dBA L_{dn} shown in **Table 4.13-2**, *Ambient Noise Level Measurements (dBA).*

Solar panel inverters and transformers would only operate during daylight hours and would not generate noise after dark. However, inverters and transformers for the energy storage system would operate after dark. Using a worst-case unrealistic scenario, if all of the equipment were to run continuously for 24-hours, the noise level at the worst-case receptor (R5) would result in a L_{dn} of 51 dBA. Using the 24-hour measurements conducted at LT1 and LT2, the calculated 24-hour noise level for ambient conditions was 64 L_{dn} dBA at LT1 and 63 L_{dn} dBA at LT2, which are higher than the project site operational noise level. Therefore, operations on the project site would not have the potential to exceed Kern County's 65 dBA criterion.

At a distance of approximately 1,270 feet from the transmission line (the closest residence, refer to **Figure 4.13-1**, *Noise Sensitive Receptors and Noise Measurement Locations*), the corona discharge noise level would be less than 40 dBA, which is lower than the existing ambient noise levels in the project area. Therefore, corona noise would not have the potential to create an operational noise level of 65 dBA.

Therefore, the project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance

Impacts would be less than significant.

Impact 4.13-4: For a project located within the vicinity of a private airstrip or Kern County Airport Land Use Compatibility Plan, the project would expose people residing or working in the project area to excessive noise levels.

The ALUCP (County of Kern, 2012) identifies that additional consideration and studies may be required when evaluating proposed "highly noise-sensitive land uses such as schools, libraries and outdoor theaters" within the 90 dBA single event contour. While the proposed project falls within the single event contour, it

does not represent a new noise sensitive use, such as a residential development, nor a highly noise sensitive land use. The presence of workers at the project site would be sporadic and associated with operation and maintenance activities. The project also is considered a compatible use under the ALUCP. Therefore, impacts associated with exposing people to excessive airport noise levels would be less than significant.

Mitigation Measures

No mitigation measures would be required.

Level of Significance

Impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

SCE will relocate a 66 kV transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. Impacts related to SCE construction would be similar to, if not less than, the impacts described above. The nearest sensitive receptor to the line relocation is approximately 3,100 feet from SCE's right of way, and there are no rural residences or other noise sensitive land uses in proximity to the Windhub Substation, such that construction would not generate a substantial temporary or permanent increase in noise levels or excessive ground-borne vibration or ground-borne noise levels. Once operational, the SCE line relocation and interconnection would not result in substantial permanent increase in ambient noise levels. Impacts would be less than significant.

4.13.5 Cumulative Setting, Impacts, and Mitigation Measures

Construction Noise

As described in Section 3.12, *Cumulative Projects*, and listed in **Table 3-6**, *Cumulative Projects List*, there are a total of 18 projects in the vicinity to the project site, which include other solar projects and some development projects. Due to the localized nature of noise impacts, cumulative impacts would be largely limited to areas within the general vicinity. Based on review of the project characteristics, status, and location in proximity to the project site, one cumulative project was identified that could add construction traffic noise to the area roadway segments and potentially generate construction noise in proximity to the project site: the Sanborn 2.0 Solar Project.

Construction noise impacts are localized in nature because they are limited to the construction site where construction equipment is operating. As previously discussed, sound levels from typical construction

equipment range from 76 dBA to 88 dBA L_{eq} at 50 feet from the source (Jacobs, 2023). Construction noise would decrease approximately 6 dBA (hard-site conditions) with every doubling of distance. Therefore, construction noise would be reduced to less than 60 dBA approximately 0.25 miles from the construction site, assuming worst-case construction noise of 88 dBA L_{eq}, hard-site conditions, and no intervening topography or structures. Additionally, construction noise is temporary and would cease at completion of the proposed project. Consequently, only construction projects occurring simultaneously within 0.25 miles of each other could result in a significant cumulative construction noise impact.

As shown on **Figure 3-15**, *Cumulative Projects*, the closest future project is located greater than approximately 0.25 miles from the project site. Therefore, construction of the proposed project and gen-tie transmission lines would not be located in proximity to another construction project(s). Construction of the project would result in less than significant impacts and also would not have a cumulatively considerable contribution at near-by residences due to the distance of cumulative projects in proximity to the project site. Furthermore, cumulative projects would also be subject to noise standards defined in the applicable ordinance including time of day standards for construction activities and obtaining a noise variance for certain limited and infrequent construction activities occurring outside of the allowable hours. Therefore, when considered with other past, present, and reasonably foreseeable future projects, the proposed project would not result in a cumulatively considerable contribution to construction noise impacts.

Construction Vibration

Cumulative construction projects may also result in the exposure of people to or the generation of excessive ground-borne vibration. The Sanborn 2.0 Solar Project is the closest project that could add cumulative construction vibration impacts to the nearest sensitive receptor (1,860 feet) from the project site. Due to these distances, and the rapid attenuation of ground-borne vibration, the project and the nearest related project are not in close enough proximity to this sensitive receptor such that it would be exposed to substantial ground-borne vibration levels. Decommissioning activities would result in similar noise and vibration levels identified for the construction of the proposed project. Therefore, cumulative impact in terms of ground-borne vibration would be less than significant.

Operational Noise and Vibration

With respect to operational noise, the nearest cumulative operational project, the Sanborn 2.0 Solar Project, is directly adjacent to the proposed project. Given that the proposed project and the Sanborn 2.0 Solar Project are both solar projects with limited operational noise, and given the distance of the nearest sensitive receptor to the nearest cumulative project, cumulative impacts associated with operational noise from both facilities are anticipated to be negligible and well under ambient noise levels. Additionally, during operation, the gen-tie line would not generate noise beyond the existing baseline environment. Thus, cumulative operational noise impacts would be less than significant.

Cumulative operation could also result in the exposure of people to or the generation of excessive ground-borne vibration. However, since operation of the proposed project and related projects would involve operational traffic, including operations and maintenance staff and regular maintenance truck (0.076 in/sec PPV), and panel washing activity (not measurable), project-related vibration impacts would not have any measurable effect on the nearest sensitive receptors. Therefore, cumulative vibrational impacts would be less than significant.

Overall, when considered with other past, present, and reasonably foreseeable future projects, the proposed project would not result in a cumulatively considerable contribution to noise impacts.

Mitigation Measures

The project proponent would implement typical construction noise minimization measures as described in Mitigation Measures MM 4.13-1, MM 4.13-2, MM 4.13-3, and 4.13-4.

Level of Significance after Mitigation

Cumulative impacts would be less than significant.

Section 4.14
Public Services

4.14.1 Introduction

This section of the EIR describes the affected environment and regulatory setting pertaining to public services, which include fire and police protection. This section also addresses potential impacts on public services that could result from implementation of the project, and mitigation measures that would reduce these impacts, if applicable. 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 58 fire engines, 6 ladder trucks, 54 patrol vehicles, 30 command vehicles, 6 dozers, 2 helicopters, 3 hazardous material response teams, and other ancillary vehicles and equipment. KCFD is staffed with 621 permanent employees, which include 521 uniformed firefighters (KCFD, 2023).

The project site is located within Battalion 1, Central Mountains/Desert, which serves the southeastern portion of Kern County and is divided by State Route (SR)-58 that runs east/west and by SR-14 that runs north/south. Battalion 1 covers 951,600 acres, of which 351,276 acres is State Responsibility Area (SRA) land area, and the California Department of Forestry and Fire Protection (CALFIRE) has a legal responsibility to provide fire protection for this SRA land area (KCFD, 2022). The SRA land area is bounded by the California Aqueduct on the east, and the San Joaquin Valley to the west (KCFD, 2022). As shown in **Figure 4.18-2**, *Fire Hazard Severity Zones for State Responsibility Areas*, located in Section 4.18, *Wildfire*, of this EIR, a portion of the project site, specifically the step-up substation site and the westernmost portion of the gen-tie line, is within an area categorized as SRA Moderate. Further, according to the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Zones in Local Responsibility Area (LRA) Map, the remainder of the project site is within an LRA Moderate fire hazard severity zone, as shown in **Figure 4.18-1**, *Fire Hazard Severity Zones for Local Responsibility Areas*, located in Section 4.18, *Wildfire*, of this EIR. Given this designation, the project site is outside of areas identified by CAL FIRE as having substantial or very high risk. Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior (CAL FIRE, 2007a).

Fire Station No. 14 (Mojave), located at 1953 SR-58, is approximately 1 mile to the northeast of the project site at its closest point 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, including Fire Station No. 15 (Rosamond), located at 35th Street West, Fire Station No. 12 (Tehachapi), located at 800 South Curry Street, and Kern County Fire Department Air & Wildland Camp 8, located at 20569 Eumatilla Street in Tehachapi. Information on the three closest fire stations to the project site is

included 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. In remote County areas like the project site, the average response time is approximately 21 minutes (CPSM, 2019).

Kern County has 14 mutual-aid agreements with neighboring fire suppression organizations to further strengthen the emergency services (KCFD, 2023). The County 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 177 fire stations throughout Los Angeles County. The LACFD is divided into 22 battalions with over 5,000 personnel (LACFD, 2021). The nearest LACFD fire station to the project site is Station No. 112, located at 8812 W. Avenue E-8, Lancaster, approximately 20 miles 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 recertification for EMTs, paramedics, specialized nurses (MICN), and specialized dispatchers (EMD) (County of Kern, 2018). The nearest hospital is Adventist Health Tehachapi Valley at 1100 Magellan Drive in the City of Tehachapi, approximately 17.4 miles to the northwest.

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.

TABLE 4.14-1: LIST OF NEARBY FIRE STATIONS

Agency	Facility	Address	Approximate Distance from Project Site
KCFD	Fire Station No. 14	1953 State Route 58 Mojave, CA 93560	1 mile northeast of Site 2
KCFD	Fire Station No. 15	3219 35th Street West Rosamond, CA 93560	10 miles southwest of Site 4
KCFD	Air and Wildland Camp 8	20569 Eumatilla Street Tehachapi, CA 93561	12.8 miles northwest of Site 2
KCFD	Fire Station No. 12	800 S Curry Street Tehachapi, CA 93561	16.8 miles northwest of Site 2

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 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, 2023a). The nearest substation that would provide service to the project site is the Mojave Substation located approximately 1.1 miles northeast of the western site at 1771 Highway 58 in the community of Mojave. This substation geographically covers approximately 1,320 square miles, making it one of the largest response areas of Kern County substations and providing services to approximately 14,000 residents in the southeastern-most end of Kern County (KCSO, 2023a). Other substations in proximity to the project site include Tehachapi Substation and Rosamond Substation. Information on the three closest substations to the project site is included in **Table 4.14-2**, *List of Nearby Sheriff Substations*.

The KCSO strives to respond to calls as quickly as possible. Response times naturally vary depending on the severity of the call, available staff, and location of patrol car. In 2019, the last year for which data are available, the average response time for the KCSO was 5 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). 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 longer than that of emergency calls, 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 per year to the local OHV riding areas. 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, Mojave, and Tehachapi. The OHV Enforcement Team works closely with officers from the U.S. Bureau of Land Management (BLM), California State Parks, and other local law enforcement agencies (KCSO, 2023b).

TABLE 4.14-2: LIST OF NEARBY SHERIFF SUBSTATIONS

Agency	Facility	Address	Approximate Distance from Project Site
KCSO	Mojave Substation	1771 State Highway 58 Mojave, CA 93501	1.1 miles northeast of Site 2
KCSO	Rosamond Substation	3179 35th Street West Rosamond, CA 93560	10.1 miles southwest of Site 4
KCSO	Tehachapi Substation	22209 Old Town Road Tehachapi, CA 93581	19.7 miles northwest of Site 2
KCSO	Boron Substation	26949 Cote Street Boron, CA 93516	23.9 miles east of Site 4

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, 2023a). 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, and 215, and Highways 60, 71, 91, and 210 (CHP, 2023b). The nearest Inland Division office to the project site is located at 1313 Highway 58, in the community of Mojave, approximately 1.2 miles northeast of the western project site.

Schools/Parks/Other Facilities

The Kern County Parks and Recreation Department manages 8 regional parks, 16 public buildings, and 40 neighborhood parks. There are no recreational facilities currently serving the project, nor are there existing parks located within 1 mile of the proposed project. The Kern County Library system consists of 22 branches and 2 bookmobiles throughout Kern County, with the main branch library (the Beale Memorial Library) located in Bakersfield. Materials for use at county branches include books, government documents, computers, CDs, and other informational media. The Kern County library system maintains a collection of 1.15 million books, audiovisual items, periodicals, and other informational sources. The closest libraries to the proposed project are the Mojave Branch Library, located approximately 1.1 miles north of the project site at 15555 O Street, Mojave, and the Rosamond Branch Library, located approximately 10.2miles southwest of the project site at 3611 Rosamond Boulevard, Rosamond.

4.14.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Fire Code

The 2022 California Fire Code (Title 24, Part 9 of the California Code of Regulations [CCR]) 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 firefighters 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. Chapter 12 of the California Fire Code includes requirements for energy storage systems, which includes the proposed energy storage facilities.

Building services and systems which 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, firefighter access to the site and building, means of egress, hazardous materials storage and use, and temporary heating equipment and other ignition sources.

California Department of Forestry and Fire Protection (CAL FIRE)

Under Title 14 of the CCR, CAL FIRE has the primary responsibility for implementing wildfire planning and protection for SRAs. CAL FIRE 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 CAL FIRE's jurisdiction.

CAL FIRE 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 step-up substation site and the westernmost portion of the gen-tie line are located within an area categorized as SRA moderate, and the remainder of the project site is located in an area of moderate fire hazard within an LRA (CAL FIRE, 2007a and 2007b).

In addition to wildland fires, CAL FIRE's planning efforts involve responding to other types of emergencies, including medical aids, hazardous material spills, search and rescue missions, and flood. Through contracts with local government, CAL FIRE provides emergency services in 36 of California's 58 counties (CAL FIRE, 2023).

Local

Construction and operation of the project would be subject to policies and regulations contained within the County's general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to public services. 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.

Kern County General Plan

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.

Mojave Specific Plan

The policies, goals, and implementation measures in the Mojave Specific Plan for public services that are applicable to the project can be found in Chapter 3, *Land Use Element*, and are provided below:

The key goal of the Land Use Element is to maintain Mojave as a community that offers diverse residential, employment, and retail opportunities to residents while accommodating growth and providing appropriate levels of urban services. Toward this end, the Specific Plan provides for separation of incompatible uses, conservation of resource lands, and concentration of urban-level uses in areas where infrastructure exists or can easily be provided. (County of Kern, 2003).

Chapter 3. Land Use Element

Objectives

Objective 3.2: Develop a balanced land use pattern to ensure that future growth provides a range of residential, employment, service, and recreational opportunities.

Objective 3.6: Ensure that public services and utilities are provided commensurate with established needs and projected growth.

Policies

Policy 3.6.1: Approve new commercial, residential, and industrial projects only when needed; public facilities and services can be provided without additional cost to established service users and the county residents.

Policy 3.6.2: Coordinate with the Mojave Public Utility District, County Sheriff's Department, County Library Department and County Fire Department to ensure sufficient services are provided to community residents and businesses.

Implementation Measures

L-1. Adequate Services: Require applicants to demonstrate the availability of fire, police, emergency response, and solid waste disposal services during discretionary environmental review.

L-2. Fire and Police Protection Implement the following measures to ensure adequate fire and police protection in the Mojave community:

a) Work with the Kern County Sheriff's Department and Kern County Fire Department to ensure the continuation of an adequate level of services for the Specific Plan Area.

b) If additional Fire Department or Sheriff station sites are required, identify sites and require dedication of land for such purposes or payment of proportional share of services as a condition of development.

c) Work with local organizations and the County Sheriff and Fire Department to continue administration of the Mojave Desert Community Response Plan.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan was adopted on February 24, 1992, and 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 West Edwards Road Settlement Specific Plan area. The following goals, policies, and implementation measures in the West Edwards Road Settlement Specific Plan for public services are applicable to the proposed project:

Chapter 1.2 Public Facilities and Services

Goal

Goal 1.2.1: To provide adequate public services and facilities to meet current and projected community needs.

Policies

Policy 1.2.3.1: New development shall be required to pay its proportional share of the costs of local infrastructure improvements such as public streets, and water and sewer systems.

Policy 1.2.3.2: Development shall be encouraged to utilize existing utility purveyors.

Implementation Measure

Measure 1.2.4.3: Plans for adequate fire flows and access shall be approved by the Kern County Fire Department prior to issuance of a building permit.

Chapter 4. Safety Element

Policies

Policy 4.1.3.2: New development will be allowed only when it can meet standard levels of service from fire and water service delivery systems.

Implementation Measure

Measure 4.1.4.2: All construction shall comply with the requirements of the Kern County Code of Building Regulations and the Uniform Fire Code (UFC) regarding water supply, fire flow, and construction standards.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. There are no recommendations, analysis, or implementation measures in the Soledad Mountain Elephant Butte Specific Plan that are applicable to public services for non-housing development. 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. Since there are no applicable recommendations, analysis, and implementation measures within the Soledad Mountain Elephant Butte Specific Plan for non-housing development, refer to the applicable policies, goals, and implementation measures of the Kern County General Plan above.

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 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 of Arvin, Bakersfield, California City, Delano, Maricopa, Ridgecrest, Shafter, Taft, Tehachapi, and Wasco. The Plan also covers 49 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 5 years (County of Kern, 2021).

Kern County Fire Code

Chapter 17.32 of the Kern County Municipal Code details the Kern County Fire Code, which adopts the 2022 California Fire Code and the 2021 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 to provide for the issuance of permits and collection of fees therefore (County of Kern, 2022).

Kern County Fire Department Unit Strategic Fire Plan

The KCFD Unit Strategic Fire Plan, adopted in April of 2022, is the most current document that assesses wildland fire 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 identify 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 2021, included completion of a number of fuel reduction projects, the establishment of wildland fire facility "Camp 8," and establishment of a seasonal type 6 engine within Battalion 8's service area. The Plan gives an overview of KCFD Battalions and identifies the areas of SRA that each Battalion covers. 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 fire hazard severity zone within the Tehachapi fire plan management area (KCFD, 2022).

Fire Prevention Standard No. 503-507 Solar Panels

The KCFD Fire Prevention Division adopted Standard No. 503-507 Solar Panels (Ground Mounted, Commercial) on April 8, 2021. The standard is implemented in accordance with the 2019 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, and access of support emergency vehicles (KCFD, 2021).

California State Legislature Active Solar Energy Exclusion

The State of California has provided reduced property taxes for the solar industry. No other industry has this type of property tax reduction outside a local government providing a specific incentive of a development project.

The California Franchise Tax Board's website outlines that the property tax incentive for the installation of an active solar energy system is in the form of a new construction exclusion, which is not an exemption. The installation of a qualifying solar energy system will not result in either an increase or a decrease in the

assessment of the existing property. The California Franchise Tax Board's website states: "Generally, when something of value is physically added to real property, the addition is assessed at current market value and this value is added to the existing base year value of the real property. When an active solar energy system is installed, it is not assessed, meaning that the existing assessment will not increase" (California State Board of Equalization, 2020).

The value of the underlying land with some improvements, such as operations and maintenance buildings and battery storage, are assessed, but the solar panels and majority of equipment are not. Effective June 20, 2014, the sunset date for the active solar energy system new construction exclusion was extended through the 2023-24 fiscal year; however, the statute is now scheduled to sunset on January 1, 2025. The Kern County Assessor has calculated that the estimated lost annual revenue to the County General Fund from the existing large-scale commercial scale solar projects already built is $19,924,000 (Kern County Planning and Natural Resources Department, 2020); they currently pay $1,511,000.

This revenue is only the funding that would normally go to the General Fund to pay for public services and facilities that maintain quality of life for communities and residents in unincorporated Kern County. The Kern County 2021-2022 Recommended Budget details the General Fund, which funds many County operations, as totaling $776.2 million, a decrease of $106.9 million, or 12.10 percent from the 2020-2021 budget.

4.14.4 Impacts and Mitigation Measures

Methodology

The methodology used to evaluate potential public services impacts includes the following: (1) evaluation of existing fire and police services and personnel for the fire and law enforcement stations serving the project site; (2) determination of whether the existing fire and law enforcement 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 police station(s) to operate beyond service capacity. The determination of the significance of the proposed project on fire protection and emergency medical and police 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 would 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 governmental facilities, 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:*

   i. *Fire Protection*

   ii. *Police Protection*

   iii. *Schools*

   iv. *Parks*

   v. *Other Public Facilities*

Project Impacts

Impact 4.14-1: Would the Project result in the 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 construction peak workforce is conservatively assumed to be approximately 800 workers, and the average daily workforce of approximately 475 construction, supervisory, support, and construction management personnel (despite actual projections being closer to 250 workers per day). The presence of construction workers at the project site would be temporary, during the approximately 28-month construction period. The project includes the development of a 600 megawatt (MW) photovoltaic solar energy generation facility with up to 4 gigawatt-hours (GWh) of battery energy storage capacity on approximately 2,320 acres of privately-owned land in unincorporated Kern County, California. As determined by the County, the project site is not within an area of high or very high fire hazard (CAL FIRE, 2007a and 2007b).

Fire protection requirements are based on the number of residents and workers in the KCFD primary service areas. Service demand is primarily tied to population, not building size, because emergency medical calls typically make up the majority of responses provided by the fire department. As the number of residents and workers increases, so does the number of emergency medical calls. There are no residential uses proposed as a part of the project. Therefore, no residents would occupy the project site and an increase in service demands as a result of an increase in residential uses would not occur.

Service demands as a result of personnel onsite would occur during construction of the proposed project. Typically, service demands per employee are less than service demands per resident. Nevertheless, the addition of construction personnel on the project site would result in an increase in demand for fire

protection services. While this would be an increase above existing levels, the presence of construction workers on site would be temporary, as the construction period for the proposed project would last approximately 28 months.

While construction of the proposed project would increase the number of people on the project site, the increase would be temporary and would therefore not substantially increase the service demand for fire protection services in Kern County. In addition, the project site is not located within an area of high or very high fire hazard, as determined by the County (County of Kern, 2009) and CAL FIRE (CAL FIRE, 2007a and 2007b). The project also would be required to implement a fire safety plan, as stated in Mitigation Measure **MM 4.14-1**, below. 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 current California Fire Code and Kern County Fire Code. The plan would be used throughout the construction period, as well as during operations, and would include emergency fire precautions for vehicles and equipment as well as implement fire rules and trainings so temporary employees are equipped to handle fire threats. Given the temporary nature of the project's construction phase and with implementation of MM 4.14-1, impacts to fire protection services and facilities during project construction would be less than significant.

Operation

Operations staff for the proposed project would primarily be located at an offsite facility. However, small satellite portable office trailers may be placed onsite to facilitate rapid repair of equipment. These portable trailers may include a small storage yard for spare equipment storage. It is anticipated that approximately six permanent full-time staff employees would be needed to maintain the facility. Additional employees would only visit the project site for short periods of time to conduct certain maintenance activities such as panel washing. 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, which would reduce fire risks onsite. In addition, all project facilities will be designed, constructed, and operated pursuant to the current California Fire Code and Kern County building code requirements such that fire hazards are reduced and/or avoided.

The proposed project includes an energy storage facility that would have a fire rating in conformance with current County and California Building and Fire Code standards. The energy storage facility would include specialized fire suppression systems installed for the battery rooms to minimize fire risk. In accordance with Mitigation Measure MM 4.14-1, a fire safety plan would be prepared to ensure the energy storage facility is constructed and operated in accordance with current County and California Building and Fire Code standards that will minimize potential impacts to public services and associated fire hazards.

The proposed project would also be required to implement Mitigation Measure **MM 4.14-2**, which would require the project operator to pay a Kern County Cumulative Impact Charge (CIC) annually to provide funding for the County budget for services that are not funded due to the State of California Active Solar Energy Exclusion provision on property taxes, which the county would otherwise receive for services and facilities, thereby supporting a prosperous economy and assuring the provision of adequate public services and facilities. In addition, if the project is sold to a city, county, or utility company with assessed taxes that total less than $3,000 per MW per year, then that entity shall pay the taxes plus the amount necessary to equal the equivalent of $3,000 per MW. The amount shall be paid for all years of operation, through implementation of Mitigation Measure **MM 4.14-3**. Through implementation of Mitigation Measure **MM 4.14-4**, 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. With implementation of Mitigation Measures MM 4.14-1 through MM 4.14-4, any potential operational impacts on public services would be reduced. The project would not result in the need for new or physically altered KCFD facilities and 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 Mojave Substation is located approximately 1 mile northwest of Site 2 (Western) and would provide primary law enforcement services to the project site. Similar to fire protection services, the need for sheriff protection services would increase during construction of the proposed project.

The project site is located in a relatively remote location surrounded by undeveloped land and sparse rural residential development and is unlikely to attract attention that would make project facilities susceptible to crime. Therefore, a large increase for KCSO services is not expected. Construction activities may temporarily increase traffic volumes along SR-58 and SR-14 during the project construction period. However, the added traffic associated with workers commuting to the project site, haul routes, deliveries, and other project-related traffic would be temporary and, therefore, would not have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways.

Additionally, fences would be installed around the perimeter of each site, substation, and other areas requiring controlled access, for safety and security purposes. All fence installation requirements would be evaluated and the best-fit scenario would be incorporated in the project site based on the County's final determination. The fencing would remain for the life of the project.

While construction of the proposed project would increase the number of people on the project site, the increase would be temporary and negligible and, thus, would not substantially increase the service demand for police protection services in Kern County. Therefore, new or physically altered KCSO or CHP facilities would not be required to accommodate the limited increase in needs from the project during construction and impacts to police services are less than significant.

Operation

Project operation could attract vandals or present other security risks. 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 security fencing around the perimeter of each site and other areas, which would require controlled access and include motion-sensitive security cameras, would minimize the need for sheriff surveillance and response during project operation. Furthermore, all facility personnel, contractors, agency personnel, and visitors would be logged in and out of the facility during normal business hours. 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, *Transportation*, for more details). Therefore, impacts to the CHP patrol are not anticipated. In addition, as part of Mitigation Measures MMs 4.14-2 through **4.14-5**, the project operator would be required to pay a Kern County a cumulative impact charge to compensate for any potential permanent impacts to all public services provided by Kern County General Fund (including law

enforcement services) resulting from operation of the proposed project. With implementation of these mitigation measures, impacts would be less than significant.

Schools/Parks/Other Facilities

Construction

The peak construction workforce for the project would include 800 workers, with an average daily workforce of 475 workers during the project construction period. Most of the construction workforce is expected to live in the region and would commute to the site from various local communities where their children are enrolled in school. Even if workers came from out of the area, they would likely return to their out-of-town residences once the facilities were built and would not take their children out of their current schooling. If temporary housing should be necessary for construction workers, sufficient accommodations are expected to be available in the nearby hotels in Rosamond, Mojave, Lancaster, or other local communities. Therefore, it is not expected that a substantial temporary increase in population would occur that would adversely affect local school populations, park facilities, or local public facilities, such as post offices, courthouses, and library services. As a result, no significant impacts to schools, parks, or other public services are anticipated to occur as a result of project construction.

Operation

Operation of the project would have up to six permanent onsite staff. Employees would likely commute to the project site from their existing permanent residences in the surrounding communities; however, even if the maintenance employees were hired from out of the area and had to relocate to eastern Kern County, the resulting addition of potential families to this area would not result in a substantial increase in the number of users at local schools, parks, or other public facilities. Thus, no significant impacts to schools, parks, or other public services are anticipated to occur as a result of project operations.

Mitigation Measures

Mitigation Measures MM 4.14-1 through MM 4.14-5, as described below, would be implemented.

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.

g. Building plans shall be included for the energy storage system to verify adherence to Kern County and California Building Code standards.

MM 4.14-2: The following Cumulative Impact Charge (CIC) shall be implemented as an annual payment due every year for the life of the project, or as a lump sum payment for multiple years, until the project is decommissioned and the Conditional Use Permit is voided.

a. Submittal of Building Permit

1. Any building permit submitted shall be accompanied by a map and legal description of the entire approved Conditional Use Permit area.

2. The map shall calculate the CIC net acreage as follows:

A. Total gross acreage of the approved Conditional Use Permit.

B. Total acres for operations and maintenance building and permanent accessory improvements.

C. Total acres for energy storage structure and permanent accessory improvements if full reassessed property taxes paid.

D. Total acres of recorded easements.

3. Formula: Net Acreage = 2.A minus the sum of [2.B + 2.C + 2.D].

4. Temporary storage areas or non-permanent commercial coaches or cargo containers for construction or operations are not eligible for inclusion under 2.B or 2.C, above.

5. All areas of buildings, accessory improvements, and easement used in the calculations shall be shown on the submitted Map.

b. Calculation of CIC and annual payment:

1. A payment of $550 per net acre shall be paid annually for all acres in the approved Conditional Use Permit regardless of phased implementation of building permits, the total number of building permits, or type of building permit issued.

2. The first payment is due upon issuance of the first building permit. If it is not paid within 30 days after issuance of the first building permit, all such permits shall be suspended until the fee is paid in full.
3. Annual payments are due every year on the date of the first building permit issuance.
4. Payments shall be made to the Planning and Natural Resources Department for transfer directly to the County Administrative Office Fiscal Division (CAO) and labeled CIC with the project name, location and APNs.
5. Any acres denoted for an operation and maintenance building or energy storage that is not built, cannot be used for solar panels unless payment is provided for the CIC.
6. An advance payment option for a lump sum of all payment years, or a reduction in each year's payment for 5 or more years, may be requested by submittal of a written request to the Planning and Natural Resources Department with details of the offer no later than 60 days before the yearly payment is due. A 10 percent discount in the lump sum amount will be applied if the advance payment option is accepted by the County Administrative Office (CAO) Fiscal Division by written response.

MM 4.14-3: 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 $3,000 per megawatt per year, then a Supplemental Cumulative Charge (SCIC) shall be paid for the difference annually up to $3,000 per megawatt. The SCIC payments shall be made annually directly to the County Administrative Office (CAO) Fiscal Division and labeled "Supplemental Cumulative Impact Charge (SCIC)" with the project name and phase number.

MM 4.14-4: 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.

MM 4.14-5: Prior to the issuance of any building permits on the property, the project operator shall submit a letter detailing the hiring efforts prior to commencement of construction, which encourages all contractors of the project site to hire at least 50 percent of their workers from local Kern County communities. The project operator shall provide the contractors a list of training programs that provide skilled workers and shall require the contractor to advertise locally for available jobs, notifying the training programs of job availability, all in conjunction with normal hiring practices of the contractor.

Level of Significance after Mitigation

With the implementation of Mitigation Measures MM 4.14-1 through MM 4.14-5, impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

Southern California Edison (SCE) will relocate an existing 66 kilovolt transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the transmission line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. It is anticipated that relocation of SCE's transmission line will be completed in four months using up to 50 construction workers per week. SCE's interconnection work will take between 3 and 8 months to complete using approximately 30 to 40 workers per week. As above, most of the construction workforce is expected to live in the region and would commute to the site from various local communities. Given the limited number of workers and the short-term construction period, realignment of the SCE transmission line and the SCE interconnection work would not require new or physically altered governmental facilities. Therefore, impacts to public services as result of the SCE work would be less than significant.

4.14.5 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 study area is based on the service area for each of the fire, sheriff, and other governmental offices/facilities serving the project site. Since the proposed project would not induce population growth in the area, project implementation would not result in the need to construct new, or physically alter or expand, existing sheriff's office and fire protection services. In addition, the proposed project would not impede the effective operation of these services.

As discussed above, fire and sheriff service impacts related to the proposed project would be less than significant with mitigation, while impacts to schools, parks, and other local facilities 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 Measures MM 4.14-2 through MM 4.14-5 require the project proponent to pay a CIC and sales tax from construction of the proposed project to reduce potentially significant impacts to all public services provided by the Kern County General Fund (including fire and law enforcement services). Implementation of Mitigation Measures MM 4.14-2 through MM 4.14-5 would also prevent the decline of services in unincorporated

communities that result in physical impacts on neighborhoods. Such cumulative impacts include an increase in vandalism on public spaces such as parks, lack of maintenance of roads and park facilities, abandoned vehicles and buildings, trash abandonment on private property and lack of funding for code enforcement of regulations for public health and safety, lack of services for homeless prevention programs, as well as lack of services and facilities for elder, adolescent, and child health safety services and general mental health facilities. Mitigation Measures MM 4.14-4 through 4.14-5 would also address potential impacts related to public services. Implementation of these mitigation measures would require the project proponent to pay certain assessed taxes, work with the County to determined how sales and use taxes from project construction can be maximized, and provide a letter detailing efforts encouraging contractors to hire at least 50 percent of works from local Kern County communities. With implementation of these mitigation measures, impacts from the proposed project's cumulative contribution to the decline of services would be appropriately mitigated.

Incorporation of Mitigation Measures MM 4.14-1 through MM 4.14-5 would reduce proposed project impacts to a less-than-significant level. In addition, the application of similar mitigation at all other past, present, and reasonably foreseeable future projects located within these fire and sheriff service areas would reduce cumulative impacts to a less than significant level. Therefore, the project would not be a cumulatively considerable contributor to significant cumulative impacts related to public services with the incorporation of MM 4.14-1 through MM 4.12-5.

Mitigation Measures

Implementation of Mitigation Measures MM 4.14-1 through MM 4.14-5 would be required.

Level of Significance after Mitigation

With the implementation of Mitigation Measures MM 4.14-1 through MM 4.14-5, cumulative impacts would be less than significant.

Section 4.15
Transportation

4.15.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for transportation. It also describes potential transportation impacts that could result from implementation of the project, and mitigation measures that would reduce these impacts, if applicable. Information in this section is based primarily on the *Transportation/Traffic Assessment Memorandum* (Jacobs, 2023), which was prepared by Jacobs Engineering Group (Jacobs), located in Appendix L of this EIR and incorporated by reference herein.

4.15.2 Environmental Setting

The project is located on approximately 2,320 acres in the southeastern portion of Kern County, directly south of the unincorporated community of Mohave, 9.5 miles southwest of the unincorporated community of California City, 10 miles north of the unincorporated community of Rosamond, and 16 miles southeast of the city of Tehachapi. 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 circulation system are discussed below and shown on **Figure 3-1**, *Regional Vicinity*, in Chapter 3, *Project Description*, of this EIR. The project and project site are defined in Chapter 3, *Project Description* and depicted on **Figure 3-2**, *Local Vicinity.*

Regional Setting

Major Highways

The project site is located near two major highways that would provide access to the general vicinity of the proposed project during the construction and operation phases. Portions of the project site are adjacent to State Route (SR)-58 (SR-58) and SR-14.

SR-14 is a divided highway that runs parallel to Interstate 5 (I-5) in the eastern portion of Kern County, providing regional access to the project site. SR-14 connects Santa Clarita (Los Angeles County) and Inyokern (Kern County). SR-14 is a four-lane divided freeway with grade-separated interchanges at Backus Road and Silver Queen Road and at-grade intersection with Camelot Boulevard and Purdy Avenue near the project site.

SR-58 is an east-west divided highway that provides regional access to the project site. SR-58 connects San Luis Obispo County and San Bernardino County. SR-58 bypasses Mojave, but a connector, Business West Route 58, intersects SR-14 northwest of the project site. In the project vicinity, SR-58 is a four-lane divided freeway north of Site 3 (Eastern) with an at-grade intersection from which Site 3 (Eastern) can be accessed.

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, for more information on the State Scenic Highway Mapping System. The closest Eligible Scenic Highways are SR-14 north of SR-58, located approximately 5 miles north of the project site, and SR-58 east of SR-14, located adjacent to portions of the project site (Caltrans, 2019).

Prominent views along SR-14 and SR-58 adding to the scenic elements in the landscape for motorists include panoramic views of the open Mojave Desert 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 that 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.

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 Frazier Park, Kern River Valley, Lamont, Mojave, Rosamond, and Tehachapi. The transit system offers intercity service along with local transit service as well as connections to Metrolink in Lancaster. The East Kern Express provides fixed route scheduled services between Bakersfield and Lancaster on SR-58 and SR-14, with stops in the communities of Tehachapi, Keene, Mojave, and Rosamond. No public transit routes pass or stop near the project site.

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. There are no dedicated bicycle facilities in the immediate vicinity of the project site or along the surrounding roadways.

A portion of the Pacific Crest National Scenic Trail (commonly known as the Pacific Crest Trail or PCT) is located approximately 8 miles northwest of the project site.

Railways

There are two mainline railways located near the project site, one operated by the Union Pacific Railroad (UPRR), and the other by the Burlington Northern and Santa Fe Railway (BNSF). The UPRR line runs parallel to SR-14, adjacent to the east of Site 2 (Western), and the BNSF line runs generally parallel to SR-58, but extends between Site 3 (Eastern) and Site 4 (Southern) in the vicinity of the project site.

Airport Facilities

Public and private airports located within a 20-mile radius of the project site are described below.

Mojave Air and Space Port is a public airfield located approximately 0.3-mile north of Site 1 (Northern). This airport has three asphalt runways (with lengths of 3,946, 7,049, and 12,503 feet) and primarily serves general aviation aircraft, with some commercial, air taxi, and military flights also using the facility. In operation since 1940, the airport serves an average of 48 flight operations per day. In 2004, this facility was the first to be certified as a spaceport by the Federal Aviation Administration (FAA).

Rosamond Skypark is a privately-owned and operated residential airport that is open for public use, and is located about 10 miles southwest of the project site. This airport has a 3,600-foot asphalt runway and exclusively serves general aviation aircraft. In operation since 1953, the facility serves an average of 29 flight operations per day.

California City Municipal Airport is a public airfield located approximately 11 miles northwest of the project site. This airport has a 6,000-foot asphalt runway and primarily serves general aviation aircraft, with some military flights also using the facility. In operation since 1963, the airport serves an average of 68 flight operations per week.

Lloyd's Landing Airport is a privately-owned and operated airstrip, located approximately 12 miles to the southwest of the project site. Lloyd's Landing Airport is a private facility with an approximately 1,370-foot dirt runway. The facility receives no regular scheduled flights and is not publicly accessible.

Edwards Air Force Base is a military base whose airstrip located approximately 11.5 miles southeast of Site 4 (Southern). The base is owned and operated by the U.S. Air Force (not open to public use), and includes three runways that range in length from 8,000 feet to 12,000 feet and that are paved with concrete or asphalt. The base covers more than 301,000 acres, and also includes additional landing areas on the hard packed surface of the Rogers Dry Lake and Rosamond Dry Lake. The base also supports the U.S. space shuttle program as a backup landing site.

General William J. Fox Airfield is a public airfield located about 19 miles southwest of the project site. This airport has a 7,200-foot asphalt runway and serves general aviation aircraft, limited scheduled cargo service, and U.S. Forest Service aircraft. In operation since 1959, the airfield serves an average of 224 flight operations per day.

Mountain Valley Airport is a private airport that allows public access located approximately 19 miles northwest of the project site. The airport has two runways, each 4,890 feet long, and primarily serves general aviation aircraft, with some military flights also using the facility. In operation since 1968, the airport serves an average of 137 flight operations per day.

Local Setting

Site Access

The site can be accessed from various separate roadways. I-5 is the largest highway that would provide regional access to the site from the north and the south, along with SR-14, SR-58 (including Business Route 58), and SR-138. Design and construction would adhere to applicable Kern County and Caltrans requirements and guidelines, and all necessary permits, such as encroachment permits, will be obtained. Access roads would be up to 25 feet wide and would be cleared and compacted for travel and access to the solar blocks. The site access roads would remain in place for ongoing operations and maintenance (O&M) activities after construction is completed.

Site access for each of the five non-contiguous site locations are described below and shown on **Figure 4.15-1**, *Project Access – East*, and **Figure 4.15-2**, *Project Access – West*.

Site 1 (Northern)

Construction-related traffic traveling to/from Site 1 would use Business Route 58. Project traffic would exit Business Route 58 via an existing deceleration lane located east of its intersection with Lone Butte Road

and access Site 1 directly through site access gates at Access Point A (as shown in **Figure 4.15-1**, *Project Access – East*). An optional, alternative access from Business Route 58 is off Lone Butte Road headed south, then east to Site 1 through adjacent parcels south of Site 1 via a private access easement to be granted from the Sanborn 2.0 Solar Project to the Enterprise Solar Storage Project; both of which are owned by the project proponent.

Site 2 (Western)

Construction-related traffic traveling to/from Site 2 would use SR-14 and its intersection with Camelot Boulevard at Access Point B, or its intersection with Purdy Avenue at Access Point C. Project traffic would then travel west to site access gates located along Camelot Boulevard and/or along Purdy Avenue, as shown in **Figure 4.15-1**, *Project Access – East*. Access to Site 2 off Purdy Avenue would utilize an existing private access and transmission line easement with Antelope Valley East Kern (AVEK) Water Agency.

Site 3 (Eastern)

Construction-related traffic traveling to/from Site 3 would use 10th Street via Business Route 58 at Access Point D. Project traffic would travel along Business Route 58 to E. Proteus Road. From E. Proteus Road, traffic turns west at E. 20th Street to the cul-de-sac and finally south off of the cul-de-sac to 10th Street to access the site and the adjacent temporary laydown yards. Site 3 and the adjacent off-site laydown areas would be accessed through gates located along the alignment of 10th Street as shown in **Figure 4.15-1**, *Project Access – East*. Encroachment Permits from Caltrans and/or Kern County will be obtained, if required.

Site 4 (Southern)

Construction-related traffic traveling to/from Site 4 would use SR-14 and the following series of roads and easements from northwest to southeast to access Site 4:

- Purdy Avenue,
- United Street,
- Silver Queen Road,
- An existing private easement,
- A future private easement through adjacent parcels to the west of Site 4

Access to the northeastern portion of Site 4 would be via an existing private access and transmission line easement as well as a crossing agreement with AVEK Water Agency at Access Points F and G, also as shown in **Figure 4.15-1**, *Project Access – East*. Site 4 would be accessed through gates at Access Point E at the end of a future, private easement (granted from the Sanborn Solar Project to the Enterprise Solar Storage Project, both of which are owned by the project proponent), as shown in **Figure 4.15-1**, *Project Access – East*.

Site 5 (Step-up Substation)

Construction-related traffic traveling to/from Site 5 would use Oak Creek Road. Project traffic would travel along Oak Creek Road to Access Point H as shown in **Figure 4.15 2**, *Project Access – West*.

Gen-Tie Line

Construction-related traffic traveling to/from the gen-tie line would use SR-14 and its intersection with Purdy Avenue. Construction-related activities would occur both east and west of SR-14 along Purdy Avenue and along Oak Creek Road.

Traffic Analysis

Trip generation estimates were developed for project construction and operation based on the expected number of workers, delivery truck, and onsite trucks. These estimates include both average daily traffic (ADT) and peak hour (AM and PM) volumes.

Pursuant to Senate Bill (SB) 743, the focus in evaluating transportation impacts under the California Environmental Quality Act (CEQA) has shifted from traffic delays (Level of Service [LOS]) to total vehicle miles traveled (VMT) (OPR, 2018). The intent of SB 743 is to align transportation impacts under CEQA with the State's overall goals of increasing long-term sustainability by encouraging infill development, increasing reliance on mass transit, and reducing greenhouse gas (GHG) emissions. The VMT analysis focuses on automobile and light-duty truck trips, although heavy duty truck trips can be included in the analysis for convenience (OPR, 2018). An evaluation of VMT related to project construction and operation was conducted based on the guidelines implementing CEQA (CEQA *Guidelines*). Construction trips typically are not analyzed in a VMT analysis because they are temporary and would not impact overall per capita VMT in the region.

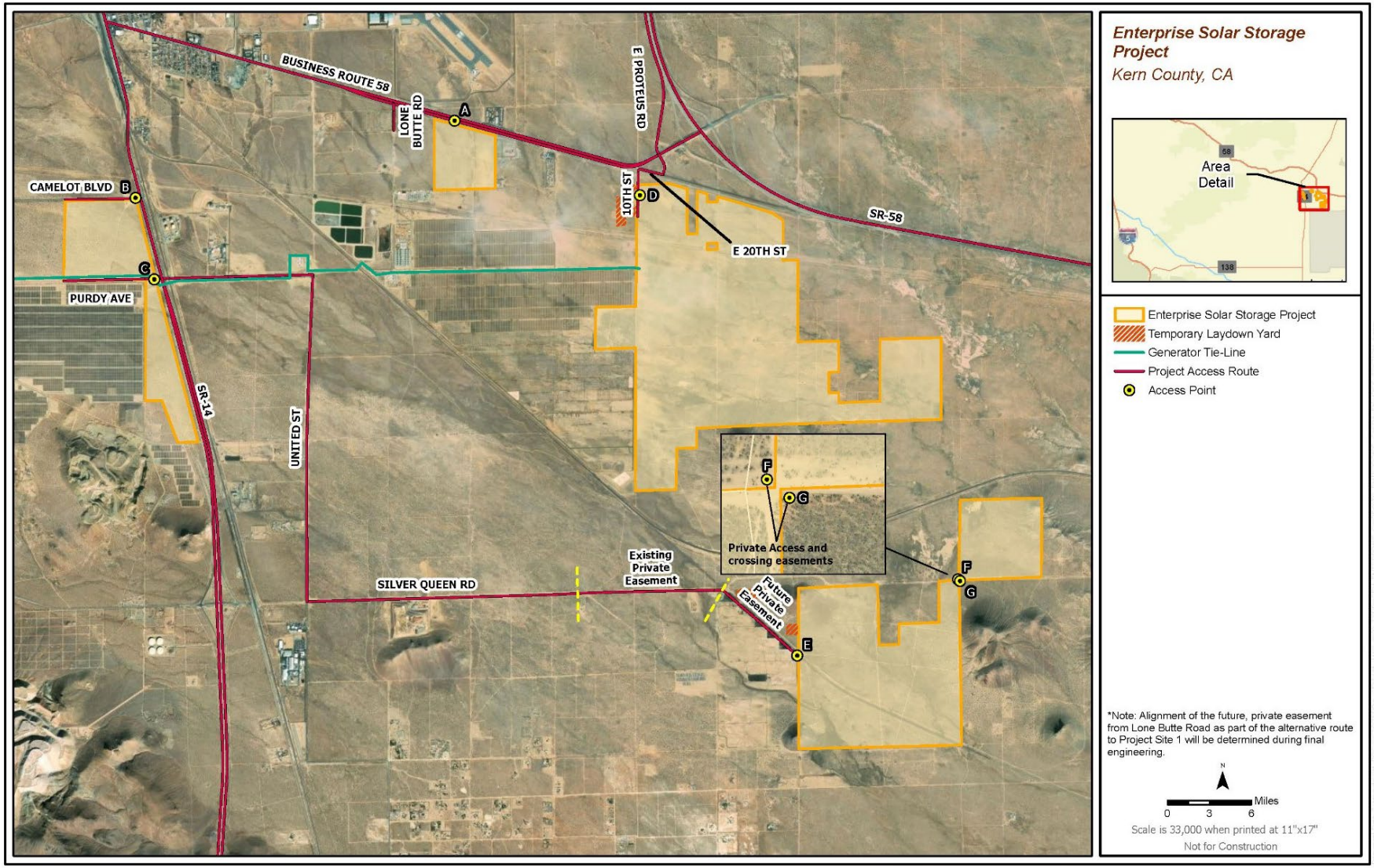


Figure 4.15-1 Project Access – East

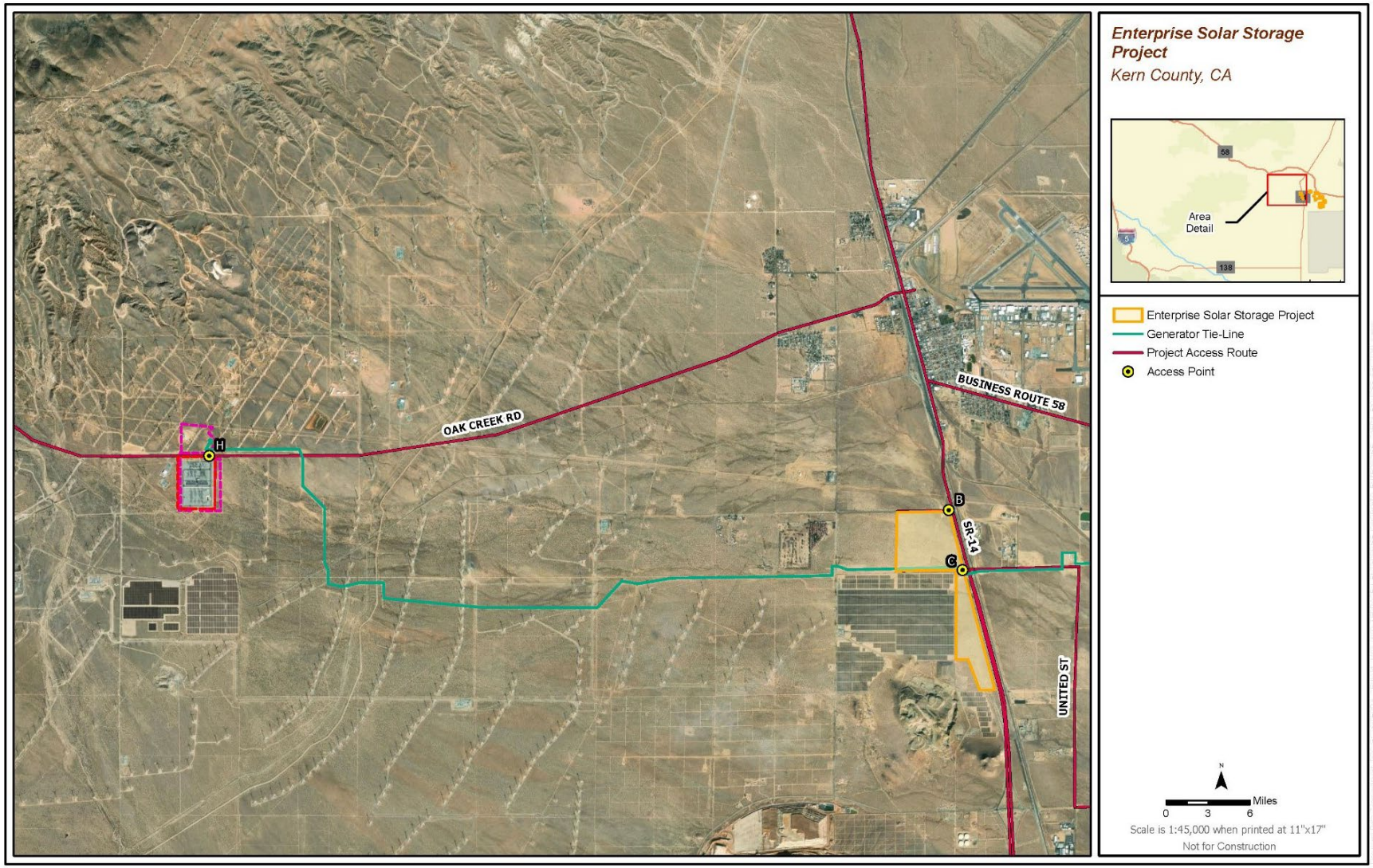


Figure 4.15-2 Project Access – West

4.15.3 Regulatory Setting

Federal

Federal Aviation Administration

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

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 Caltrans regulations below apply to potential transportation and traffic impacts of the project.

California Vehicle Code (CVC), 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).

California Environmental Quality Act

Senate Bill 743. Codified in PRC Section 21099, SB 743 required changes to the CEQA *Guidelines* (CCR, Title 14, Div. 6, Ch. 3, § 15000 *et seq*.) regarding the analysis of transportation impacts. Pursuant to PRC Section 21099(b)(1), the criteria for determining the significance of transportation impacts must "promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses." (See adopted CEQA *Guidelines* Section 15064.3(b), Criteria for Analyzing Transportation Impacts). To that end, in developing the criteria, the Governor's Office of Planning and Research (OPR) proposed, and the California Natural Resources Agency certified and adopted, changes to the CEQA *Guidelines* that identify VMT as the most appropriate metric to evaluate a project's transportation impacts. With the California Natural Resources Agency's certification and adoption of the changes to the CEQA *Guidelines*, automobile delay, as measured by "level of service" and other similar metrics, no longer constitutes a significant environmental effect under CEQA (PRC Section 21099(b)(3)).

California Environmental Quality Act Guidelines Section 15064.3, subdivision (b). Describes specific considerations for evaluating a project's transportation impacts. Generally, VMT is the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) regarding roadway capacity projects, a project's effect on automobile delay shall not constitute a significant environmental impact.

Local

Construction and operation of the project would be subject to policies and regulations contained within the County's general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and the Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to transportation. The policies, goals, and implementation measures in the Kern County General Plan related to 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 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.

Kern County General Plan

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. The 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 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 Measures

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 COG's CMP.

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 the Kern COG as the County's Congestion Management Agency (CMA).

Policy 2: The CMA is responsible for developing, adopting, and annually updating a CMP. The CMP is to be developed in consultation with, and with the cooperation of, the regional transportation agency (also the Kern COG), regional transportation providers, local governments, Caltrans, and the air pollution control district.

Implementation Measures

Measure A: The Kern COG 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: Caltrans should be made aware of the heavy truck activity on Kern County's roads.

Policy 2: A program that monitors truck traffic operations.

Policy 3: Promote a monitoring program of truck lane pavement condition.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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. The goal, policies, and implementation measures in the Mojave Specific Plan for traffic and transportation applicable to the project are provided below. The Mojave 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 Mojave Specific Plan are incorporated by reference.

Chapter 6. Circulation Element

Goal

Goal 1: Provide for adequate circulation to support future growth.

Objective

Objective 6.1: Provide adequate transportation facilities to serve area residents and commercial and industrial businesses.

Policies

Policy 6.1.1: Provide and maintain a circulation system that supports the types and intensities of land use in Mojave.

Policy 6.1.4: With the exception of State highways, all roadways and rights-of-way shall be constructed to Kern County Development Standards. State highways shall be constructed to Caltrans standards.

Policy 6.1.6: Coordinate with developers for the improvement of local streets in conjunction with an approved phased development, subject to approval of the Roads Department in accordance with the Kern County Land Division Ordinance and Kern County Development Standards.

Policy 6.1.8: Maintain a minimum service level of "D" or better on Circulation Element roadways. Maintain a minimum service level of "C" or better on Caltrans roadways.

Policy 6.1.9: Require new development to contribute to the financing of roadway improvements, including, lighting, roadway, railroad crossings, and traffic signals required to meet the demand generated by the project.

Policy 6.1.13: Roadways for new development shall be developed in accordance with Kern County Development Standards.

Policy 6.1.14: Final driveway access locations and design shall be determined through acquisition of an encroachment permit from the Kern County Roads Department at the time development occurs.

Implementation Measures

Implementation Measure F-4: As a part of discretionary permit approval, plans should be reviewed for street improvements, including landscaping and lighting. Where necessary, require establishment of a County Service Area (CSA) to maintain lighting and landscaping adjacent to County roads.

Implementation Measure F-12a: New development projects will have conditions of approval applied requiring construction of roadway improvements, dedications, and/or payment of in-lieu fees to provide circulation system improvements consistent with the Specific Plan Circulation Element.

Implementation Measure F-12d: No development or building permit will be approved unless the County finds that adequate circulation system capacity exists or can be made to exist to accommodate the demands of the use/development proposed.

Implementation Measure F-12e: A traffic analysis shall be submitted with any submittal of a precise development plan, division application, or zone change that implements the plan, and/or conditional use permit. The traffic analysis shall provide a trip generation for all vehicular traffic, the necessary improvements to the existing circulation system and the project's pro-rata share of signalization, and improvements on Kern County and the State Department of Transportation network. The traffic analysis shall be reviewed and approved by the Kern County Roads Department and the State Department of Transportation. Recommendations, as approved by the Roads Department, shall become conditions of approval. This requirement may be waived by the Roads Department, in conjunction with the State Department of Transportation.

Implementation Measure F-12f: Amendments to the Plan shall require preparation of a traffic study, including site-specific and regional current traffic counts for review and approval by the Roads Department and the State Department of Transportation. Recommendations for regional improvements and development contribution to maintain adopted Levels of Service shall be included.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan addresses issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. The goal, policy, and implementation measures in the West Edwards Road Settlement Specific Plan for traffic and transportation applicable to the project are provided below. The West Edwards Road Settlement 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 West Edwards Road Settlement Specific Plan are incorporated by reference.

Chapter 2. Circulation Element

Goal

Goal 2.1.13: To promote adequate road improvement standards for all new developments.

Policy

Policy 2.1.3.1: When development occurs, street rights-of-way shall be improved and dedicated to the County in accordance with all applicable County standards and ordinances.

Implementation Measures

Implementation Measure 2.1.4.1: Streets shall be improved to Type A Subdivision Standards as a requirement for a conditional use permit, final map subdivision, or parcel map.

Implementation Measure 2.1.4.2: The developer shall be responsible for the construction of street improvements in accordance with the Kern County Land Division Ordinance.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. The recommendations, analysis, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan for traffic and transportation applicable to the project are provided below. The Soledad Mountain Elephant Butte Specific Plan contains additional recommendations, analysis, 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 Soledad Mountain Elephant Butte Specific Plan are incorporated by reference.

Item 1. Location & Extent of Existing Streets

Recommendation - All roads shall be maintained as they now exist. An O.P. line shall be established for a 110-foot right-of-way along the general alignment of Silver Queen Road from the State Route 14 interchange to the South line of Section 12, T.10N, R.13W., S.B.B.6M.

Analysis - Silver Queen Road may be expected to carry a substantial volume of traffic as future development occurs due to its geographic location and full interchange at State Route 14.

Implementation - The County Surveyor and Road Commissioner to furnish data necessary to compile maps by the Planning Staff; hearings to be held in accordance with effective laws.

Item 4. Proposed Local Streets

Recommendation - Location, extent and improvement of local streets should be reviewed during consideration of tentative subdivision or parcel maps.

Analysis - Since the parcel map procedure has all but replaced subdivisions in eastern Kern County, review of such maps should include requests for reservation of easements for future local street alignments.

Implementation - Compliance with applicable Sections of the Subdivision of Land Ordinance.

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 (COG) refers to its congestion management activities as the CMP. The Kern COG was designated as the CMA.

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 LOS performance standards and air quality improvement. The program attempts to link land use, air quality, transportation, and 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 July 21, 2022. The 2022 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 2022 RTP is the Sustainable Communities Strategy (SCS), which is required by California's Sustainable Communities and Climate Protection Act, of SB 375. The California Air Resources Board (CARB) set targets for Kern's GHG emissions reductions from passenger vehicles and light-duty trucks at 9 percent per capita by 2020 and 15 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 closely coordinated the RHNA and RTP/SCS development process using the same oversight committee for both. Local jurisdictions will use the RHNA to identify locations to 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 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 the community's future.

The 2022 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 may be considered reasonably available over the time horizon of the RTP/SCS. This RTP promotes a more efficient transportation system that calls for fully funding alternative transportation modes, while emphasizing transportation demand and transportation system management approaches for new capacity (Kern COG, 2022).

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 between airports and surrounding land uses. As noted above in Section 4.15.2, *Environmental Setting*, the proposed project is located within 20 miles of three public airports, three private airstrips, and one military base. The project site is located within the Airport Influence Area of the Mojave Air and Space Port, and would therefore be subject to review by the East Kern Airport District to ensure conformance with any designated restrictions (e.g., building height, glare, electrical interference).

4.15.4 Impacts and Mitigation Measures

Methodology

The proposed project's potential impacts to transportation have been evaluated using a variety of resources, including the *Transportation/Traffic Assessment Memorandum* (Jacobs, 2023) prepared for the proposed project, which is attached as Appendix K of this EIR. Traffic impacts from implementation of the proposed 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.

An evaluation of VMT related to project construction and operation was conducted based on the CEQA *Guidelines Section 15064.3(b)*. Construction trips typically are not analyzed in a VMT analysis because they are temporary and would not impact overall per capita VMT in the region.

Project Trip Generation, Distribution, and Assignment

The majority of construction vehicle trips would be associated with construction employees traveling to and from the site during peak hours. Construction personnel are anticipated to travel from the north (i.e., Ridgecrest and Victor Valley area), from the south (i.e., Lancaster and Palmdale area), and from the east (Barstow area). It is assumed that construction staff not drawn from the local labor pool would stay in the local hotels in Rosamond, Mojave, Tehachapi, California City, or other local cities. Thus, workers would not have to travel far or add traffic to roads outside of the vicinity of the project site.

It is anticipated 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 are anticipated to stay in hotels in Rosamond, Mojave, Lancaster, or other local communities. Consistent with the County-approved adjacent Sanborn Solar Project, an average light vehicle occupancy rate of 1.25 was applied to worker trips to account for carpooling of construction personnel, and it was conservatively assumed that workers would arrive during the AM peak hour (for adjacent street traffic) and leave the site during the PM peak hour. It was also assumed that majority of the material delivery trucks and onsite trucks would enter and exit the site during the non-peak hours with approximately 30 percent entering and exiting during the peak hours. Heavy equipment used at the site would not be hauled to and from the project site daily, but would be brought in at the beginning of construction and taken out upon completion of construction.

Approximately 5 percent of the traffic would access the project site from the north (from the Ridgecrest and Victor Valley areas), and approximately 90 percent of the traffic would access the project from the south (Lancaster and Palmdale area). Approximately 5 percent of the traffic would access the project site from the east (Barstow area).

Methodology and assumptions for the traffic assessment included the following:

Construction Trips

Construction traffic for the solar facilities would consist of worker passenger vehicles and heavy trucks delivering parts, equipment, and materials to the project site. Construction of the project is anticipated to last up to 28 months. Construction activities for the project generally fall into three main categories: site preparation; system installation; and testing, commissioning, and clean up. Laydown areas, office trailers and workforce parking would be located within the site or on offsite temporary laydown yards. Construction would primarily occur during daylight hours, Monday through Friday, between 6:00 AM and 6:00 PM; however, some work may occur on Saturday and Sunday, as required, to meet the construction schedule and/or to promote the health and safety of workers. The Kern County Noise Ordinance (Chapter 8.36) limits noise from construction from 9:00 PM and 6:00 AM on weekdays and 9:00 PM to 8:00 AM on weekends when occurring within 1,000 feet of an occupied residential dwelling, except in certain instances. Project construction work would conform to the County's ordinance. Any construction activities that may need extended hours would be coordinated with the County and appropriate agencies before the activity occurs.

It is anticipated that construction employees would use SR-14, SR-58, Oak Creek Road, Purdy Avenue, Camelot Boulevard, Decatur Avenue, Sunset Avenue, Silver Queen Road, 10th Street via East Proteus, and 20th Street E or other local roads as points of ingress/egress to the project site and that, once onsite, they would access various sections via the existing and improved internal network of dirt roads.

Relocation of Southern California Edison's (SCE) 66-kilovolt (kV) transmission line would be completed over a period of approximately four months (of the overall 28-month construction period), using an estimated 50 construction workers per week. Relocation of the 66-kV transmission line would be performed prior to construction of the solar facilities. SCE's interconnection work will take between 3 to 8 months to complete using approximately 30 to 40 workers per week. It is assumed this construction activity associated would use the same access roadways utilized for construction of the solar facilities and interconnection work at Site 5 (Step-Up Substation).

The assessment for project construction is based on the construction activity that generates the highest construction traffic, which is expected to be construction of the solar facilities. The average daily workforce

onsite during construction of the solar facilities is expected to include approximately 475 construction, supervisory, support, and construction management personnel. It is estimated that there would be an average of 267 trucks, a combination of delivery and onsite trucks, that will be traveling to and from the site daily. Trip generation estimates for project construction phase are shown in **Table 4.15-1**, *Construction Passenger Car Equivalent Trip Generation*, under Impact 4.15-1 below.

Operation and Maintenance Trips

O&M of the solar facility would require trucks, forklifts, and loaders for routine and unscheduled maintenance, and water trucks for solar panel washing. The solar facility may require six full-time personnel for operation, maintenance, and security. Additional maintenance and security personnel would be dispatched to the solar facility, as needed. Activities associated with the operation and maintenance of the gen-tie line would be only as needed and are not likely to generate significant daily or peak hour traffic.

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.

A project could 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;*
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.*

Project Impacts

Impact 4.15-1: The project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Construction

To determine construction-related trip generation for the proposed project, the project description and construction staging operations were reviewed to identify construction worker-related trips and system/materials delivery-related trips. The majority of construction vehicle trips to and from the project site would be associated with construction workers and trucks making 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, but because the proposed project does not require intense grading/offsite hauling, the majority of the trips would be associated with construction workers traveling to and from the site during the peak hours. The construction peak workforce is 550 workers, and the average daily workforce onsite during construction is expected to include 250 construction, supervisory, support, and construction management

personnel. However, offsite construction worker trips are conservatively estimated to be a peak of 760 per day (800 workers) and an annual average of 475 per day.

According to Kern County Ordinance Section 8.36.020, all construction shall be limited to the hours of 6 AM to 9 PM on weekdays and 8 AM to 9 PM on weekends. Therefore, construction may occur during AM peak (7 to 9 AM) or PM peak (4 to 6 PM) commute periods on weekdays. However, as is typical with construction activities, trips are anticipated to be distributed over longer AM and PM periods and would not necessarily coincide with the traditional commuting peak periods of 7 to 9 AM or 4 to 6 PM. However, to provide a worst-case scenario, the traffic analysis assumed that all construction workers would arrive at the project site during the AM peak hour and depart the project site during the PM peak hour. The maximum of 117 offsite delivery trucks (trucks delivering materials from offsite locations), and 150 onsite trucks (trucks delivering workers and/or materials between the work areas) were assumed be evenly distributed over the course of the entire workday.

As shown in **Table 4.15-1**, *Construction Passenger Car Equivalent Trip Generation*, construction-related activity associated with the proposed project is forecast to generate (during the peak construction phase overlap) up to approximately 2,362 passenger car equivalent (PCE) vehicle trips. There would be up to an estimated 542 PCE vehicle trips during the AM and PM peak hours.

TABLE 4.15-1: CONSTRUCTION PASSENGER CAR EQUIVALENT TRIP GENERATION

Vehicle Type	Daily Quantity	Daily Trips[a]	AM Peak Hour		PM Peak Hour	
			Inbound	Outbound	Inbound	Outbound
Workers	475	760	380	0	0	380
Delivery Trucks	117	702	36	36	36	36
Onsite Trucks	150	900	45	45	45	45
	Total Trips	**2,362**	**461**	**81**	**81**	**461**

NOTE:
[a] A vehicle occupancy rate of 1.25 was applied to workers; a PCE factor of 3.0 was applied to delivery trucks and onsite trucks.
SOURCE: Jacobs, 2023.

Although project construction would result in an estimated 542 PCE vehicle trips during the AM and PM peak hours, construction traffic would be temporary and would not result in long-term or permanent changes to local roadway conditions. Local roadways in the vicinity of the project site generally are free flowing, with few if any existing delays (Dudek, 2019). Temporary construction traffic would not significantly alter current road conditions. Accordingly, construction of the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including the Kern COG Congestion Management Program, such that the impact would be less than significant. The proposed project would be consistent with the Kern County General Plan; the Mojave, West Edwards Road Settlement, and Soledad Mountain Elephant Butte Specific Plans; as well as countywide, State, and regional transportation plans.

While construction traffic would be temporary and would not impact local free flowing roadway conditions, potential temporary impacts to intersections proposed to be utilized for site access could occur during peak hour construction commute periods. Therefore, the proposed project includes Mitigation Measures **MM 4.15-1** and **4.15-2**, below, which require, among other things, the development of a construction traffic control plan, which would reduce potential impacts to intersections, including the intersection at SR-14 and Purdy Avenue, resulting from temporary construction traffic.

Operation and Maintenance

It is expected that staff will primarily operate from an operations facility that is offsite. However, small satellite portable office trailers may be placed on the project site to help facilitate rapid repair of equipment by a maximum of six permanent staff employees. The solar panel surfaces may be washed seasonally to increase operational efficiency. Panel washing is expected to take 15 days to complete per wash cycle, up to four times per year. Additional staff would be required during panel washing and are expected to be hired from the local community. Trips associated with operation and maintenance would generate a maximum of 12 peak hour trips while panel washing is underway, which are considered negligible in terms of traffic impact. Ongoing maintenance and periodic repair are also anticipated to produce negligible results in terms of traffic impact.

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. These maintenance activities would not generate trips on a regular basis, and the estimated trips by full-time project personnel would generate minimal operational traffic. Trips generated by project operation and maintenance would be substantially lower than the trips generated by project construction, and as stated above, the impact during construction would be less than significant. Operation of the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including the Kern COG Congestion Management Program. The proposed project also would be consistent with the Kern County General Plan; the Mojave, West Edwards Road Settlement, and Soledad Mountain Elephant Butte Specific Plans; as well as countywide, State, and regional transportation plans. Impacts would be less than significant.

Decommissioning

At the end of the project site's operational term, the project operator may determine that the project site should be decommissioned and deconstructed, which would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, state, and county regulations. Decommissioning impacts would be relatively similar to those identified for construction of the proposed project and would be short-term and temporary. Thus, decommissioning of the proposed project would result in a less-than-significant impact and would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including the Kern COG Congestion Management Program. The proposed project also would be consistent with the Kern County General Plan; the Mojave, West Edwards Road Settlement, and Soledad Mountain Elephant Butte Specific Plans; as well as countywide, State, and regional transportation plans.

Transit, Bicycle, and Pedestrian Facilities

There are no dedicated pedestrian or bicycle facilities in the immediate vicinity of the project site or along the surrounding roadways. Due to the rural nature of the project area, bicycle traffic is limited. The project is not located along an existing bus route 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. Therefore, impacts would be less than significant.

Non-Summary Street and Public Access Easement Vacations

The project may also include either a Non-summary Street Vacation to remove roads and public street easements within the proposed solar facility or process a parcel merger in the future that will result in the elimination of the identified public easements. The easements that will be requested to be vacated are shown in **Figure 3-11a** through **Figure 3-11d**, *Street Vacations* in Chapter 3*, Project Description*. There are no street vacations included for Site 5 (Step-Up Substation). The proposed project also includes a General Plan Amendment to the Circulation Element of the Kern County General Plan to remove future road reservations at section and mid-section lines (see **Figure 3-12**, *Circulation Element Amendment*). Several parcels within the project footprint will be merged into larger parcels through a Merger and Re-subdivision Parcel Map. Existing public access easements within those merged parcels will be vacated if no longer needed for legal access (such as Arizona Avenue, Janata Street and Texas Street). Legal access with be provided to the larger merged parcels and all remaining non-merged parcels through existing roadways, road reservations or newly granted public access easements. The road and public access easement vacations would facilitate the optimal layout of solar panels by removing recorded but undeveloped public rights-of-way on vacant land. The project would comply with Kern County General Plan Circulation Section 2.3.6 Vacation of Existing or Recorded Future Streets, Highways, or Public Easements, Goal 2, and Policies 1 through 14 related to the maintenance and coordination of proposed street vacations. The proposed vacations would not restrict the traveling public or neighboring property owners access to areas outside the project boundary. As such, impacts related to the approval of the proposed street and access easement vacations would be less than significant.

The project proponent is requesting vacations of public access easements on the project site to allow optimum placement of solar panels. Detailed vacation requests are listed in **Table 4.15-2,** *Vacations of Existing Public Access Easements,* below.

TABLE 4.15-2: VACATIONS OF EXISTING PUBLIC ACCESS EASEMENTS

Parcel No.	Document	Description	NOTES
427-100-23	Book 6326, Page 375	Easement for ingress, egress and road purposes, to the public in general, and an Irrevocable Offer of Dedication to an easement for ingress, egress and road purposes	As to a portion
427-100-23	Book 6326, Page 371	A temporary easement for ingress, egress and road purposes, to the public in general	
428-140-10, 428-140-11, 428-140-13	Book 5218, Page 1270	Irrevocable Offer of Dedication for ingress, egress and road purposes, to the County of Kern	
428-140-10, 428-140-11, 428-140-12, 428-140-13	Book 5218, Page 1277	Easement for ingress, egress and road purposes, to the public in general	
428-140-10, 428-140-11	Book 5218, Page 1273	Irrevocable Offer of Dedication Easement for drainage purposes, to the County of Kern	
428-162-18, 428-162-19, 428-162-20, 428-162-21	Book 4826, Page 882	Irrevocable Offer of Dedication of an easement for drainage purposes, to the county of Kern	
428-162-13, 428-162-14, 428-162-15, 428-162-16, 428-162-19, 428-162-20,	Book 4826, Page 885	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	

Parcel No.	Document	Description	NOTES
428-162-21, 428-162-22			
428-162-13, 428-162-18, 428-162-19	Book 4826, Page 358	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-162-17, 428-162-18	Book 4902, Page 2305	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-161-01	Book 5842, Page 1400	Easement for ingress, egress and public utility purposes, to the public in general	
428-171-23	Book 4199, Page 607	Non-exclusive easement for ingress, egress, roadways and public utilities, to the benefit and use of the owners, future owners, general public and county for reserved in Grant Deed	
428-173-07, 428-173-09, 428-173-10	Book 4883, Page 2233	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-173-02, 428-173-03, 428-173-05	Book 4883, Page 2235	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-173-07, 428-173-08, 428-173-09	Book 4883, Page 2238	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	
428-173-02, 428-173-03, 428-173-05	Book 4883, Page 2240	Easement for ingress, egress and road purposes, and an Irrevocable Offer of Dedication for road purposes, to the County of Kern	
235-202-13	Book 4254, Page 877	Easement for public road, ingress, egress and public utility to be used in common with others, reserved in Grant Deed	As to a portion
235-204-19, 235-204-20	Book 4924, Page 185	Irrevocable Offer of Dedication for an easement for road purposes, and an easement for ingress, egress and road purposes, to the adjacent property owners and to the public in general	
235-204-20, 235-204-33, 235-204-34	Book 4872, Page 1797	Easement for public road, ingress, egress and public utility to be used in common with others, reserved in Grant Deed	As to a portion
235-204-20, 235-204-21, 235-204-31, 235-204-32	Book 4875, Page 1736	Easement for ingress, egress and road purposes, to the adjacent property owners and to the public in general	As to a portion
235-204-17, 235-204-18, 235-204-19	Book 4879, Page 1229	Easement for public road, ingress, egress and public utility purposes to be used in common with others, reserved in Grant Deed	As to a portion
235-204-17, 235-204-18, 235-204-19	Book 4923, Page 1246	Easement for ingress, egress and road purposes, to the adjacent property owners and to the public in general	As to a portion
235-204-21	Book 4936, Page 1564	Easement for ingress and egress of roads and or public utility purposes to be used in common with others, reserved in Grant Deed	
235-202-07	Book 4954, Page 1164	Non-exclusive easement for ingress and egress and roadway purposes to be used in common with others and for public utilities and incidental purposes, with the right to dedicate same to public use, reserved in Grant Deed	
235-204-09, 235-204-10	Book 5380, Page 2435	Non-exclusive easement for ingress and egress and roadway purposes to be used in common with others and for public utilities and incidental purposes, reserved in Grant Deed	
235-204-21, 235-204-31, 235-204-32	Book 5458, Page 587	Non-exclusive easement for ingress egress, roadways and public utilities, for the benefit and use of the owners, general public, future owners and County, reserved in Grant Deed	As to a portion
235-202-14	Book 5579, Page 2351	Non-exclusive easement for ingress and egress and roadway purposes to be used in common with others and for public utilities and	

Parcel No.	Document	Description	NOTES
		incidental purposes, with the right to dedicate same to public use, reserved in Grant Deed	
235-204-07, 235-204-08	Book 5874, Page 431	Non-exclusive easement for ingress, egress and roadway purposes to be used in common with others and for public utilities and incidental purposes, with the right to dedicate to public use, reserved in Grant Deed	
235-204-41	Book 5706, Page 2191	Irrevocable Offer of Dedication for major highway alignment, to the County of Kern, a non-exclusive public access easement, dedicated to public use, and, upon the determination of need, drainage easements dedicated to the public, as required, per the Conditional Certificate of Compliance	
235-204-40	Book 5706, Page 2193	Irrevocable Offer of Dedication for major highway alignment, to the County of Kern, a non-exclusive public access easement, dedicated to public use, and, upon the determination of need, drainage easements dedicated to the public, as required, per the Conditional Certificate of Compliance	
235-204-39	Book 5706, Page 2195	Irrevocable Offer of Dedication for major highway alignment, to the County of Kern, a non-exclusive public access easement, dedicated to public use, and, upon the determination of need, drainage easements dedicated to the public, as required, per the Conditional Certificate of Compliance	
244-234-29, 244-234-32, 244-234-33	Book 3998, Page 672	Easement for public road and utility purposes to be used in common with others, reserved in Grant Deed	As to a portion
244-234-28, 244-234-29	Book 4822, Page 1015	Easement for ingress, egress and road purposes, to the public in general and adjacent property owners	As to a portion
244-234-29, 244-234-32, 244-234-33	Book 3998, Page 674	Easement for public road and utility purposes to be used in common with others, reserved in Grant Deed	As to a portion

Mitigation Measures

Implementation of Mitigation Measures MM 4.15-1 and MM 4.15-2 would be required.

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:

1. Timing of deliveries of heavy equipment and building materials during off-peak hours to the extent feasible;

2. Review of transport routes, such as the intersection at SR-14 and Purdy Avenue, to determine how turns on existing roads would be accomplished and identifying intersections at which use of a flag person would be required to assist large trucks in making unobstructed turns;

3. 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;

4. Establish procedures for coordinating with local emergency response agencies to ensure dissemination of information regarding emergency response vehicle routes affected by construction activities;
5. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;
6. Maintaining access to adjacent property;
7. Encourage carpooling among workers to reduce worker commute trips entering and exiting the study area; and
8. 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.

b. Obtain all necessary encroachment permits for 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 and the Kern County Public Works Department- Development Review.

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 DVD format. The County, in consultation with the project proponent/operator's engineer, shall determine the extent of remediation required, if any.

MM 4.15-2: Prior to the issuance of construction or building permits, the project proponent/operator shall implement measures to reduce construction worker vehicle trips during the AM and PM peak hours. These measures may include, but are not limited to the following:

a. The Construction Traffic Control Plan (see MM 4.15-1, above) shall outline the methods used to control the number of worker vehicles arriving and departing from the project site during peak AM and PM hours, and document all reasonable efforts made to avoid impacts to area intersections.

b. The project proponent/operator shall limit construction worker vehicle trips to and from the site to the extent possible during the AM and PM peak periods (i.e., 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) by implementing such measures as:

    1. Instituting incentives and providing options for construction workers to carpool and/or vanpool to and from the project site.
    2. Scheduling construction worker shifts so that a majority of the workers arrive and depart the project site outside the AM and PM peak periods.
    3. Staggering construction worker shifts so that construction worker vehicle trips are distributed over a broader period (i.e., construction workers arrive in staggered shifts starting from 6:00 a.m. and depart in staggered shifts starting from 2:00 p.m.).

Level of Significance

With implementation of Mitigation Measures MM 4.15-1 and MM 4.15-2, impacts would be less than significant.

Impact 4.15-2: The project would conflict with or be inconsistent with *CEQA Guidelines* Section 15064.3, subdivision (b).

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 shift the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotion of a mix of land uses. 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.

Guidelines for assessing project VMT as part of a transportation impact analysis under CEQA are contained in the State of California Office of Planning and Research's "Technical Advisory on Evaluating Transportation Impacts in CEQA," dated December 2018. This advisory includes methodology recommendations for analyzing a project's VMT. The Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR, 2018) describes a series of "screening thresholds" to identify when a project should be expected to cause less-than-significant impact without conducting a detailed study. As discussed in the document, the screening threshold for small projects is "Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with an SCS or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact."

Construction

As shown in **Table 4.15-1**, *Construction Passenger Car Equivalent Trip Generation,* during the construction phase, the project is estimated to generate 2,362 vehicle trips per day, resulting in a temporary increase in VMT above the small project screening threshold. However, the small project threshold addresses VMT from long-term operations; project construction activities would be temporary and would not result in long-term or permanent change in VMT. Further, VMT primarily is a metric for assessing project-related GHG emissions impacts. The analysis related to GHG emissions associated with project-related construction

traffic is analyzed elsewhere in this EIR; see Section 4.8, *Greenhouse Gas Emissions*. Overall, as the project would provide clean renewable energy to the grid and would offset GHG emissions that would have otherwise resulted from producing energy from a non-renewable source, the Project will have a net beneficial impact in offsetting GHG emissions.

Therefore, because the increase in VMT related to construction is temporary and localized, project construction is not anticipated to result in long-term, permanent changes to the surrounding vehicle transportation system. Impacts from project construction would be less than significant.

Operations

During the O&M phase, the project is estimated to generate 12 vehicle trips per day. Since the project is not expected to generate more than 110 vehicle trips per day, the project is considered a small project and VMT impacts would be less-than-significant.

Decommissioning

The decommissioning phase is conservatively anticipated to generate a similar number of trips as during project construction. However, like construction, the increase in VMT related to decommissioning will be temporary and localized and would not result in long-term, permanent changes to the surrounding vehicle transportation system. Therefore, impacts from project decommissioning would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.15-3: The project would substantially increase hazards due to a geometric design feature (such as sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

During construction, the proposed project would require the delivery of heavy construction equipment and photovoltaic solar components using area roadways, some of which may require transport by oversize vehicles. Heavy equipment associated with these components would not be hauled to/from the site daily, but rather would be hauled in and out on an as-needed basis. Nevertheless, the use of oversize vehicles during construction can create a hazard to the public by limiting motorist views on roadways and by the obstruction of space, which is considered a potentially significant impact. However, the project would be required under existing regulations to obtain California Highway Patrol escorts, as well as coordinate the timing of transport, in oversize load permits from Caltrans and Kern County, as appropriate.

The proposed 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. Security fencing would be installed around the perimeter of each site, substation, switchyard, and other areas requiring controlled access, prior to commencement of construction, for safety and security purposes. All fence installation requirements would be evaluated, and the best-fit scenario would be incorporated in the site. The fencing would remain for the life of the project. Additionally, the proposed project would not include the development of sharp

curves, dangerous intersections or other hazardous design features. The proposed project would be set back from the roadways as required by Kern County Zoning Ordinance. Impacts would be less than significant.

Mitigation Measure MM 4.15-1 would require that all oversize vehicles used on public roadways during construction obtain required permits and obtain approval of a Construction Traffic Control Plan, as well as identify anticipated construction delivery times and vehicle travel routes in advance to minimize construction traffic during AM and PM peak hours and to avoid any potentially hazardous routes. This measure would also ensure that construction-related oversize vehicle loads are in compliance with applicable California Vehicle Code sections and California Street and Highway Codes applicable to licensing, size, weight, load, and roadway encroachment of construction vehicles.

Mitigation Measures

Implementation of Mitigation Measure MM 4.15-1 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.15-1, impacts would be less than significant.

Impact 4.15-4: The project would result in inadequate emergency access.

The project site is located in a rural area with the primary access roads (Oak Creek Road, Purdy Avenue, Camelot Boulevard, Decatur Avenue, Sunset Avenue, Silver Queen Road, 10th Street via East Proteus and 20th Street E) allowing adequate egress/ingress to the site in the event of an emergency. Additionally, as part of the project, additional onsite access roadways (internal to the site) would be constructed. Therefore, the development of the proposed project would not physically interfere with emergency vehicle access or personnel evacuation from the site.

As described above, increased project-related traffic would not alter existing road conditions; therefore, project-related traffic would not affect emergency access to the project site or any other surrounding location. The proposed project would not require closures of public roads, which could inhibit access by emergency vehicles.

The proposed project will be required to comply with all emergency access requirements adopted by the Kern County Fire Department. Emergency vehicle access must be maintained at all times throughout construction activities, in accordance with the County's routine/standard construction specifications. While impacts would be less than significant, Mitigation Measure MM 4.15-1 would provide further assurances for emergency access. Mitigation Measure MM 4.15-1 requires the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site. Internal access roads would be up to 25 feet wide and would be cleared and compacted for travel and access to the solar blocks in accordance with County standards, ensuring emergency access within the site during operations is adequate.

Mitigation Measures

Implementation of Mitigation Measure MM 4.15-1 would be required.

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.15-1, impacts would be less than significant.

SCE Transmission Line Relocation and Interconnection Work

SCE will relocate a 66 kV transmission line to remove it from the project footprint. An approximate 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. It is anticipated that relocation of SCE's transmission line will be completed in four months using up to 50 construction workers per week. SCE's interconnection work will take between 3 to 8 months to complete using approximately 30 and 40 workers per week. As above, most of the construction workforce is expected to live in the region and would commute to the site from various local communities. Realignment of the SCE transmission line and SCE interconnection work would not conflict with a program, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Additionally, trip generation to support realignment of the SCE transmission line and interconnection work was included in the transportation and traffic analysis conducted for the project and detailed in Appendix K, *Transportation/Traffic Assessment Memorandum*, of this EIR such that the transportation impacts for SCE work are included in the discussion of project impacts described above. Further, the SCE work would be completed in accordance with SCE's standard best management practices. Impacts would be less than significant.

4.15.5 Cumulative Setting, Impacts, and Mitigation Measures

The potential for cumulative transportation impacts exists where there are multiple projects proposed in an area that have an overlapping construction schedule and/or project operations that could affect similar transportation resources. Projects with overlapping construction schedules and/or operations could possibly result in an elevated contribution to increased traffic throughout the surrounding roadway network; contribute to hazardous roadway conditions; and/or possibly adversely affect emergency access or circulation. A cumulative impact related to transportation could result if a project's incremental effects were combined with impacts of other past, present, or reasonably foreseeable future projects.

Cumulative Impacts

A list of cumulative projects within a 1-mile and 6-mile radius of the project site is provided in Chapter 3, *Project Description*. The cumulative projects are projects that are proposed and in the review process, but not yet fully approved; or projects that have been approved, but not fully constructed or occupied.

Due to the rural nature of the project site, the substantial distances between the project and other pending projects, and the different schedules for construction among the various projects, project construction combined with other past, present, or reasonably foreseeable future projects is not anticipated to substantially conflict with circulation patterns or operations, including roadway, bicycle, transit, and pedestrian facilities during construction. Implementation of Mitigation Measure MM 4.15-1, requiring a

Construction Traffic Control Plan, and Mitigation Measure MM 4.15-2 would further reduce project-related impacts and ensure that the project would not cumulatively contribute to a significant cumulative impact. Other projects similarly would be expected to require construction traffic control plans, such that cumulative impacts would be less than significant.

Transportation impacts involving a project's VMT are long term and cumulative in nature. Project construction activities, and the construction activities of other cumulative projects, would be temporary and would not result in long-term or permanent changes in VMT. Project operations are estimated to generate minimal vehicle trips. Cumulative impacts from the project during operation, when considered with nearby, reasonably foreseeable planned projects, would be minimal. Since the project would result in a negligible increase of vehicle traffic, the project in conjunction with the existing, approved, proposed, and reasonably foreseeable projects in the vicinity of the site, would result in a less than significant cumulative impacts.

On the project-level (including the development of the gen-tie line), the proposed project would not include a design feature or utilize vehicles with incompatible uses that would create a hazard on the surrounding roadways, nor would the project result in inadequate emergency access. Implementation of MM 4.15-1, would further ensure the proposed project's cumulative contribution to emergency access and design hazards would be less than significant.

Mitigation Measures

Mitigation Measures MM 4.15-1 and MM 4.15-2 shall be implemented. Mitigation Measure MM 4.15-1 would require the project proponent/operator to ensure that all oversize vehicles used on public roadways during construction obtain required permits and obtain approval of a Construction Traffic Control Plan, as well as identify anticipated construction delivery times and vehicle travel routes in advance to minimize construction traffic during AM and PM peak hours and to avoid any potentially hazardous routes. This measure would also ensure that construction-related oversize vehicle loads are in compliance with applicable California Vehicle Code sections and California Street and Highway Codes applicable to licensing, size, weight, load, and roadway encroachment of construction vehicles. Mitigation Measure MM 4.15-2 would require the project proponent/operator implement measures to limit peak hour construction worker vehicle trips during the AM and PM peak hours to minimize potential temporary impacts to intersections during project construction.

Level of Significance after Mitigation

With implementation of Mitigation Measures MM 4.15-1 and 4.15-2, impacts would be less than significant.

Section 4.16
Tribal Cultural Resources

4.16.1 Introduction

This section of the EIR 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 four cultural resources reports prepared for the project: *Enterprise Solar Storage Project, Cultural Resources Assessment, Kern County, California* (Jacobs, 2022), included as Appendix F of this EIR; *Supplemental Cultural Resource Memorandum for the Enterprise Solar Storage Project* (Jacobs, 2023a), included as Appendix F1 of this EIR; *Cultural Resources Memorandum for High Voltage Work near Windhub Station* (Jacobs, 2023b), included as Appendix F2 of this EIR; *Supplemental Cultural Resources Inventory and Evaluation Report for the Enterprise Solar Project, Kern County, California* (SRI, 2023), included as Appendix F3 of this EIR; and results of the Native American consultation conducted by the County for purposes of compliance with the California Environmental Quality Act (CEQA) requirements prompted by Assembly Bill 52 (AB 52) and Senate Bill (SB) 18.

4.16.2 Environmental Setting

Refer to Section 4.5, *Cultural Resources*, of this EIR for further discussion of the tribal cultural resources environmental setting.

Existing Tribal Cultural Resources

Native American Correspondence and AB 52 Consultation

A Sacred Lands File (SLF) search was requested from the California Native American Heritage Commission (NAHC) for the proposed project. The NAHC responded via a letter dated September 8, 2021, stating that no sacred sites were identified within the project site. The NAHC also provided a list of Native American groups affiliated with the project site to be contacted for additional information regarding tribal cultural resources. The SLF search from the NAHC is included as an appendix in the cultural resources study prepared for the proposed project (Jacobs, 2022).

On October 14, 2022, the County sent consultation notification letters via certified mail to Native American groups on the County's Master List and the NAHC Tribal Consultation List for Kern County, pursuant to the requirements of AB 52 and SB 18 pertaining to government-to-government consultation. **Table 4.16-1**, *Summary of AB 52 and SB 18 Consultation Efforts*, summarizes the County's consultation efforts.

To date, the County has received responses from four Tribes—the Quechan Tribe of the Fort Yuma Reservation, Yuhaaviatam of San Manuel Nation (formerly known as the San Manuel Band of Mission Indians), Santa Rosa Rancheria Tachi Yokut Tribe, and Santa Ynez Band of Chumash Indians—indicating that they have no comment and/or do not want to be considered as a consulting party for the project. No tribal cultural resources were identified through the notification process.

TABLE 4.16-1: SUMMARY OF AB 52 AND SB 18 CONSULTATION EFFORTS

Individual Contacted	Tribe/Organization	Date Letter Mailed	Response Received
Danielle Gutierrez, Tribal Historic Preservation Officer	Big Pine Paiute Tribe of Owens Valley	10-14-2022	None to date
Sally Manning, Environmental Director	Big Pine Paiute Tribe of Owens Valley	10-14-2022	None to date
James Rambeau, Chairperson	Big Pine Paiute Tribe of Owens Valley	10-14-2022	None to date
Julio Quair, Chairperson	Chumash Council of Bakersfield	10-14-2022	None to date
Gabe Frausto, Vice Chair	Coastal Band of Chumash Nation	10-14-2022	None to date
Mia Lopez, Chairperson	Coastal Band of Chumash Nation	10-14-2022	None to date
Jairo Avila, Tribal Historic and Cultural Preservation Officer	Fernandeno Tatavian Band of Mission Indians	10-14-2022	None to date
Rudy Ortega, Tribal President	Fernandeno Tatavian Band of Mission Indians	10-14-2022	None to date
Brandy Kendricks	Kern Valley Indian Community	10-14-2022	None to date
Robert Robinson, Chairperson	Kern Valley Indian Community	10-14-2022	None to date
Julie Turner, Secretary	Kern Valley Indian Community	10-14-2022	None to date
Delia Dominguez, Chairperson	Kitanemuk & Yowlumne Tejon Indians	10-14-2022	None to date
Jordan D. Joaquin, President	Quechan Tribe of the Fort Yuma Reservation	10-14-2022	None to date
Jill McCormick, Historic Preservation Officer	Quechan Tribe of the Fort Yuma Reservation	10-14-2022	10-27-2022 email response from H. Jill McCormick, Historic Preservation Officer, "This email is to inform you that we do not wish to comment on this project. We defer to more local Tribes and support their determinations on this matter."
Manfred Scott, Acting Chairmen Kw'ts'an	Quechan Tribe of the Fort Yuma Reservation	10-14-2022	None to date
Virgil S. Smith, Vice President	Quechan Tribe of the Fort Yuma Reservation	10-14-2022	None to date
Patti Dunton, Tribal Administrator	Salinan Tribe of Monterey, San Luis Obispo	10-14-2022	None to date
Donna Yocum, Chairperson	San Fernando Band of Mission Indians	10-14-2022	None to date

Individual Contacted	Tribe/Organization	Date Letter Mailed	Response Received
Jessica Mauck, Cultural Resources Coordinator	Yuhaaviatam of San Manuel Nation (San Manuel Band of Mission Indians)	10-14-2022	11-18-2022 email response from Ryan Nordness, Cultural Resource Analyst, "The proposed project is outside of Serrano ancestral territory and, as such, YSMN will not be requesting to receive consulting party status with the lead agency or to participate in the scoping development, or review of documents created pursuant to legal and regulatory mandates."
Leo Sisco, Chairperson	Santa Rosa Rancheria Tachi Yokut Tribe	10-14-2022	11-2-2022 email response from Samantha McCarty, Cultural Specialist II, "Due to the location of this project, the Tribe will be deferring to the other tribes in the area."
Kenneth Kahn, Chairperson	Santa Ynez Band of Chumash Indians	10-14-2022	11-14-2022 letter response from Crystal Mendoza, Administrative Assistant, "At this time, the Elders' Council requests no further consultation on this project; however, we understand that as part of NHPA Section 106, we must be notified of the project."
Octavio Escobedo, Chairperson	Tejon Indian Tribe	10-14-2022	None to date
Colin Rambo, Cultural Resources Management Technician	Tejon Indian Tribe	10-14-2022	None to date
Michael Mirelez, Cultural Resources Coordinator	Torres Martinez Desert Cahuilla Indians	10-14-2022	None to date
Robert Gomez, Chairperson	Tubatulabals of Kern Valley	10-14-2022	None to date
Neil Peyron, Chairperson	Tule River Indian Tribe	10-14-2022	None to date
Anthony Madrigal Jr., Tribal Grants Administrator	Twenty-Nine Palms Band of Mission Indians	10-14-2022	None to date
Darrell Mike, Tribal Chairman	Twenty-Nine Palms Band of Mission Indians	10-14-2022	None to date
Kenneth Woodrow, Chairperson	Wuksache Indian Tribe (Eshom Valley Band)	10-14-2022	None to date
Karen White, Chairperson	Xolon-Salinan Tribe	10-14-2022	None to date
Mona Tucker, Chairperson	Yak Tityu Tityu Yak Tilhini – Northern Chumash Tribe	10-14-2022	None to date

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. 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.

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.

Under PRC Section 21074, (a) tribal cultural resources are:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following:
   (A) Included or determined to be eligible for the inclusion in the CRHR, or;
   (B) Included in a local register of historical resources as defined by subdivision (k) of Section 5020.1 (designated or recognized historically significant by a local government pursuant to local ordinances or resolution).

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
   (b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
   (c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

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.

California Senate Bill 18

Senate Bill (SB) 18 (Statutes of 2004, Chapter 905), which went into effect January 1, 2005, requires cities and counties to conduct consultations with California Native American tribes before the local officials adopt or amend their general plans 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). These consultations are for preserving or mitigating impacts to Native American historic, cultural, sacred sites, features, and objects located within the city or county. The city or county must protect the confidentiality of information about the specific identity, location, character, and use of those places, features, and objects, consistent with the General Plan Guidelines issued by the Governor's Office of Planning and Research.

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).
- In accordance with SB 18 and the California Tribal Consultation guidelines, the appropriate native groups were consulted with respect to the project's potential impacts on Native American places, features, and objects.

California Native American Graves Protection and Repatriation Act of 2001

Codified in the California Health and Safety Code Sections 8010-8030, the California Native American Graves Protection and Repatriation Act (Cal NAGPRA) is consistent with the federal NAGPRA. Intended to "provide a seamless and consistent state policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect," Cal NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants, Section 8025 established a Repatriation Oversight Commission to oversee this process. The Cal NAGPRA also provides a process for non-federally recognized tribes to files claims with agencies and museums for repatriation of human remains and cultural items.

California Health and Safety Code, Sections 7050 through 7053

California 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. Sections 7052 and 7052.5 establish a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives or to dispose as permitted by law. Section 7053 makes it a misdemeanor to arrest, attach, detain, or claim to detain any human remains for any debt or demand, or upon any pretended lien or charge, or to fail to release any human remains, the personal effects, or any certificate or permit required under Division 102 (commencing with Section 102100) upon the delivery of authorization for the release signed by the next of kin or by any person entitled to the custody of the remains.

Local

Components of the three local land use plans (the Kern County General Plan, Mojave Specific Plan, and the West Edwards Road Settlement Specific Plan) related to tribal cultural resources are described in Section 4.5.4 of this EIR. There are no recommendations, analysis, or mitigation measures in the Soledad Mountain Elephant Butte Specific Plan that address tribal cultural resources.

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 means, including an SLF search conducted by the NAHC, tribal notification letters in accordance with AB 52 and SB 18, and cultural resources assessments. On October 14, 2022, Kern County sent notification letters to Native American groups on the County's Master List and the NAHC Tribal Consultation List for Kern County to solicit information regarding the presence of tribal cultural resources. Using these methods 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 © 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 sacred lands within the project site. Furthermore, the County's government-to-government consultation efforts with interested Native American groups conducted pursuant to AB 52 and SB 18 did not result in the identification of any tribal cultural places under SB 18 or tribal cultural resources under CEQA within the project site.

As described in Section 4.5.5 of this EIR, the project site has the potential to contain previously unknown archaeological deposits that may underlie the ground surface. Should buried archaeological deposits be uncovered during project implementation, and should such resources qualify as tribal cultural resources under CEQA, they could be subject to significant impacts. To reduce potential impacts to less than significant, Mitigation Measures MM 4.5-1 through MM 4.5-5 require cultural resources, including tribal cultural resources, sensitivity training for construction workers; establishment of an exclusion area around archaeological and tribal cultural resource sites for avoidance or, if sites cannot be avoided, implementation of a subsurface testing plan, if appropriate, to evaluate California Register of Historic Places (CRHR) eligibility status, and development of additional mitigation strategies in consultation with a Native American monitor for sites that qualify as tribal cultural resources under CEQA; archaeological and Native American monitoring during construction; and appropriate treatment of unearthed archaeological and tribal cultural resources during construction.

There is no indication, either from research results or the archaeological survey, that any particular location within the project site has been used for human burial purposes in the recent or distant past. In the event that human remains are inadvertently discovered during project construction activities, the human remains could be damaged or disturbed, which would be a significant impact. Existing regulations identified as Measure MM 4.5-6 would ensure that any human remains encountered during project implementation are properly treated, thus reducing impacts to a less-than-significant level.

Mitigation Measures

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-6 would be required (see Section 4.5, *Cultural Resources*, of this EIR for full mitigation measure text).

Level of Significance

With the implementation of the Mitigation Measures MM 4.5-1 through MM 4.5-6, impacts would be less than significant (see Section 4.5.5, *Cultural Resources*, of this EIR).

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 as part of the County's government-to-government notification and consultation efforts with interested Native American groups conducted pursuant to AB 52 and SB 18.

Given that no tribal cultural resources have been identified within or immediately adjacent to the project site, the proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource. Impacts would be less than significant. Implementation of Mitigation Measure MM 4.5-1 through MM 4.5-6 included in Section 4.5, *Cultural Resources*, of this EIR, would further reduce potential impacts to tribal cultural resources.

Southern California Edison Transmission Line Relocation

Southern California Edison (SCE) will relocate an existing 66 kilovolt (kV) transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the transmission line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation.

As noted above, the SLF search conducted by the NAHC did not indicate the presence of sacred lands within the project site, and the County's government-to-government consultation efforts with interested Native American groups did not result in the identification of any tribal cultural places or tribal cultural resources within the project site. Further, impacts associated with construction of the SCE facilities within the project site would encompass a relatively small footprint and minimal ground disturbance. SCE's standard best management practices and APMs include pre-construction cultural resources inventory and data recovery, if necessary, and minimization or avoidance of impacts to any potentially significant archaeological resources that might be discovered by implementing standard protocols that include ceasing all work within 50 feet of the discovery, protecting the discovery from further impacts, and contacting a SCE Cultural Resources Specialist. SCE also is subject to all state laws designed to protect tribal cultural resources, including Health & Safety Code section 7050.5. Impacts would be less than significant.

Mitigation Measures

Implement Mitigation Measures MM 4.5-1 through MM 4.5-6 (see Section 4.5, *Cultural Resources*, of this EIR for full mitigation measure text).

Level of Significance after Mitigation

With implementation of Mitigation Measure MM 4.5-1 through MM 4.5-6 impacts would be less than significant (see Section 4.5.5, *Cultural Resources*, of this EIR).

4.16.5 Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for cumulative cultural resources impacts is considered the Antelope Valley. This geographic scope of analysis is appropriate because the tribal cultural resources within this area are expected to be similar to those that may occur within the project site because of their proximity, their similarities in environments and landforms, and their location within the same Native American tribal territories. Further, this is a large enough area to encompass any effects of the proposed project on tribal cultural resources that may combine with similar effects caused by other past, current, and reasonably foreseeable future projects, and provides a reasonable context wherein cumulative actions could affect cultural resources. As shown in **Figure 3-15**, *Cumulative Projects*, there are 18 cumulative projects proposed, approved, or recently constructed, including some utility-scale solar production facilities.

Development of the proposed project, in combination with other projects in the area, has the potential to contribute to a cumulatively significant tribal cultural resources impact due to the potential loss of tribal cultural resources unique to the region. However, as discussed above, no tribal cultural resources have been identified in the project site and the proposed project would not have a significant impact on tribal cultural resources. Therefore, the proposed project's incremental effect is not cumulatively considerable when viewed in connection with the effects of other closely related past projects, the effects of other current projects and the effects of probable future projects; thus, the proposed project would not have a cumulatively considerable contribution to impacts to tribal cultural resources.

Mitigation Measures

Implementation of Mitigation Measures MM 4.5-1 through MM 4.5-6 would be required (see Section 4.5, *Cultural Resources*, of this EIR for full mitigation measure text).

Level of Significance

With the implementation of Mitigation Measures MM 4.5-1 through MM 4.5-6, cumulative impacts would be less than significant.

Section 4.17
Utilities and Service Systems

4.17.1 Introduction

This section of the EIR describes the affected environment and regulatory setting of the project pertaining to demand for operational utilities (water, stormwater control, wastewater, and solid waste disposal). This section describes existing infrastructure and levels of service and evaluates whether any improvements are necessary to accommodate the project. This section is based, in part, on public information pulled from multiple online sources and published documents, a Will-Serve Letter provided by the Mojave Public Utility District (Appendix M2) (MPUD, 2023), the Hydrology Study (Appendix J) (Westwood, 2022), and the Water Supply Assessment (Jacobs, 2023) located in Appendix M1 of this Draft EIR and incorporated by reference herein.

4.17.2 Environmental Setting

Water Supply

There are typically three sources of supply water: (1) natural sources, (2) humanmade sources, and (3) reclamation. Natural sources include rivers, lakes, streams, and groundwater stored in aquifers. Humanmade 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 to ensure that there is no possibility of direct human consumption.

The project site is located in an unincorporated area in southeastern Kern County (County) within the boundaries of the Antelope Valley-East Kern Water Agency (AVEK) service area, which is within the Fremont Valley Groundwater Basin (FVGB). AVEK is a wholesaler of State Water Project (SWP) supplies to potable water purveyors, such as the Mojave Public Utility District (MPUD) and California City, and a retail provider of untreated SWP supplies to agricultural users (AVEK, 2021). While the project site is within the boundaries of AVEK's service area, there is no public water system that currently supplies water to the project site or general area. However, AVEK has two underground cement mortar-lined and coated (CML&C) transmission pipelines: one 36-inch transmission pipeline running east-west along Silver Queen Road and east of 20th Street, located adjacent to the northern boundary of Site 4 (Southern); and one 18-inch transmission pipeline running north-south on the west side of State Route 14, located adjacent to the eastern boundary of Site 2 (Western), crossing the generation tie (gen-tie) line alignment along Purdy Avenue. The project site is located on unincorporated lands away from urban areas and, therefore, is not covered by an active Urban Water Management Plan.

The project site is not located within the service area of a public water system; however, it is located within the service area of a local water wholesaler, AVEK, whom MPUD and California City can rely upon as a

source of supplementary water in addition to what they produce from groundwater wells within their service areas.

The project site is currently undeveloped open space that has been historically used for grazing operations as described in Section 4.2, *Agriculture and Forestry Resources*, of this Draft EIR. There are no existing water demands onsite and the native vegetation subsists on natural rainfall.

Groundwater Supply

The project site is located in southeastern Kern County at the southern end of the FVGB (see **Figure 4.10-2**, *Groundwater Basins*). The FVGB is bounded to the south and southeast by the Antelope Valley Groundwater Basin (AVGB); to the east by crystalline rocks of Red Mountain, the Rand Mountains, Castle Butte, the Bissell Hills, and the Rosamond Hills; and to the west and north by the Sierra Nevada Mountains, the Tehachapi Mountains, and the El Paso Mountains (DWR, 2021; Jacobs, 2023). The boundary between the FVGB and the AVGB occurs along a groundwater divide approximated by a line connecting the mouth of Oak Creek through Middle Butte to the exposed basement rock near Gem Hill and to the southeast of California City (Jacobs, 2023), approximately 1.5 miles west of Southern California Edison's (SCE) existing Windhub Substation and approximately 7 miles west of Site 2 (Western). For a discussion of FVGB characteristics, please refer to Section 4.10, *Hydrology and Water Quality,* of this EIR.

Groundwater Basin Adjudication

Prior to the California 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. The SGMA now ensures that basins can be managed sustainably through local management plans. In October 2015, Governor Brown signed Assembly Bill (AB) 1390, which is legislation that provides a comprehensive adjudication process for all groundwater basins that are regulated under the SGMA. Groundwater basins that have been adjudicated by court decision are subject to management by a court-approved Watermaster.

As stated above, the project site is within the FVGB. The FVGB is not subject to a court adjudication. Groundwater pumping within the FVGB peaked in the 1950s with the cultivation of agricultural crops such as alfalfa, pasture, and field crops, then declined as greater pumping lifts and increasing energy costs made the use of groundwater in the area less economical for agricultural uses. The delivery of SWP water to the region starting in 1972 also decreased farmers' reliance on groundwater for irrigation. Agriculture within the FVGB largely ceased by the late 1970s. In more recent years, groundwater pumping has lessened because of reduced agricultural production in the area and the availability of imported State Water Project (SWP) supplies. Groundwater within the FVGB is currently extracted to support domestic, industrial, and renewable energy and limited municipal demands (Jacobs, 2023).

Based on low population density, negative growth projections, low numbers of private and public supply wells, and the lack of irrigated agriculture within the FVGB, it is designated as a low-priority basin by the California Department of Water Resources (DWR). As a low-priority basin, the FVGB is not required to develop a groundwater sustainability plan in accordance with the SGMA; however, California City, MPUD, and other regional stakeholders have partnered in the development of a Fremont Valley Basin Groundwater Management Plan to promote regional groundwater sustainability. The FVGB Groundwater Management Plan (California City, 2018) provides supporting information used in the Fremont Basin Integrated Regional

Water Management Plan. The Regional Plan discusses overall water supply reliability within the Fremont Basin region, including the integrated use of surface and groundwater supplies and the interrelationship of the Fremont Basin with the AVEK's integrated management of surface and groundwater supplies within the Antelope Valley Basin to the south.

Wastewater

The Kern Sanitation Authority provides maintenance and wastewater service for the County. As the project site is currently undeveloped, there are no known septic systems or infrastructure within the project site boundary. Any wastewater generation occurring within the project site would be collected within individual portable toilets that would be emptied at an existing, approved, offsite disposal site as part of regular, ongoing project-related maintenance.

Stormwater Drainage

As stated previously, the project site is not developed, with the exception of dirt roads present. Therefore, all stormwater drainage onsite follows natural drainage patterns on the land surface. On the project site and in the surrounding area, ephemeral drainages convey stormwater from the Tehachapi Mountain foothill areas to the desert floor. During rainfall events that produce overland flow, runoff concentrates in the defined channels of the Tehachapi Mountains and/or stormwater conveyance systems within/around the Town of Mojave, through the project site, and into Rogers Dry Lake, an endorheic basin (i.e., an enclosed basin with no drainage outlet) approximately 11 miles southeast of the project site. **Figure 4.10-1**, *Surface Hydrology and Drainage*, shows natural drainage patterns across the project site and vicinity.

Stormwater drainage within the project site is limited to poorly defined/shallow swales and discontinuous ephemeral channels. Throughout the project site, drainage features are scattered and discontinuous. This suggests a natural tendency for surface runoff events to be both brief and infrequent, with rapid infiltration into the sandy substrate, and/or shallow ponding in low-lying areas quickly followed by high evaporation.

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.

Landfills

The Kern County Public Works Department operates seven active landfills throughout the County. Landfills are located in Bakersfield, Boron, Mojave-Rosamond, Ridgecrest, Shafter-Wasco, Taft, and Tehachapi. Although no solid waste is generated at the project site, the closest operational landfill to the project site is the Mojave-Rosamond Recycling and Sanitary Landfill, located approximately 2.3 miles to the west of Site 4 (Southern) and approximately 1.6 miles to the southeast of Site 2 (Western). This Class III landfill accepts wastes from construction and demolition and agricultural, industrial, and mixed municipal sources (CalRecycle, 2019a; County of Kern, 2023a). The other nearby landfill is the Tehachapi Sanitary Landfill, which is located approximately 11 miles northwest of Site 2 (Western) and approximately 16.5 miles northwest of Site 4 (Southern). The Tehachapi Sanitary Landfill is located in Tehachapi, over the Tehachapi Mountains. The Tehachapi Sanitary Landfill is also a Class III Landfill (CalRecycle, 2019b; County of Kern, 2023b). The location of the landfills expected to serve the proposed project, their capacity, and their 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	Maximum Permitted Capacity	Remaining Capacity (cubic yards)	Maximum Permitted Throughput (tons/day)	Anticipated Year of Closure
Mojave-Rosamond 400 Silver Queen Road, Mojave	78,000,000	76,310,297	3,000	2123
Tehachapi 12001 Tehachapi Boulevard, Tehachapi	4,000,000	522,298	1,000	Unknown

Sources: CalRecycle, 2019a; CalRecycle, 2019b; County of Kern, 2023b.

Electricity, Natural Gas, and Telecommunications

There are existing natural gas and telecommunications facilities that extend through Site 3 (Western). The project proponent will work with the utility providers to obtain any needed agreements with those providers to ensure no impacts to their existing facilities would occur. SoCalGas is the natural gas provider in this area of the County. In addition, AT&T fiber optic lines are located within the project area and SCE operates existing distribution facilities in the project area along with larger facilities consisting of the 500-kilovolt (kV) SCE Tehachapi Renewable Transmission Project, SCE Whirlwind Substation, and SCE Windhub Substation. On Site 4 (Southern), SCE has an existing 66-kV overhead powerline that would be relocated adjacent to the southern and western boundaries of that site. The proposed relocation is discussed in detail in Chapter 3, *Project Description*, Section 3.7.8, *SCE Transmission Line Relocation and Interconnection Work*, of this EIR.

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 CPUC. It is tasked with ensuring that 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' State-managed, nonhazardous waste handling and recycling programs. CalRecycle provides training and ongoing support for local enforcement agencies that regulate and inspect California's active and closed solid waste landfills (CalRecycle, 2023).

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 (RWQCB). 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 Department of Water Resources

The DWR is responsible for protecting, conserving, developing, and managing much of California's water supply. 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.

Integrated Solid Waste Management Act of 1989 or Assembly Bill 939

Pursuant to the California Integrated Solid Waste Management Act of 1989 (Public Resources Code [PRC] 40050, et seq.) or AB 939, 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 construction and demolition 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 construction and demolition debris.

AB 939 also required cities and counties to prepare solid waste planning documents (e.g., the Source Reduction and Recycling Element, the Household Hazardous Waste Element, and the Non-disposal Facility Element). All three of these documents, as well as the Integrated Waste Management Plan, approved February 1998 by the California Integrated Waste Management Board (now California Department of Resources Recycling and Recovery or CalRecycle), have been approved for Kern County. The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities.

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.

Senate Bills 610 and 221

Passed in 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 5-year increments for a 20-year projection. In accordance with these measures, a Water Supply Assessment was prepared for the proposed project as it is an industrial use of more than 40 acres (California Water Code, Section 10912).

California Solid Waste Reuse and Recycling Access Act of 1991 or Senate Bill 1327

The California Solid Waste Reuse and Recycling Access Act of 1991 (PRC Chapter 18) 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.

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 RWQCB. However, the proposed project is not expected to discharge waste into the local sewer system and, therefore, is not required to prepare and submit the described report.

Local

Construction and operation of the solar facility would be subject to policies and regulations contained within the general and specific plans, including the Kern County General Plan, Kern County Zoning Ordinance, and Kern County Code of Building Regulations, which include policies, goals, and implementation measures related to utilities and service systems. The policies and implementation measures in the Kern County General Plan related to utilities and service systems 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.

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 and demolition waste; and
- Recycling or reuse of 100 percent of tree stumps, rocks, and associated vegetation and soils resulting from land clearing.

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's unincorporated area to assure compliance with AB 939 and subsequent State mandates. The Kern County Integrated Waste Management Plan includes a Reduction and Recycling Element, Household Hazardous Waste Element, and Non-disposal Facility Element. The Plan was approved February 1998 by the California Integrated Waste Management Board (now CalRecycle). The Kern County Integrated Waste Management Plan is the long-range planning document for landfill facilities.

Antelope Valley Integrated Regional Water Management Plan

The Antelope Valley Integrated Regional Water Management Plan (IRWMP) is a joint water planning effort aimed at ensuring water supply reliability for the Antelope Valley Region, undertaken by agencies which joined to form a Regional Water Management Group, including the following: AVEK Water Agency, Antelope Valley State Water Contractors Association, City of Lancaster, City of Palmdale, Littlerock Creek Irrigation District, Los Angeles County Sanitation District Nos. 14 and 20, Los Angeles County Waterworks District No. 40, Palmdale Water District, Quartz Hill Water District, and Rosamond Community Services District. These agencies have collectively defined a water resource management plan in the Antelope Valley IRWMP, which describes a course of action to meet the expected demands for water within the entire Antelope Valley Region through 2040.

The primary goals of the Antelope Valley IRWMP are to address the following:

- How municipal and industrial (M&I) purveyors can reliably provide the quantity and quality of water that will be demanded by a growing population;
- Options to satisfy agricultural users' demand for reliable supplies of reasonable cost irrigation water; and
- Opportunities to protect and enhance the current water resources (including groundwater) and the environmental resources within the Antelope Valley Region (AVIRWMG, 2019).

The proposed project site is located within the planning area for the Antelope Valley IRWMP. However, the focus of the plan is on the Antelope Valley rather than the Fremont Valley because the Antelope Valley Groundwater Basin is subject to the court adjudication for groundwater rights, is under greater development

pressure, and is expected to face greater challenges with respect to water supply than the northern portion of the IRWMP area within the Fremont Valley.

Antelope Valley-East Kern Water Agency Urban Water Management Plan

The AVEK Water Agency adopted an updated UWMP in 2021. AVEK delivers California SWP water used by customers in lieu of or in addition to local groundwater resources. AVEK constructed potable groundwater wells in 2015. Delivery of SWP can be unreliable and is dependent upon multiple factors, such as climatic variations and other users of SWP water; therefore, to ensure water supply reliability, AVEK has established use of supply enhancement programs, such as groundwater banking in the Antelope Valley Groundwater Basin and conjunctive water use (AVEK, 2021).

The project area is located within AVEK's service area, which is a wholesale water supplier to utilities and local government agencies, including MPUD and California City. Therefore, the project area is addressed in the UWMP of the wholesaler. MPUD is included in the 2020 AVEK UWMP and was given an expected future allocation from AVEK of 84 AFY through 2040 (AVEK, 2021; Jacobs, 2023).

Kern County Public Works Department Recycling Programs

The Kern County Public Works Department administers or sponsors the following recycling programs, which contribute toward meeting State-mandated solid waste diversion goals to achieve 75 percent recycling, composting, or source reduction of solid waste by 2020:

- 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 hazardous waste. Services are provided to all Kern County residents;
- Semi-annual "bulky waste" collection events, which are held in the Bakersfield area and available to both county and city residents (cosponsor);
- Christmas tree recycling campaign (participates jointly with the City of Bakersfield);
- Telephone book recycling program (cosponsors 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.

Kern County General Plan

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 3: Individual projects will provide availability of public utility service as per approved guidelines of the serving utility.

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.

1.10 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 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 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.

Mojave Specific Plan

The Mojave Specific Plan was drafted in 2003 for the unincorporated eastern Kern County community of Mojave. The plan provides guidance on public utilities and related services. Objectives and policies of the plan that are relevant to the proposed project are included below.

Chapter 3. Land Use Element

Objectives

Objective 3.6: Ensure that public services and utilities are provided commensurate with established needs and projected growth.

Policies

Policy 3.6.2: Coordinate with the Mojave Public Utility District, County Sheriff's Department, County Library Department and County Fire Department to ensure sufficient services are provided to community residents and businesses.

Policy 3.6.4: Work with service providers to facilitate and encourage modifications and improvements to existing water, sewer, drainage, electric, natural gas, and other utility systems.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan was certified in 1992 for the community of West Edwards Road Settlement to recognize existing development and prepare for projected community growth. The plan includes the following elements: land use, open space, and conservation; circulation; and safety. Policies and implementation measures of the plan that are relevant to the proposed project are included below.

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

Policies

Policy 1.1.3.3: Development shall occur outside areas identified as primary floodways. All development projects will incorporate measures to ensure that the proposed project will not be hazardous, increase flood depths or velocities, or cause water quality to deteriorate. Developments which would be hazardous to the public health and safety will be prohibited.

Policy 1.2.3.1: New development shall be required to pay its proportional share of the costs of local infrastructure improvements such as public streets, and water and sewer systems.

Policy 1.2.3.1: Development shall be encouraged to utilize existing utility purveyors.

Implementation Measure

Measure 1.1.4.3: Drainage improvement plans shall be approved for projects pursuant to the Kern County Zoning Ordinance.

Chapter 4. Safety Element

Policy

Policy 4.1.3.2: New development will be allowed only when it can meet standard levels of service from fire and water service delivery systems.

Implementation Measures

Measure 4.1.4.3: All new development shall provide for the containment of drainage water generated on site. Drainage plans must meet the approval of the Kern County Public Works Department.

Measure 4.1.4.4: Prior to the issuance of building or grading permits, all development plans will need approval of Kern County Department of Planning and Development Services/Floodplain Management Section.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. The recommendations, analysis, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan for utilities applicable to the project are provided below. The Soledad Mountain Elephant Butte Specific Plan contains additional recommendations, analysis, and implementation measures that are more general in nature and are not specific to developments such as this project. Therefore, they are not listed below, but all policies, goals, and implementation measures in the Soledad Mountain Elephant Butte Specific Plan are incorporated by reference.

Conservation

Item 1. Conservation, Development, and Utilization of Natural Resources

Including:

a) Underground waters
b) Surface waters
c) Forests (not applicable)
d) Vegetation and soils (not applicable)
e) Rivers, creeks, and streams
f) Fish and wildlife (not applicable)

Recommendation
a) Underground Waters - The quality and quantity of underground waters shall not be degraded.
b) Surface Waters - None in the area.
e) Rivers, Creeks, and Streams - None in the area.

Analysis
The Developer reports that the underground water supply will be adequate to serve the development. Should overdraft occur in the future, rationing could be necessary, or annexation to the Mojave Public Utility District may be considered.

Implementation
a) Quality and quantity of underground water supply shall be monitored by the appropriate agency.
b) None necessary.

d) Vegetation and soils - All existing vegetation that must be cleared for building sites shall be removed from the site prior to completion of construction. Preservation of native plant life pursuant to Item C-2 herein.
e) None necessary.

Item 2. Standards for Flood Control

Recommendation	All residential properties shall be free from flooding.
Analysis	Most flood control problems will be solved in accordance with the requirements of the Public Works Department. All subdivisions should come under this control.
Implementation	Compliance with the requirements of the Public Works Department.

Item 3. Standards for Prevention and Control of Pollution of Rivers, Streams, and Creeks

Recommendation	None necessary.
Analysis	There are no bodies of running water within the Plan boundaries.

Item 4. Standards of Protection of Watershed Areas

Recommendation	No watershed area shall be degraded as a result of a development within the area.
Analysis	Review of watersheds is made in conjunction with drainage control and water quality control. Standards have been established.
Implementation	Compliance with the existing standards of the Regional Water Quality Control Board and the Public Works Department.

4.17.4 Impacts and Mitigation Measures

Methodology

Potential impacts to water supply, wastewater, and stormwater associated with construction and operation of the proposed project were evaluated qualitatively and quantitatively using the Water Supply Assessment (Appendix M1; Jacobs, 2023), a Will-Serve Letter (Appendix M2; MPUD, 2023), the Hydrology Study (Appendix J; Westwood, 2022), and a variety of other resources, including multiple online sources and published documents. In addition, current data obtained from Kern County and State of California about the capacity of landfills was used to identify potential solid waste impacts. The evaluation of impacts is based on professional judgment, analysis of the County's land use policies, and significance criteria established in Appendix G of the CEQA *Guidelines*, which the County has determined appropriate for the 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 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 storm water 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 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;

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.

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 could cause significant environmental effects.

Construction

Water

The proposed project would require an estimated 335 acre-feet (AF) of water during the approximately 28-month construction period. Therefore, the yearly water demand for the project is assumed to be 143 AFY ([335 AF/28 months] multiplied by 12) for common construction-related purposes, including, but not limited to, dust suppression, soil compaction, and grading and dust control for ingress and egress of onsite construction vehicle equipment traffic and for project facilities construction (Jacobs, 2023). Water required during construction would be supplied by local water purveyors, with existing or new onsite or offsite water wells used as a secondary source that would draw from the FVGB with authorization of MPUD (Jacobs, 2023); well water is not expected to require treatment for construction use. For these reasons, the proposed project would not require or result in the construction of new water facilities, which could cause significant environmental effects; thus, impacts during construction would be less than significant.

Wastewater Treatment

Construction of the project would generate a minimal volume of wastewater. During construction activity, wastewater would be contained within portable toilet facilities 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; thus, impacts during construction would be less than significant.

Stormwater Drainage

Water used during construction would runoff into drainage features on the project site, which, as previously mentioned, are scattered and discontinuous. As a result, surface runoff events would generally be brief and infrequent, with rapid infiltration into the sandy substrate, and/or shallow ponding in low-lying areas quickly followed by high evaporation. Nonetheless, as described in Section 4.10, *Hydrology and Water Quality*, of this EIR, Mitigation Measure MM 4.10-1 would require the implementation of a Stormwater Pollution Prevention Plan (SWPPP) during construction, which would include best management practices (BMP) designed to prevent the occurrence of soil erosion and discharge of other construction-related pollutants that could contaminate water quality. There are no constructed stormwater drainage systems present onsite and stormwater on the project site either percolates onsite or drains offsite by way of existing ephemeral drainages. Project activities during construction are not expected to substantially alter the ground surface such that new stormwater drainage facilities are needed. No offsite connections to a municipal stormwater facility exist or are proposed; thus, impacts during construction would be less than significant.

Electrical Power

Power required for project construction activities, such as for the temporary construction trailers, would be provided via portable generators or temporary local distribution. SCE operates distribution circuits in the project area. The project proponent would coordinate with SCE to obtain access to a nearby distribution circuit, if needed. The improvements needed to interconnect into the distribution circuit would occur within the proposed development footprint. The proposed project does include the construction of gen-tie line and overhead and/or underground line(s) that would transmit electricity to the existing SCE Windhub Substation. SCE would also relocate an existing transmission line and perform work within and adjacent to the Windhub Substation, as described further below. However, all improvements during construction would be made within areas of the project site and potential impacts from this work are discussed within the respective sections of this EIR. Thus, impacts during construction would be less than significant.

Natural Gas

Natural gas would not be required to support construction activities. No offsite natural gas connections are proposed during construction; thus, impacts during construction would be less than significant.

Telecommunication Facilities

Telecommunications via fiber optic lines would not be required to support construction activities. Telecommunications would be supported by satellite and cellular service during construction. No offsite telecommunication connections are proposed during construction; thus, impacts during construction would be less than significant.

Operation

Water

During operations, the water used will be provided from the MPUD or existing or new onsite or offsite water wells. Water would be required for panel washing, equipment washing, non-sanitary uses, and other miscellaneous water uses, such as landscaping. During project operations, solar panel washing is expected to occur one to four times per year based on site conditions, such as usual weather occurrences, wild/forest fires, local air pollutants, and other similar conditions. Water consumption is expected to be around 0.28 gallon per square yard of panel, based on other similar operations. Given a 600-MW facility, with four cycles per year, the annual water usage is expected to be approximately 25 AF of water. This amount includes the water necessary for the operations, fire suppression, and site maintenance. On-site water resources would also include an aboveground 10,000-gallon fire tank, which would be placed at each site entrance.

Water required for operations is expected to come from MPUD or existing or new onsite or offsite water wells installed as part of the proposed project during construction, which would draw from the FVGB. Well water is not expected to require treatment and could be pulled directly from the well for operational use. As discussed above, installation of these wells would be installed in accordance with Kern County standards and requirements and, thus, would not result in impacts. For these reasons, the proposed project would not require or result in the construction of new water facilities, which could cause significant environmental effects; thus, impacts during operation and maintenance would be less than significant.

Wastewater Treatment

The proposed project would not require or result in the relocation or construction of new or expanded municipal wastewater facilities, and no connection to a public wastewater system is required or proposed. During operation, there would be six permanent employees primarily operating from an offsite operations facility; however, a small, satellite, portable office trailer may be placed onsite for rapid equipment repair. Wastewater generated is expected to be minimal from the six employees and would not require connection to a wastewater treatment provider. Any wastewater generation occurring within the project site would be contained in portable toilets that would have to be emptied at an existing, approved, offsite disposal site as part of regular, ongoing project-related maintenance. Therefore, impacts would be less than significant.

Stormwater Drainage

As previously mentioned, there are no constructed stormwater drainage systems present onsite. Project activities during operation are not expected to substantially alter the ground surface such that new permanent stormwater drainage facilities are needed. As discussed in Section 4.10, *Hydrology and Water Quality*, of this EIR, Mitigation Measure MM 4.10-1 would be implemented as a part of the proposed project and requires preparation of a drainage plan to reduce potential increases in stormwater runoff onsite and would detail any necessary physical structures required to control stormwater. These structures would be developed onsite along with the rest of project construction. No offsite disposal connections to a municipal stormwater facility exist or are proposed; thus, impacts during operation and maintenance would be less than significant.

Electrical Power

Power for operational and maintenance activities would be provided by the proposed project's electrical generation or supplied by the local power provider. SCE operates distribution circuits in the project area.

The project proponent would coordinate with SCE to obtain access to a nearby distribution circuit, if needed. The proposed project would not require or result in the construction of new electrical facilities, which could cause significant environmental effects; thus, impacts during operation and maintenance would be less than significant.

Natural Gas

No natural gas is anticipated to be required for operation and maintenance of the project. The proposed project would not require or result in the construction of new gas facilities, which could cause significant environmental effects; thus, impacts during operation and maintenance would be less than significant.

Telecommunication Facilities

Telecommunications via fiber optic lines would be required to support operation and maintenance facilities. The proposed project would use local exchange carrier services for telecommunication to support remote monitoring requirements. It would connect to telecommunication fiberoptic lines owned and managed by AT&T or an alternative provider. Telecommunications would be supported by fiber optic lines installed underground within the footprint of the proposed project to connect the supervisory control and data acquisition equipment within the solar collector substations to local telecommunication lines within the project area. No offsite telecommunication connections are proposed during operation and maintenance located beyond the development footprint; thus, impacts during operation and maintenance 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 the 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.

Impact 4.17-2: The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

MPUD, and/or onsite or offsite wells would supply the proposed project with water for both its construction demand and operational demand (MPUD, 2022; Jacobs, 2023). MPUD would provide water to the project site through purchasing water, as available, from AVEK and selling it to the project proponent through a hydrant or well and making it available for use during the construction phase. Based on communication with MPUD, MPUD would not have sufficient water supplies to support the proposed project on its own, and the remaining demand would likely be provided by an onsite or offsite well (Jacobs, 2023).

Construction of the proposed project is expected to last for approximately 28 months, with the first 4 months dedicated to realignment of the SCE transmission line. Water requirements for the project during construction and operation were determined in the Water Supply Assessment prepared for the project (see Appendix M1 of this EIR). The project's construction water demand is estimated to be approximately 335 AF during the construction period and approximately 25 AFY throughout the anticipated operational life of the project (approximately 35 years). Bottled potable water for drinking and domestic use during

construction, operation, and decommissioning would be trucked to the project site. The water required during decommissioning is unknown at present, but is anticipated to be similar to construction water demands. Non-potable water required during construction, operation, and decommissioning would be supplied by the MPUD, and/or an onsite or offsite well, which would draw its water from the FVGB. MPUD derives some of their supplies from the FVGB. The will-serve letter provided by MPUD on May 12, 2023, states that MPUD would provide construction water for the proposed project for up to 2 years and 300 AF (see Appendix M2 of this EIR). The project site is located within the FVGB; as described above, there is no adjudication process for the FVGB as it is designated as a low-priority basin by the DWR. The DWR has determined that the FVGB is not currently in overdraft (Jacobs, 2023).

Additionally, according to the Water Supply Assessment prepared for the project, California City has a surplus of available groundwater and would potentially be able to supply construction water for the project. **Table 4.17-2**, *Water Supply and Demand Comparison for Present through 2040*, compares the available supply for construction and operation for average, single dry, and multiple dry water years to the project demand.

TABLE 4.17-2: WATER SUPPLY AND DEMAND COMPARISON FOR PRESENT THROUGH 2040

	Project Construction (2024-2025)			Operation and Maintenance (2025-2040)		
Available Sources	**Average Water Year**	**Single Dry Year**	**Third Year of Drought**	**Average Water Year**	**Single Dry Year**	**Third Year of Drought**
Projected Available Supply (acre-feet)						
MPUD Surplus Supplies	888[a]	808[a]	815[a]	595[b]	515[b]	522[b]
California City Surplus Supplies	3,179[c]	2,161[c]	2,250[c]	-	-	-
Total	**4,151**	**2,973**	**3,076**	**679**	**519**	**533**
Project Demand (acre-feet)						
Proposed Project [e]	144	144	144	25	25	25
Total	**144**	**144**	**144**	**25**	**25**	**25**
Surplus/Deficit	**+4,007**	**+2,829**	**+2,932**	**+654**	**+494**	**+508**

Notes:

AVEK = Antelope Valley-East Kern Water Agency; MPUD = Mojave Public Utility District

[a] Based on average surplus from MPUD Past and Projected Water Supply and Demand for Service Area for 2025. The production rate of groundwater wells is not climate dependent.

[b] Based on average surplus from MPUD Past and Projected Water Supply and Demand for Service Area for 2040.

[c] California City data supports its ability to supply construction water demands for the project.

[e] The proposed project would demand 335 AF over an approximately 28-month construction period. Therefore, the yearly demand is assumed to be 144 AFY ([335 AF/28 months] multiplied by 12).

SOURCE: Jacobs, 2023.

California City, MPUD, and other regional stakeholders have partnered in the development of an FVGB Groundwater Management Plan to promote regional groundwater sustainability. The FVGB Groundwater Management Plan provides supporting information used in the Fremont Basin Integrated Regional Water Management Plan. The Regional Plan discusses overall water supply reliability within the Fremont Basin region, including the integrated use of surface and groundwater supplies and the interrelationship of the Fremont Basin with the AVEK's integrated management of surface and groundwater supplies within the

Antelope Valley Basin to the south. The FVGB Groundwater Management Plan (California City, 2018) describes high levels of groundwater pumping for agricultural use from the late 1950s through the 1970s and by MPUD from 1968 through 1980, with resulting declines in groundwater levels. followed by recovery and stabilization of groundwater levels because of reduced agricultural use and the availability of imported SWP supplies. The FVGB Groundwater Management Plan also anticipates future increases in demand in the basin. Groundwater level data indicates that groundwater levels in the vicinity of the Project are increasing. Extractions from either an onsite/offsite well or from MPUD are not expected to significantly affect groundwater levels in the Fremont Valley groundwater basin.

Based on estimated project water demands, the commitment from MPUD to supply the project with water, and underlying aquifer to support development of an onsite groundwater well without adverse effects, there is sufficient water available to meet the future water demands of the proposed project during normal, single dry, and multiple dry years through 2040. Therefore, impacts related to water supply would be less than significant.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be less than significant.

Impact 4.17-3: 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.

Construction

Construction of the project would generate a minimal volume of wastewater. During construction activity, wastewater would be contained within portable toilet facilities 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.

Operation

The proposed project would not require or result in the relocation or construction of new or expanded municipal wastewater facilities, and no connection to a public wastewater system is required or proposed. During operation, there would be six permanent employees primarily operating from an offsite operations facility; however, small, satellite, portable office trailers may be placed onsite for rapid equipment repair. Wastewater generated is expected to be minimal from the six employees and would not require connection to a wastewater treatment provider. Any wastewater generation occurring within the project site would be collected in portable toilets that would be emptied as part of regular, ongoing project-related maintenance and disposed of at an existing, approved, offsite disposal site.

Mitigation Measures

No mitigation would be required.

Level of Significance

Impacts would be 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 not generate substantial amounts of nonrecyclable waste during construction. Currently, the project site is vacant and contains no development and, therefore, there would be no demolition or removal of large debris. Materials brought to the project site would be used to construct facilities, and few residual materials are expected. Solar modules would be delivered to the site via shipping containers packaged using wood and cardboard materials. The shipping containers materials for module deliveries would be recycled and are not anticipated to generate nonrecyclable waste. Common construction waste may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation wastes. Any hazardous waste generated during construction would be disposed of at an approved location.

Nonhazardous construction refuse and solid waste would either be collected and recycled or disposed of at a local landfill. The Mojave-Rosamond Recycling and Sanitary Landfill (approximately 2.3 miles to the west of Site 4 (Southern) and approximately 1.6 miles to the southeast of Site 2 (Western) is the closest landfill to the project site and, therefore, would be the most likely recipient of solid waste generated during project construction. The Mojave-Rosemond Recycling and Sanitary Landfill has a remaining capacity of 76,310,297 cubic yards (cy) with an anticipated closure year of 2123 (CalRecycle, 2019a). The next closest landfill is the Tehachapi Sanitary Landfill, which is located approximately 11 miles northwest of Site 2 (Western) and approximately 16.5 miles northwest of Site 4 (Southern) in Tehachapi, with a remaining capacity of 522,298 cy. Both landfills are Class III landfills and, therefore, accept wastes from construction and demolition as well as industrial sources, but do not accept hazardous waste, hot ashes, and liquids of any kind. As shown in **Table 4.17-1**, *Summary of Kern County Public Works Landfills,* both landfills have significant capacity remaining (CalRecycle, 2019a; 2019b). 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

During operation, little to no solid waste would be generated. The operations and maintenance would include up to six mostly offsite permanent employees, and the only waste generated onsite would result from operations and maintenance activities. The Mojave-Rosamond Recycling and Sanitary Landfill would continue to operate through 2123 and is expected to continue to serve the project throughout the rest of its operation. In addition, with the implementation of Mitigation Measure MM 4.17-1, as discussed below, a

recycling coordinator would ensure the separation and proper disposal of recyclable materials and solid waste generated during project operation, thereby further reducing solid waste generated during operation. Therefore, impacts related to landfill capacity would be less than significant with the implementation of Mitigation Measure MM 4.17-1.

Decommissioning

The project has an anticipated operational life of up to approximately 35 years, after which the land could be converted to other uses in accordance with applicable land use regulations in effect at that time. Solar photovoltaic (PV) panels contain valuable materials that would likely be reused and recycled at the end of their useful life. Solar panel manufacturers have identified that approximately 90 percent of materials in solar panel modules can be recycled. Site infrastructure would be removed, including the fences and the concrete pads that may support the inverters, transformers, and related equipment, and concrete posts will be removed to grade level, and all materials would be recycled to the extent feasible. As the energy storage system is dismantled and removed, the batteries will be discharged, hauled offsite, and recycled or disposed of at an appropriate location in accordance with all applicable hazardous waste requirements. Decommissioning of the gen-tie line would not generate substantial amounts of solid waste. As stated above, the Mojave-Rosamond Recycling and Sanitary Landfill is expected to be in operation through 2123 and would serve as a solid waste disposal location during project decommissioning.

Per Mitigation Measure MM 4.17-1, a collection and recycling program would be implemented during decommissioning to recycle project components and minimize disposal of project components in landfills. Project roads would be restored to their preconstruction condition unless the landowner elects to retain the improved roads for access throughout that landowner's property. The area would be thoroughly cleaned, and all debris removed. A collection and recycling program would be executed to promote recycling of project components and minimize disposal in landfills. Therefore, impacts related to landfill capacity would be less than significant during decommissioning with the implementation of Mitigation Measure MM 4.17-1.

Mitigation Measures

MM 4.17-1: Prior to issuance of a grading or building permit, an onsite Waste Disposal and Recycling Coordinator shall be designated by the project proponent/operator to facilitate waste disposal and recycling as part of the Maintenance, Trash Abatement, and Pest Management Program. The provisions listed below shall apply to the project:

a. The project proponent/operator shall provide a storage area for waste and recyclable materials within the fenced project area that is clearly identified for waste and recycling. This area shall be shown on a submitted site plan and maintained on the site during construction, operations and decommissioning.

b. During construction, operation, and decommissioning, debris and waste generated shall be recycled to the extent feasible.

c. The Waste Disposal and Recycling Coordinator shall facilitate recycling of all construction and decommissioning waste through coordination with contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes.

d. The Waste Disposal and Recycling Coordinator shall coordinate with Kern County Public Works Department – Solid Waste Division the acceptance for disposal or

recycling of construction and decommissioning waste prior to being transported to any public disposal facility.

e. The Waste Disposal and Recycling Coordinator shall ensure that materials transported to public disposal facilities for recycling shall be separated by material type so as not to be co-mingled or contaminated with waste material.

f. The Waste Disposal and 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.

g. Contact information of the coordinator shall be provided to the Kern County Planning and Natural Resources Department prior to issuance of building permits.

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 paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation wastes. 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 of 65 percent of construction and demolition 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.

SCE Transmission Line Relocation and Interconnection Work

SCE will relocate a 66-kV transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. The water demand for the SCE work was included in the Water Supply Assessment prepared for the project, such that the impacts to water supply are included in the above discussion. The SCE work would be included in the hydrology study, drainage plan, and SWPPP associated with construction of project. The relocated transmission line and interconnection work would result in impacts similar to those described above for the rest of the project. SCE would implement best management practices during construction and operation, as well as comply with applicable state and federal laws, such that impacts would be less than significant.

4.17.5 Cumulative Setting, Impacts, and Mitigation Measures

Past, present, or reasonably foreseeable future projects within the Antelope Valley are listed in **Table 3-6**, *Cumulative Projects List,* in Chapter 3, *Project Description*, of this EIR. The geographic scope for impacts to utilities and service systems includes projects within the service area for each of the utility providers described above, which includes demands on water supply, wastewater, stormwater drainage, and solid waste disposal. The scope for impacts to water and wastewater includes projects within the FVGB. The scope for impacts to stormwater drainage and solid waste disposal includes projects that rely on the same infrastructure and solid waste disposal facilities. 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 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 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 project would place few demands on water, wastewater, stormwater drainage,

electricity telecommunications, and solid waste disposal (during construction and operation). As described above, the project would place no demands on natural gas.

Water Supply

As described in Chapter 3, *Project Description,* of this EIR, 18 projects are proposed in the project vicinity that have the potential to impact existing water supply, if the projects were also to draw water from the FVGB. The projects could potentially draw from MPUD which include a series of existing wells. Given the limited water supply in the area, other projects are expected to either rely on new or existing water service hydrants, wells, transmission pipelines, or truck in their water supply. Therefore, the cumulative projects have the potential to result in significant impact on water supply within the local vicinity.

As described under Impact 4.17-2, the proposed project would need minimal water supply during construction, operation, and decommissioning. Non-potable water would be supplied by MPUD, and/or onsite water wells which draw from the FVGB and have proven to have sufficient water supply in comparison to the proposed project demand as shown in **Table 4.17-2**, *Water Supply and Demand Comparison for Present through 2040*. Therefore, the proposed project's contribution to cumulative water supply impacts would be less than cumulatively considerable.

Wastewater

With regard to wastewater, the project is located in an area with no wastewater treatment provider and 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. Wastewater generated during project operations would be collected in portable toilets emptied as part of regular ongoing project-related maintenance and disposed of at an existing, approved, offsite disposal site. Well water used onsite is not anticipated to require treatment for construction and operational uses; bottled potable water would be trucked to the site during construction. Similar to the proposed project, other solar projects would generate the same minimal amounts of wastewater. Therefore, the proposed project would not substantially contribute to a cumulative impact on regional wastewater treatment facilities or capacity.

Stormwater Drainage

As described above, there are no constructed stormwater drainage systems present onsite and stormwater on the project site either percolates onsite or drains offsite by way of existing ephemeral drainages. Project activities are not expected to substantially alter the ground surface such that new stormwater drainage facilities are needed. Nonetheless, Mitigation Measure MM 4.10-1 would be implemented as a part of the proposed project and requires preparation of a drainage plan to reduce potential increases in stormwater runoff onsite and would detail any necessary physical structures required to control stormwater. Per Mitigation Measure MM 4.10-1, no wells would be located in existing drainage onsite, thereby enabling these drainages to continue to naturally drain stormwater from the site unobstructed. These structures would be developed onsite along with the rest of project construction. 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, which 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 4.10-1, which would include BMPs designed to prevent the mixture of sediment and other pollutants with stormwater and degrading water quality. Therefore, the project would not contribute to cumulatively considerable impacts related to stormwater drainage facilities.

Solid Waste

The proposed project would generate a minimal amount of nonrecyclable solid waste. The Mojave-Rosamond Landfill is expected to operate until 2123. To ensure that the proposed project reduces the amount of waste sent to these 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. Surrounding projects would also be required to comply with all applicable ordinances in place designed to reduce the amount of solid waste disposed in landfills. Therefore, the proposed project would not contribute to a cumulatively considerable impact related to landfill capacity exceedance.

Electricity

The proposed project includes construction of a gen-tie line that would tie into the existing Windhub Substation and provide 600 MW of renewable electrical energy and up to 4,000 megawatt-hours of energy storage capacity to the statewide utility grid. Electricity demand of the project would be minimal during construction, and operations and would be provided by the onsite PV system in combination with SCE distribution facilities. This project in combination with other cumulative solar projects in East Kern County would help to reduce or offset electricity on the state-wide utility grid and, therefore, provide a beneficial cumulative impact on electrical demand and facilities.

Natural Gas

The proposed project does not include the relocation of existing natural gas facilities on the project site and natural gas would not be required for construction or operation of the project. Therefore, the project would not contribute to a cumulatively considerable impact related to natural gas demand and facilities.

Telecommunications

The proposed project in combination with cumulative projects would increase demand on telecommunication facilities. However, demand associated with energy projects and other cumulative development would be minimal and is expected to be within the planning forecasts of the affected telecommunications provider. Therefore, cumulative impacts related to telecommunications facilities would be less than significant.

In conclusion, the proposed project would be largely self-contained and would not have a significant impact on public utilities. The incremental effects of the proposed project would also not be substantial enough to result in a cumulatively considerable impact on utilities and service systems with implementation of Mitigation Measures MM 4.10-1 and MM 4.17-1. 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 4.10-1 and MM 4.17-1 would be required. (See Section 4 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 Measures MM 4.10-1 and MM 4.17-1, cumulative impacts would be less than significant.

Section 4.18
Wildfire

4.18.1 Introduction

This section of the EIR describes the affected environment and regulatory setting for wildfire. It also discusses potential impacts related to wildland wildfire that could result from implementation of the project, and includes mitigation measures that would reduce these impacts, if applicable. This section is based on the project plans and California Department of Forestry and Fire Protection (CAL FIRE) and Kern County Fire Hazards Severity Zone Maps.

4.18.2 Environmental Setting

Site Characteristics and Fire Environment

The 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 FHSZ Maps for the Local Responsibility Areas (LRA), and as shown in **Figure 4.18-1,** *Fire Hazard Severity Zones for Local Responsibility Areas* (CAL FIRE, 2007), most of the project site is classified as LRA Moderate. Further, according to the CAL FIRE, Kern County FHSZ Maps for the State Responsible Areas (SRA), and as shown in **Figure 4.18-2**, *Fire Hazard Severity Zones for State Responsibility Areas*, a portion of the project site, specifically Site 5 (Step-up Substation) and the western most portion of the generation tie (gen-tie) line, is within an area categorized as SRA Moderate (CAL FIRE, 2022a). The closest SRA Very High FHSZ is located approximately 13 miles west of the project site, and no LRA Very High FHSZs exist within Kern County. Given this designation, the project site is outside of areas identified by CAL FIRE as having substantial or very high risk. Moderate zones are typically wildland supporting areas of low fire frequency and relatively modest fire behavior. The project site consists of undeveloped desert lands that have mostly been used for grazing. The surrounding land primarily consists of rural residential, agricultural, undeveloped land, and large-scale renewable energy developments.

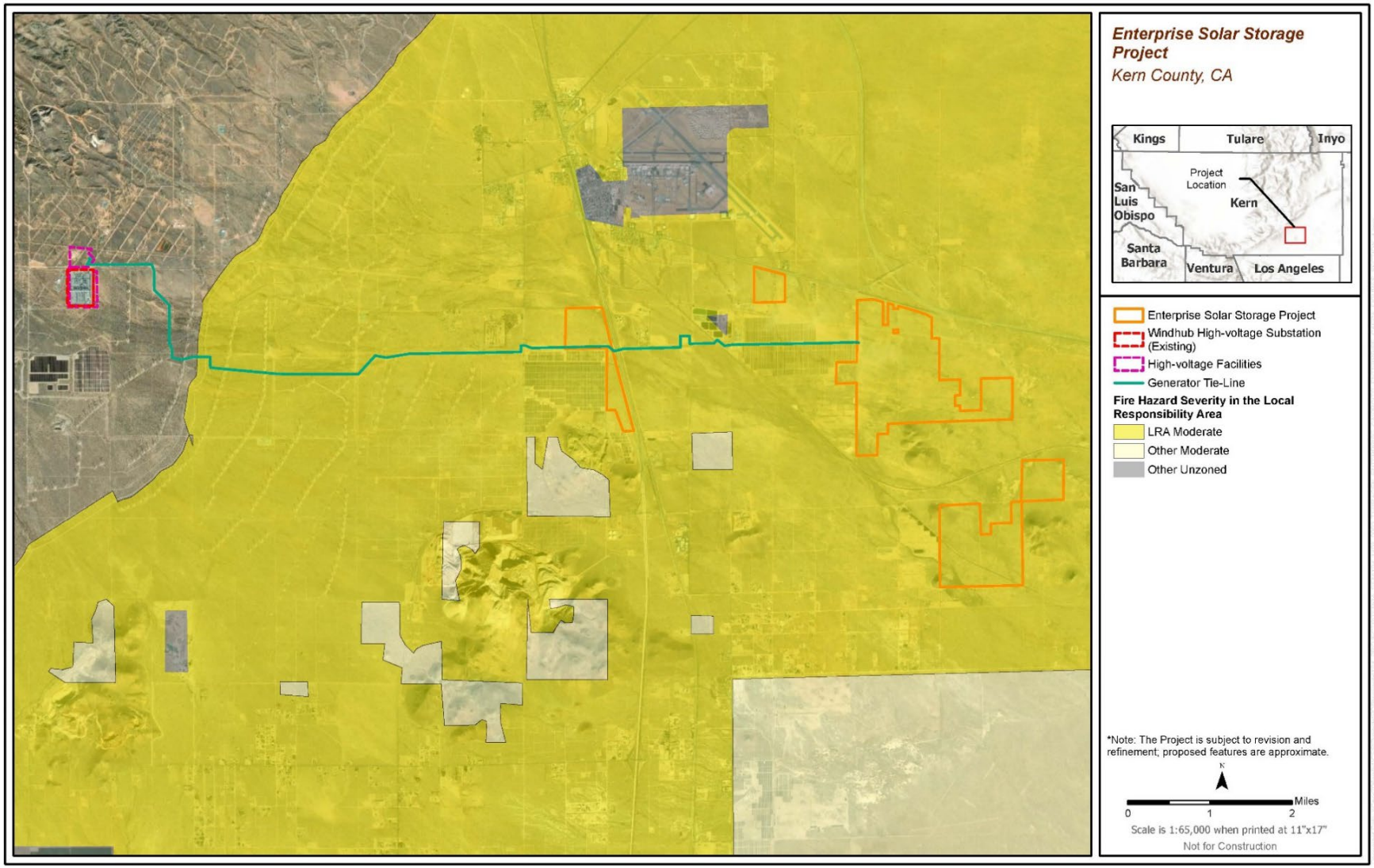


Figure 4.18-1 Fire Hazard Severity Zones for Local Responsibility Areas

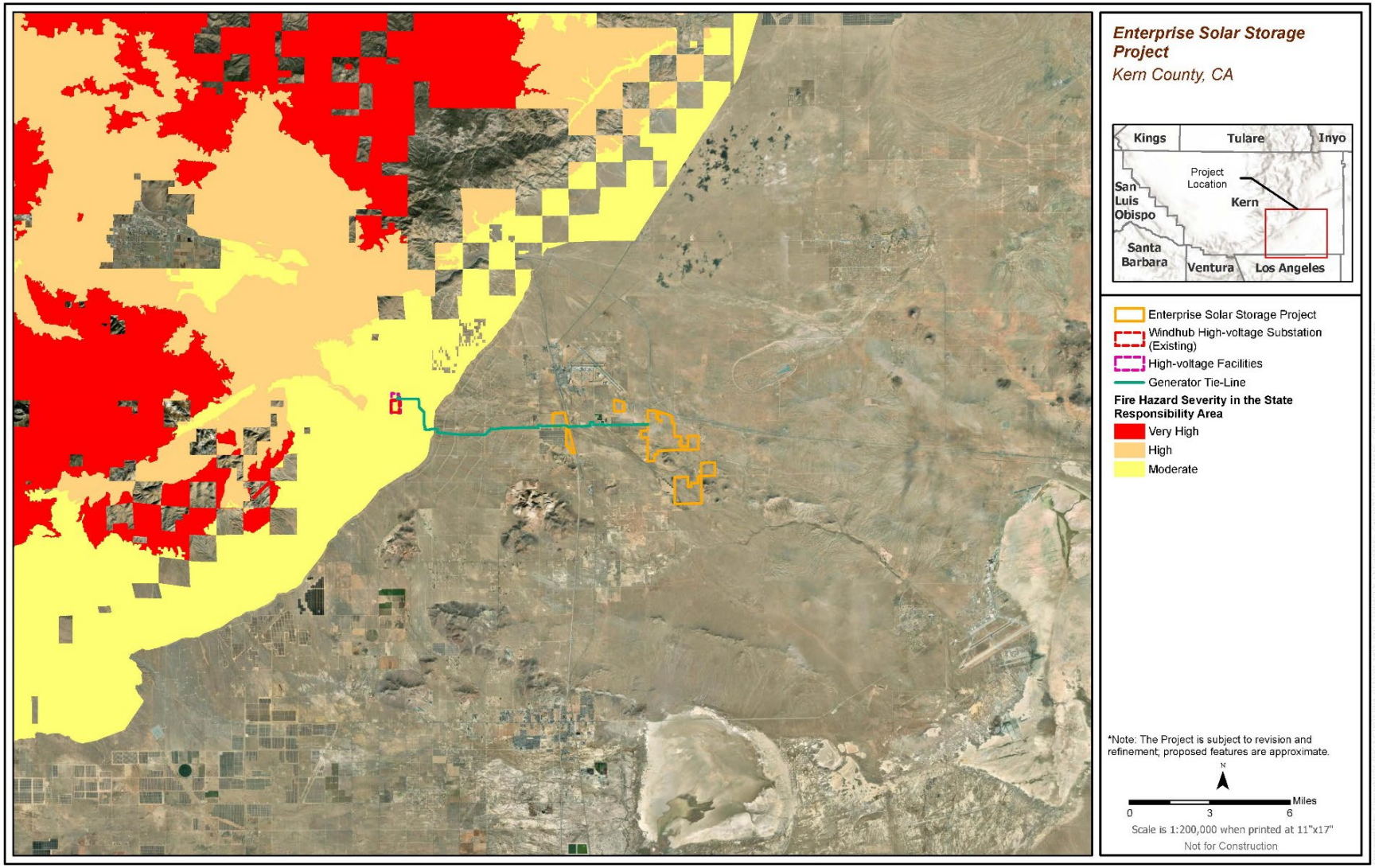


Figure 4.18-2 Fire Hazard Severity Zones for State Responsibility Areas

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 Incidents Search Tool (CAL FIRE, 2023) and CAL FIRE's Fire and Resource Assessment Program (FRAP) database (CAL FIRE, 2022b). Since 2013, 74 fires have occurred in Kern County and 74 fires have occurred in Los Angeles County, primarily within the mountains to the west/northwest of the project site and south/southwest of the project site, respectively. No fires have burned across the project site or within the surrounding area within this timeframe. According to the National Wildfire Coordinating Group (NWCG), a national interagency group comprising 12 member agencies, a large fire is defined as a fire burning more than a specified area of land (e.g., 300 acres), which is also the size threshold of a Class E Fire (NWCG, 2022a, 2022b). Fire classes range from Class A at 0.25 acre or less, to Class G at 5,000 acres or more (NWCG, 2022b). Fires larger than 300 acres and documented within 30 miles of the Project site are as shown in **Table 4.18-1**, *Fires Over 300 Acres Within 30 Miles of the Project Site by Date*, organized by date (CAL FIRE, 2023).

TABLE 4.18-1: FIRES OVER 300 ACRES WITHIN 30 MILES OF THE PROJECT SITE BY DATE

Name	Start Date	Counties	Acres Burned	Approximate Distance (mile) from Project Site
Peak Fire	7/20/2021	Kern	2,098	25 miles NW
WeeVill Fire	5/20/2021	Los Angeles	300	27 miles SW
Lake Fire	8/12/2020	Los Angeles	31,089	28 miles SW
Stagecoach Fire	8/3/2020	Kern	7,760	26 miles NW
Bena Fire	7/1/2020	Kern	4,000	27 miles NW

Vegetation (Fuels)

Desert vegetation dominates the regional landscape of the area and comprises allscale saltbush (*Atriplex polycarpa*) scrub, creosote bush (*Larrea tridentata*), and western Joshua tree (*Yucca brevifolia*). Fuels can include natural materials, such as dead tree leaves, twigs, branches, dead or live trees, brush, and dry grasses, as well as humanmade structures. The topography of the area, including the project site, is relatively flat as the project site is south/southeast of the Tehachapi Mountains. A description of the vegetation communities and land cover types, along with applicable acreage of each, is provided in **Table 4.4-1**, *Plant Community and Land Cover Mapped Acreage within the Survey Area,* in Section 4.4, *Biological Resources*, of this EIR.

California Public Utilities Commission-designated Wildfire Hazard Zones

Pursuant to its Fire Safety Rulemaking, the California Public Utilities Commission (CPUC) mapped high fire threat areas where more stringent inspection, maintenance, vegetation clearance, and wire clearance requirements (as required by CPUC General Orders 95 and 165, described in Section 4.18.3 under the heading "California Public Utilities Commission Requirements," below) would be implemented due to the elevated risk for powerline fires. The CPUC High Fire Threat District Map identifies three tiers of elevated risk for fires associated with utilities. The project site is not located in a CPUC-designated High Fire Threat

District (HFTD). The closest CPUC-designated HFTD is located approximately 9 miles west of the project site (CPUC, 2023).

4.18.3 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

California Public Resources Code

California Public Resources Code (PRC) Section 4290 requires CAL FIRE to adopt regulations implementing minimum fire safety standards for defensible space that would be applicable to lands within the SRA and lands within Very High FHSZs.

SRAs are defined by California PRC Section 4102 as areas of the state in which CAL FIRE has determined that the financial responsibility for preventing and suppressing fires lies with the State of California. SRAs are lands in California where CAL FIRE has legal and financial responsibility for wildfire protection. SRA lands typically are unincorporated areas of a county, are not federally owned, have wildland vegetation cover, have housing densities lower than three units per acre, and have watershed or range/forage value. In SRAs, CAL FIRE is required to delineate three hazard ranges: moderate, high, and very high; whereas LRAs, which are under the jurisdiction of local entities (e.g., cities, counties), are required to only identify very high fire hazard severity zones. The hazard ranges are measured quantitatively based on vegetation, topography, weather, crown fire potential (a fire's tendency to burn upward into trees and tall brush), and ember production and movement within the area of question. Where SRAs contain built environment or development, the local government agency assumes responsibility for fire protection.

The California PRC includes fire safety provisions that apply to SRAs during the time of year designated as having hazardous fire conditions. During the fire hazard season, these regulations restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on equipment that has an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire-suppression equipment that must be provided on-site for various types of work in fire-prone areas. Additional codes require that any person who owns, controls, operates, or maintains any electrical transmission or distribution line must maintain a firebreak clearing around and adjacent to any pole, tower, or conductors that carry electric current as specified in PRC Sections 4292 and 4293. Section 4292 also requires that a 10-foot area around the base of poles be cleared of all flammable vegetation.

LRAs include lands that do not meet criteria for SRAs or federal responsibility areas, or are lands in cities, cultivated agricultural lands, and nonflammable areas in the unincorporated parts of a county. LRAs can include flammable vegetation and wildland-urban interface areas. LRA fire protection is provided by the local fire departments, fire protection districts, county fire departments, or by contract with CAL FIRE.

As provided above, most of the project site is classified as LRA Moderate, and a portion of the project site, specifically Site 5 (Step-up Substation) and the western most portion of the gen-tie line, is within an area categorized as SRA Moderate.

California Fire Code

The 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.

California Building Code, Chapter 7A

Chapter 7A of the 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.

California Building Code, Section 608

Section 608 of the California Building Code includes requirements for battery energy storage systems greater than 20 kilowatt-hours, 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.

Public Resources Code 4291-4299

California PRC 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 PRC 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.

2018 Strategic Fire Plan for California

Developed by the Board of Forestry and Fire Protection, the Strategic Fire Plan outlines goals and objectives to implement CAL FIRE's overall policy direction and vision. The 2018 Strategic Fire Plan goals revolve around fire prevention, natural resource management, and fire suppression efforts, as broadly construed (CAL FIRE, 2018).

California Public Utilities Commission Requirements

General Order 95

General Order 95 governs the design, construction, and maintenance of overhead electrical lines and applies to work conducted by Southern California Edison (SCE)[1]. The replacement of poles, towers, or other structures is considered reconstruction and requires adherence to all strength and clearance requirements of this order. CPUC Decision 17-12-024 created enhanced requirements under Rule 18A, Rule 35, and Rule 38, which apply to overhead electric lines located in Tier 2 or Tier 3 HFTDs. The project site, including the SCE transmission line relocation site and interconnection work within and adjacent to the Windhub Substation, is not located in a CPUC designated HFTD (CPUC, 2020); therefore, the enhanced requirements would not apply.

General Order 165

General Order 165 establishes requirements for the inspection of electric distribution and transmission facilities that are not contained within a substation. Utilities must perform "patrol" inspections, defined as a simple visual inspection of utility equipment and structures that is designed to identify obvious structural problems and hazards, and must be performed at least once per year for each piece of equipment and structure. "Detailed" inspections, where individual pieces of equipment and structures are carefully examined, are required every 5 years for all overhead conductors and cables, transformers, switching/protective devices, and regulators/capacitors. By July 1 of each year, each utility subject to this General Order must submit an annual report of its inspections for the previous year under penalty of perjury (CPUC, 2017).

Senate Bill 1028

Senate Bill (SB) 1028 (2016) requires each electrical corporation to construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment, and makes a violation of these provisions by an electrical corporation a crime under state law. The bill also requires each electrical corporation to annually prepare a Wildfire Mitigation Plan (WMP) and submit to the CPUC for review. The plan must include a statement of objectives, a description of preventive strategies and programs that are focused on minimizing risk associated with electric facilities, and a description of the metrics that the electric corporation uses to

[1] IOUs are private electricity and natural gas providers. The CPUC regulates IOUs.

evaluate the overall WMP performance and assumptions that underlie the use of the metrics. SCE filed the 2023-2025 WMP on March 27, 2023 (SCE, 2023).

Senate Bill 901

SB 901 (2018) expanded upon the WMP requirements of SB 1028 and included a number of provisions related to wildfire risk and management in California including, but not limited to, the following: budget adjustments related to emergency response and readiness, the creation of a CAL FIRE Wildfire Resilience Program, and increasing the maximum penalties that can be issued by the CPUC to a public utility that fails to comply with CPUC requirements. Additionally, the legislation requires that utilities prepare WMPs that include elements specified in the bill, such as the following:

1. A description of the preventive strategies and programs to be adopted by the electrical corporation to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.
2. Protocols for disabling reclosers[2] and deenergizing portions of the electrical distribution system that consider the associated impacts on public safety, as well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.
3. Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the electrical corporation's service territory.

SCE filed the 2023-2025 WMP on March 27, 2023 (SCE, 2023).

SCE Wildfire Mitigation Plan

Pursuant to SB 901 and SB 1028, SCE submitted its 2023-2025 WMP to the California Office of Energy Infrastructure Safety (OEIS or Energy Safety) on March 27, 2023. The WMP describes SCE's approach to assessing and mitigating wildfire risk. The WMP represents the continuous refinement, expansion, and improvement of wildfire and Public Safety Power Shutoffs (PSPS) mitigation efforts. The WMP is also characterized by a continued execution of SCE's Integrated Wildfire Mitigation Strategy (IWMS), which further aligns grid hardening, inspections, and vegetation management activities. The WMP includes 40 activities with program targets to reduce the risk of wildfires and support service communities.

The "primary objective of [the] 2023-2025 WMP is to reduce the risk of wildfires associated with utility equipment and to reduce the scope, scale, frequency, and impacts of PSPS events" (SCE, 2023).

[2] Reclosing devices, such as circuit breakers, are used to isolate circuit segments when abnormal system conditions are detected.

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 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.

Mojave Specific Plan

The Mojave Specific Plan guides development within and surrounding the Mojave community. The Mojave 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. The policies in the Mojave Specific Plan for wildfire applicable to the project are provided below. The Mojave 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 Mojave Specific Plan are incorporated by reference.

Chapter 9: Seismic and Safety Element

Policies

Policy 9.4.2: Work with the Kern County Fire Department and the Kern County Sheriff's Department to ensure sufficient services can adequately protect and serve the community.

Policy 9.4.3 Ensure that street widths and clearance areas are sufficient to accommodate fire protection and emergency vehicles during land division review and site plan review.

Policy 9.4.5 Continue to enforce the Kern County Health, Fire and Building standards for new development and rehabilitation of existing structures.

West Edwards Road Settlement Specific Plan

The West Edwards Road Settlement Specific Plan addresses issues of importance in the area by stating goals, policies, implementation measures, and general provisions specific to the area. The implementation measures in the West Edwards Road Settlement Specific Plan for wildfire applicable to the project are provided below. The West Edwards Road Settlement 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 West Edwards Road Settlement Specific Plan are incorporated by reference.

Chapter 4: Safety Element

Implementation Measures

Measure 4.1.4.2 All construction shall comply with the requirements of the Kern County Code of Building Regulations and the Uniform Fire Code (UFC) regarding water supply, fire flow, and construction standards.

Soledad Mountain Elephant Butte Specific Plan

The Soledad Mountain Elephant Butte Specific Plan addresses issues of importance in the area by stating recommendations, analysis, and implementation measures specific to the area. There are no recommendations, analyses, or implementation measures in the Soledad Mountain Elephant Butte Specific Plan for wildfire applicable to the project. The Soledad Mountain Elephant Butte Specific Plan contains additional recommendations, analysis, 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 Soledad Mountain Elephant Butte Specific Plan are incorporated by reference.

Kern County Multi-Jurisdictional Hazard Mitigation Plan

The latest Kern County Multi-Hazard Mitigation Plan was most recently updated in 2020. 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. The Federal Emergency Management Agency (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 (County of Kern, 2020).

Kern County Fire Department Wildland Fire Management Plan

The Kern County Fire Department (KCFD) Wildland Fire Management Plan 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 SRA. 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 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 (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 2022 California Fire Code and the 2021 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, updated in April 2022, is the most current document that assesses the wildland fire situation throughout the SRA within Kern 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 SRA. 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. 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. 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 (KCFD, 2022).

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 April 8, 2021. The standard is implemented in accordance with the 2019 California Fire Code (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 (PV) 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, 2021).

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 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, project location maps, and project characteristics. Using the aforementioned resources and professional judgment, impacts were analyzed according to California Environmental Quality Act (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 fire hazard severity zone 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 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 and maintenance/operations 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 and maintenance/operations 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.

As noted in Section 4.15, *Transportation*, the need for and number of any escorts (i.e., from California Highway Patrol), as well as the timing of transport, would be reviewed by Caltrans and Kern County, and would be detailed in respective oversize load permits. Mitigation Measure MM 4.15-1 would require that all oversize vehicles used on public roadways during construction obtain required permits and obtain approval of a Construction Traffic Control Plan, as well as identify anticipated construction delivery times and vehicle travel routes in advance to minimize construction traffic during AM and PM peak hours. This would ensure that the potential for project-related construction traffic to interfere with vehicular circulation or emergency access along local roadways would be minimized, including during any times of emergency evacuation. Additionally, project operations would generate limited daily traffic traveling to and from the site for work and/or for intermittent maintenance purposes.

Therefore, the project would not conflict with the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

Mitigation Measure

No mitigation would be 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. As described in Chapter 3, *Project Description*, of this EIR, elevations across the project site range from approximately 2,750 feet above mean sea level in the northwest portion of the site to approximately 2,520 feet above mean sea level in the southeast portion of the site. As mentioned above, the site has low topographic relief and is relatively flat. The proposed project would introduce temporary onsite employees during construction and six permanent employees during operation.

During a wildfire occurring in the area, pollutants may be released. However, it is anticipated that any employees occupying the site would be rapidly evacuated at the time of the event, and/or evacuated well in advance of an approaching wildfire, in conformance with applicable County evacuation directives put in place. Such measures would ensure that the exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire from prevailing winds would be minimized to the extent feasible.

Additionally, the project site is classified as LRA Moderate and SRA Moderate; thus, the potential for wildfire on the project site exists, but is not considered high. 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. As discussed in Section 4.14, *Public Services*, of this EIR, the project proponent/operator shall develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2022 California Fire Code and Kern County Fire Code for use during construction, operation and

decommissioning, per implementation of Mitigation Measure MM 4.14-1. Under this Fire Safety Plan, construction and maintenance personnel would be trained and equipped to extinguish small fires, thus reducing the risk of fire onsite. Given the moderate potential for fire, the project site's flat topography, and with implementation of Mitigation Measure MM 4.14-1, 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 and impacts would be less than significant.

Mitigation Measure

Implementation of Mitigation Measure MM 4.14-1 would be required (see Section 4.14, *Public Services*, for 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 4.18-3: 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 project would include the construction of solar PV panels, energy storage system(s), electrical collection systems and inverters, collector substations, a step-up substation, a gen-tie line, telecommunications facilities, supporting equipment, and access roads that could potentially exacerbate fire risk and result in temporary or ongoing impacts to the environment. The collection system would connect to the solar panels via above- and underground wiring. Underground electrical cables (underground collection system) would be installed from groups of PV arrays that would be arranged into power blocks. All electrical inverters and the transformers would be dispersed among the arrays and installed on prefabricated metal skids that would sit on steel pier foundations or concrete foundations, depending on the design. The inverter pad transformers would step up the voltage of the array output, which would be collected at the on-site circuit breakers or switchgear positions. From the circuit breakers or switchgear positions, the medium-voltage collector lines would be routed underground or aboveground to on-site collector substations. The on-site collector substations are the termination point of the collection system. The collector substations would host the grid intertie safety equipment and switches required to interconnect to the high-voltage transmission system. Ultimately, the power would then be delivered via 230-kV transmission to the proposed high-voltage step-up substation located north of the SCE-owned Windhub Substation, where it will be stepped up to 500 kV for final grid interconnection at the Windhub Substation. These facilities would be installed in accordance with all County and State building codes.

New internal unpaved roads would be constructed to serve as access roads from the existing road network to the solar array blocks. All road improvements would be completed per the California Department of Transportation (Caltrans) and/or County code and regulations. These roads would be up to 25 feet wide and would be cleared and compacted for equipment and emergency vehicle travel and access to the solar blocks. 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.

An energy storage system is proposed as part of the project, which would use direct current (DC)-coupled and/or alternating current (AC)-coupled battery storage. The energy storage system(s) will be required to comply with Chapter 1206 of the California Fire Code. This Fire Code applies to stationary electric energy storage systems and addresses development standards for design, installation, commission, operation, maintenance, and decommissioning of these systems. This includes fire and safety equipment requirements that will be approved by the Fire Code officials having jurisdiction over the project and equipment and system fire testing in accordance with nationally adopted Underwriters Laboratories standards, which includes stringent standards for commissioning, operation and maintenance, ongoing inspection and testing, decommissioning, seismic and structural design, signage, security installations, fire detection and suppression systems, vegetation control and minimum setbacks from lot lines, roads, and adjacent buildings. Compliance with these advanced, nationally adopted standards are designed to ensure the site installation and operation of battery storage systems are safe for operators, first responders, and neighboring communities.

Finally, the project would include an aboveground 10,000-gallon fire tank for operations and fire suppression, which would be placed at each site entrance. As discussed in Section 4.17, *Utilities and Service Systems*, of this EIR, there is sufficient water available to meet the future water demands of the proposed project during normal, single dry, and multiple dry years through 2040.

Fires at battery energy storage systems are rare. In the rare instances where fires have occurred, the safety features and protocols built into today's battery energy storage systems are designed to prevent harm to operators, first responders and neighbors. Most fires in the desert are caused by lightning or vehicles. Further, as described above, the use of maintenance vehicles can increase fire risk due to driving heated mufflers over vegetated areas. However, the project site is located within a moderate fire hazard severity zone and none of the proposed electrical collector system and internal/perimeter dirt maintenance roads would be located within a high fire hazard zone. In construction areas, the vegetation would be cleared as needed; and the proposed project would result in a minimal increase in fire risks that could result in temporary or ongoing impacts to the environment. Additionally, as discussed in Section 4.14, *Public Services*, of this EIR, the project proponent/operator shall develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2022 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 are reduced and, thus, impacts would be less than significant.

As discussed in Section 4.14, *Public Services*, of this EIR, the project proponent/operator will develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2022 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning, per implementation of Mitigation Measure MM 4.14-1. The Fire Safety Plan will contain procedures and protocols to ensure that first responders are adequately trained to control a fire emergency at the site during both project development and operation. Implementation of this plan would ensure that potential impacts related to installation or maintenance of associated infrastructure associated with the energy storage system is reduced and, thus, impacts would be less than significant.

Mitigation Measure

Implementation of Mitigation Measure MM 4.14-1 would be required (see Section 4.14, *Public Services*, for 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 flowpaths compared to existing conditions and include the introduction of new impervious surfaces. In accordance with Mitigation Measure MM 4.10-1, the project would require implementation of a Stormwater Pollution Prevention Plan (SWPPP), which would include erosion and sediment control best management practices (BMP) 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*, of this EIR, 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. 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*, of this EIR, most of the drainage flow within the project site infiltrates into the soils onsite.

The project site is located south and east of the Tehachapi Mountains and is relatively flat. 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. In addition, as described further in Section 4.7, *Geology and Soils*, conditions for landslides are not present at the project site, which is characterized by relatively gradual inclines across the site. 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 with the incorporation of Mitigation Measure MM 4.10-1.

Mitigation Measure

Implementation of Mitigation Measure MM 4.10-1 would be required (see Section 4.10, *Hydrology and Water Quality*, for 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.

SCE Transmission Line Relocation and Interconnection Work

SCE will relocate a 66-kV transmission line to remove it from the project footprint. An approximately 20-foot-wide access road will be graded within SCE's right-of-way to facilitate construction and future maintenance of the line. After the relocated transmission line is installed and energized, the old transmission line will be dismantled using equipment used to install and tension the relocated transmission line. Additionally, SCE will interconnect the project's 500 kV transmission line into the SCE-owned Windhub Substation 500 kV banks located on the south side of the facility. It is anticipated that SCE's interconnection work will involve upgrades within the substation footprint and potential relocation of existing high-voltage transmission poles and conductors, and/or installation of new poles and conductors adjacent to or within the footprint of the Windhub Substation. The impacts associated with construction of the relocated transmission line and the interconnection work would be similar to those described above for the rest of the project. Neither the relocated transmission line nor the interconnection work at the Windhub Substation is within a high fire severity hazard zone, and it would not exacerbate fire risks, interfere with emergency plans, or expose people or structures to significant risks. SCE would implement best management practices and comply with applicable state laws regarding the construction and operation of the relocated transmission line and interconnection work. Accordingly, all impacts related to wildfire associated with the SCE work would be less than significant.

4.18.5 Cumulative Setting, Impacts, and Mitigation Measures

The geographic scope for wildfire impacts is considered the Antelope Valley. This geographic scope was selected because the land within the region possesses relatively similar uses, including sparse desert vegetation, rural access roads, scattered rural residences, producing and non-producing water wells, cattle ranching and maintenance facilities, mining, wind and solar energy uses. As shown in Chapter 3, *Project Description*, **Table 3-6**, *Cumulative Projects List*, there are 16 projects proposed or approved throughout the Antelope Valley in Kern County and in the desert portion of Kern County outside the Antelope Valley. Of the 16 total projects in Kern County, 13 would be located within 6 miles of the project site and 10 would be located within 1 mile of the project site. Furthermore, of these cumulative projects, all related projects would be located within either LRA Moderate or SRA Moderate FHSZs. No cumulative projects similar in nature to the proposed project would be located within High or Very High FHSZs, which are primarily located in the Tehachapi Mountains to the west/northwest of Antelope Valley (see **Figure 4.18-1**, *Fire Hazard Severity Zones for Local Responsibility Areas*).

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. Further, the project site is located within a moderate fire hazard severity zone, is located in a rural, sparsely developed areas with limited population, is sparsely vegetated and lacks steep slopes, and would be in compliance with Fire Code and Building Code requirements including fire prevention and emergency response training

for site personnel. Additionally, as discussed in Section 4.14, *Public Services*, of this EIR, the project proponent/operator will develop and implement a Fire Safety Plan that contains notification procedures and emergency fire precautions consistent with the 2022 California Fire Code and Kern County Fire Code for use during construction, operation and decommissioning, per implementation of Mitigation Measure MM 4.14-1. All related projects would also be required to implement Fire Safety Plans. 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. 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, the proposed project is not within a LRA, SRA, or FRA identified as having a high or very high fire risk, and all related projects would also be located within either LRA Moderate or SRA Moderate FHSZs. No related cumulative projects would be located within either High or Very High FHSZs, as these areas are primarily located in the Tehachapi Mountains to the west/northwest of Antelope Valley . Similar to the proposed project, all related projects would be required to implement a Fire Safety Plan similar to the one required by Mitigation Measure MM 4.14-1 and 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. Furthermore, with the exception of certain topographical features located throughout Antelope Valley, the region is relatively flat overall and does not contain many steep slopes, although elevations gradually increase towards the Tehachapi Mountains. Thus, cumulative projects in Antelope Valley would not exacerbate wildfire risks due to slope. Potential pollutant concentrations occurring at cumulative projects are unlikely to impact proposed project occupants due to distance. Conversely, potential pollutant concentrations occurring at the project site are unlikely to impact cumulative project occupants due to distance. 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 associated with cumulative projects would adhere to all fire codes to minimize the potential fire risk such as siting and design. The proposed project would include the construction of solar PV panels, energy storage system(s), electrical collection systems and inverters, collector substations, a step-up substation, a gen-tie line, telecommunications facilities, supporting equipment, and access roads. 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 2022 California Fire Code and Kern County Fire Code, for use during project construction, operation and decommissioning. All related projects would also be required to implement Fire Safety Plans. Similarly, all cumulative projects would be required to mitigate any significant impacts to public services, utilities, and

transportation, as does the proposed project. As described above, the project would result in a less than significant impact related to the exacerbation of fire risk associated with the installation or maintenance of project infrastructure. 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. There are no landslide areas within Antelope Valley (DOC, 2023), and with the exception of certain topographical features, the area is relatively flat overall and does not contain many steep slopes, although elevations gradually increase towards the Tehachapi Mountains. Thus, cumulative projects would not be located in areas where post-fire slope instability is a concern. Regarding runoff and drainage, each cumulative project would also require site-specific hydrology and drainage studies for effective drainage design, as is required for the project with implementation of Mitigation Measure MM 4.10-1. Further, all cumulative projects would disturb more than an acre of ground, therefore requiring conformance with the requirements of the National Pollutant Discharge Elimination System General Construction Permit Program through the preparation of a 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. 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 Section 4.10, *Hydrology and Water Quality*, and Section 4.14, *Public Services*, for 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

Section 15128 of the California Environmental Quality Act (CEQA) *Guidelines* requires that an Environmental Impact Report (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 Initial Study/Notice of Preparation (IS/NOP) 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 IS/NOP 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 IS/NOP determined that up to an estimated 250 to 550 full-time employees per day would be required during peak construction periods for the proposed project. Project construction is anticipated to take approximately 24 months. Therefore, the majority of project-generated jobs would be from the local and regional area and would occur on a temporary and short-term basis. Construction workers are expected to travel to the sites from various local communities and locations throughout Southern California, and few, if any workers expected to relocate to the surrounding area because of these temporary jobs. If temporary housing should be necessary, accommodations (i.e., extended stay hotels, apartments, recreational vehicle parks, homes for rent or sale) would be available in the nearby communities of California City, Mojave and Rosamond.

The proposed project itself does not include new recreational facilities and is not anticipated to increase demand on existing facilities. The number of workers needed during the construction phase would largely depend on the specific stage of construction and range between 250 and 550 workers. These workers are not likely to visit local parks or recreation facilities during the workday and the workers that are relocating temporarily during construction would create little or no impact on local recreational resources after work hours.

The project would include up to six permanent onsite employees, likely drawn from the local labor force and who would commute from their permanent residences to the project site. 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.

The proposed project is located on vacant land with no existing housing. Residences in the area are sparse and rural in nature, with the nearest residence approximately 0.37 mile north of Site 2 (Western). As such, the proposed project is not anticipated to displace existing housing that would necessitate the construction of replacement housing elsewhere.

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 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:

- Agriculture and Forestry Resources;
- 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;
- Tribal Cultural Resources;
- Utilities and Service Systems; and
- Wildfire

5.2 Significant Environmental Effects that Cannot Be Avoided

Section 15126.2(b) of the CEQA *Guidelines* 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 project-level and cumulative impacts in the following areas, as shown in **Table 5-1**, *Summary of Significant and Unavoidable Impacts of the Project*, would be significant and unavoidable for the project, even with the incorporation of reasonable mitigation measures, which would reduce impacts to the greatest extent feasible.

TABLE 5-1: SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS OF THE PROJECT

Resources	Project Impacts	Cumulative Impacts
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. 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-4.1-7 would be incorporated to help reduce visual impacts associated with the proposed project by limiting vegetation removal, planting native vegetation, providing privacy fencing, reducing the visibility of project features, and ensuring that the site is kept free of debris and trash. Furthermore, the color treatment of buildings would help these components to better blend in with the natural landscape. Nevertheless, even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-7, project level impacts to visual character and quality would remain **significant and unavoidable.**	While other projects in the region would also be required to implement various mitigation measures to reduce impacts, the conversion of approximately 2,320 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 4.1-7, the project's contribution to significant impacts associated with visual character in the Antelope Valley would be **cumulatively significant and unavoidable.**
Air Quality	It is anticipated that there would be times during the project's construction and decommissioning activities that would result in significant temporary PM_{10} emissions that would conflict with regulations or delay the attainment of applicable Eastern Kern Air Pollution Control District (EKAPCD) standards and expose sensitive receptors to substantial pollutant concentrations. Even with adherence to EKAPCD's Ozone Attainment Plan and implementation of Mitigation Measures 4.3-1 through MM 4.3-5, these temporary impacts would be considered **significant and unavoidable**.	Construction- and decommissioning-generated emissions along with other cumulative projects located within the project area would cumulatively exceed EKAPCD's significance thresholds. Of particular concern with regard to regional air quality impacts are emissions of PM_{10}, for which the regional is designated nonattainment. For these reasons, and even with the implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5, the project's contribution to regional air quality impacts associated with short-term construction and decommissioning activities would be considered **cumulatively significant and unavoidable**.
Biological Resources	There would be no significant and unavoidable project impacts.	Implementation of the project in addition to the other projects under way or proposed within Kern County would impact wildlife species. Given the number of present and reasonably foreseeable future development projects in the Antelope Valley, the 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 4.4-19, when combined with related projects, the project would contribute to impacts that would be **cumulatively significant and unavoidable**.

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 project's location in a rural area and limited infrastructure, the project and related projects have the potential to result in a cumulative impact related to wildfire and, thus, would result in a **significant and unavoidable** cumulative impact.

5.3 Irreversible Impacts

Section 15126.2(c) of the CEQA *Guidelines* 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, the Mojave Specific Plan, the West Edwards Road Settlement Specific Plan, and the Soledad Mountain Elephant Butte Specific Plan, as a matter of public policy, those commitments have been determined to be acceptable. The Kern County General Plan ensures 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. Section 15126.2(d) of the *CEQA Guidelines* 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 would be six permanent employees during operations. It is anticipated that the construction workforce would commute to the sites each day from local and regional 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 and regional labor pool would stay in any of the local hotels in 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.

Chapter 6
Alternatives

6.1 Introduction

The California Environmental Quality Act (CEQA) requires that an 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.
- 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 that fosters 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.

Significant Impacts of the Project after Mitigation

Implementation of the project has the potential to have significant adverse effects on:

- Aesthetics (project and cumulative)
- Air quality (temporary project and cumulative)
- Biological resources (cumulative only)
- 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 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. Development of the project would expand existing industrial development (i.e., solar and wind developments) present south of State Route (SR)-58 and east and west of SR-14. Project facilities would add cultural modifications to the project site's landscape from certain viewpoints, including SR-58 and SR-14 which are eligible state scenic highways. Operation of solar power generation 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, but most is not sufficiently sized to provide for a natural screening of project components. The proposed project would incorporate applicable setback requirements for project features from the project property lines.

Mitigation Measures MM 4.1-1 through MM 4.1-5 (See Section 4.1, *Aesthetics*) would help to reduce visual impacts associated with the proposed project by limiting vegetation removal, planting native vegetation, providing privacy fencing, reducing the visibility of project features, and ensuring that the project site is kept free of debris and trash. Native vegetation would be left in place around the proposed project area where feasible, allowing for natural screening of project components. Nevertheless, even with implementation of Mitigation Measures MM 4.1-1 through MM 4.1-5, project level impacts to visual character and quality would remain significant and unavoidable. The project would result in less than significant impacts related to light and glare with the implementation of Mitigation Measures MM 4.1-6 and MM 4.1-7 (see Section 4.1, *Aesthetics*).

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 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 4.1-7, 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., reactive organic gas [ROG], nitrogen oxide [NO_X], carbon monoxide [CO], sulfur oxide [SO_X], and particulate matter less than 10 microns in diameter [PM_{10}] , and less than 2.5 microns in diameter [$PM_{2.5}$]) would be minimal and would not exceed applicable significance thresholds. However, construction and decommissioning of the project would result in temporary increases of PM_{10} and $PM_{2.5}$ that would exceed Eastern Kern Air Pollution Control District's (EKAPCD) significance thresholds. Mitigation Measures MM 4.3-1 through MM 4.3-3 (see Section 4.3, *Air Quality*) would be required implementation of dust control measures, following EKAPCD standards and permitting requirements, and best practices for fugitive dust management in order to reduce emissions of particular matter (PM_{10} and $PM_{2.5}$) throughout construction and decommissioning. However, even with implementation of this mitigation, temporary increases in PM_{10} and $PM_{2.5}$ during construction and decommissioning would exceed the EKAPCD significance thresholds. In addition, as the Mojave Desert Air Basin (MDAB) is in nonattainment for PM_{10} and the project would result in significant temporary levels of PM_{10} emissions during construction, the project could conflict with or delay the attainment of the standard. Furthermore, construction- and decommissioning-generated emissions along with other cumulative projects located within the project area would be cumulatively considerable. For these reasons, cumulative regional air quality impacts associated with short-term construction and decommissioning activities would be considered significant and unavoidable.

During project construction, it is possible that surrounding residents and onsite workers could be exposed to Valley Fever as fugitive dust is generated during construction even though dust minimizing techniques would be employed and dust reduction measures would be implemented (as described in Mitigation Measures MM 4.3-2 and MM 4.3-2). The project would be required to implement Mitigation Measure MM 4.3-6 (see Section 4.3, *Air Quality*) to reduce risks pertaining to Valley Fever. Mitigation Measure MM 4.3-6 would provide training and personal protective respiratory equipment to construction workers and provide information to all construction personnel and visitors about Valley Fever. Mitigation Measure MM 4.3-7 would require a one-time fee paid to the Kern County Public Health Services Department for Valley Fever public awareness programs. With the implementation of these mitigation measures, dust from the construction of the proposed project would not add significantly to the existing exposure level of people, including construction workers, and impacts would be reduced to less than significant levels.

Biological Resources

The project site and the surrounding area provide suitable habitat for a number of special-status species or otherwise protected plant and wildlife species (broadly referred to as special-status species). Implementation of the project in addition to the other projects under way or proposed within Kern County have the potential to impact habitat for special-status species, including desert tortoise, burrowing owl, desert kit fox, Mojave ground squirrel, Crotch's bumble bee, raptors, and migratory birds known to occur or with potential to occur on the project site. The project site contains habitat that supports insects, rodents, and small birds that provide a prey base for raptors and terrestrial wildlife. The project could also result in potentially significant impacts on various special-status plants including western Joshua tree and natural communities, including allscale scrub and other desert scrub, Joshua tree woodland, as well as potentially

jurisdictional water features. Given the number of present and reasonably foreseeable future development projects in the Antelope Valley, the project, when combined with other projects, would result in a significant and unavoidable cumulative loss of foraging and nesting habitat for a number of special-status species. While the project would have less than significant impacts with the implementation of Mitigation Measures MM 4.4-1 through MM 4.4-19 (see Section 4.4, *Biological Resources*), when combined with other past, present, and reasonably foreseeable future projects, the cumulative impact would be significant and unavoidable.

Wildfire

The proposed project site is located within a rural, sparsely developed area with limited existing infrastructure. The area contains low desert vegetation typical of the Mojave Desert. Wildland fires in such desert environments are generally infrequent and of low severity because the fuel loads are incapable of sustaining fire. No recorded wildfires have burned across the project site, and neither the proposed solar field or gen-tie line are located in or near State Responsibility Areas or lands classified as "very high" Fire Hazards Severity Zones, which are the primary indicators for elevated fire risks that require detailed impact analysis according to Appendix G of the CEQA *Guidelines*. To ensure the proposed project would not substantially impair an adopted emergency response or evacuation plan, Mitigation Measure MM 4.15-1 (see Section 4.15, *Traffic and Transportation*) would be implemented during construction which requires the project to obtain the necessary traffic permits and approvals and to follow proper traffic control procedures. Construction and operation of the project would pose minor risks of causing or exacerbating the uncontrolled spread of wildfire and adverse post-fire conditions. The associated impacts would all be less than significant with implementation of Mitigation Measure MM 4.14-1, which requires development and implementation of a Fire Safety Plan; see Section 4.14, *Public Services* of this EIR).

Although impacts of the proposed project by itself would be less than significant with mitigation, the project would have cumulatively considerable impacts related to wildfire due to the rural nature of the project region and the numerous other projects in the area. The proposed project in conjunction with other current and foreseeable projects would result in significant cumulative impacts related to wildfire, including potential conflicts with an adopted emergency response or evacuation plan; exposing people to pollutant concentrations from a wildfire; and the installation or maintenance of associated infrastructure that may exacerbate fire risk. The cumulative impacts would be significant and unavoidable.

6.2 Project Objectives

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]). As described in Chapter 3, *Project Description*, of this EIR the following objectives have been established for the project and will aid decision makers in the review of the project and associated environmental impacts.

- Provide the County and the State of California with a renewable energy source that would assist the state in complying with the Renewables Portfolio Standard under Senate Bill (SB) 100, approved in 2018, which requires that 100 percent of all electricity sold in the state shall be generated from renewable energy sources by 2045 (CPUC, 2023).

- Establish solar photovoltaic (PV) power generation with battery energy storage facilities of sufficient size and configuration to produce reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different California utility companies.
- Expand the reach of renewable energy development through the development of battery energy storage systems (BESS), making solar more valuable by storing energy after sunset and placing it on the grid.
- Utilize vacant land that has limited water availability for a renewable energy project.
- Assist the County in promoting its role as the State's leading producer of renewable energy.
- Provide green jobs to Kern County residents and the state of California.
- Site and design the project in an environmentally responsible manner, which includes:
    - Locating generation facilities in areas which receive intense solar radiation;
    - Using existing electrical transmission facilities, rights-of-way, roads, and other existing infrastructure where practical;
    - Minimizing water use; and
    - Reducing greenhouse gas emissions.
- Support California's efforts to reduce greenhouse gas emissions consistent with California Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, and SB 32, to at least 40 percent below the statewide greenhouse gas emissions limit by 2030.

6.3 Overview of the Project

The proposed project includes the development a PV solar facility and associated infrastructure necessary to generate 600 megawatts (MW) of renewable electric energy with up to 4,000 megawatt-hours (MWh) of energy storage capacity (approximately 1,000 MW), on approximately 2,320 acres of privately owned land.

The project consists of four noncontiguous solar sites, a step-up substation site located north of the existing SCE-owned Windhub Substation, a 230-kV gen-tie line to carry power generated by project solar facilities from the onsite collector substations to the proposed step-up substation located north of the Windhub Substation, and temporary construction laydown areas. Project facilities include the following components, which are described in more detail in Chapter 3, *Project Description,* of this EIR:

- Installation of up to 600 MW alternating current (AC) solar PV modules, mounted either on a galvanized metal fixed-tilt or single-axis racking system. The mounting systems for the modules would be mounted on steel support posts that would be pile-driven into the ground;
- Installation of energy storage facilities and accessory infrastructure that would provide energy storage capacity of up to 4,000 MWh for the electrical grid (approximately 1,000 MW);
- One to three collector substations, including circuit breakers, disconnect switches, metering protection equipment, and main step-up transformer(s);
- One 230-kV to 500-kV step-up substation;

- Potential upgrades to the existing SCE Windhub Substation and installation of new circuits, lines, switches, utility poles, etc.;
- Relocation of approximately 1 mile of existing 66-kV Coram-Goldtown transmission line by SCE to avoid interference with the project solar array (the project will not physically interconnect into this line);
- Overhead and underground collection systems both onsite and offsite (the collection systems would be aggregated at multiple circuit breakers or medium-voltage switchgear positions within the project facilities, leading to the collector substation);
- Telecommunication equipment, including underground and overhead fiberoptics, and meteorological data collection systems or supervisory control and data acquisition (SCADA);
- Onsite access roads; and
- Perimeter security fencing and nighttime directional lighting.

6.4 Overview of Alternatives to the Project

Under CEQA, and as indicated in California Public Resources Code (PRC) Section 21002.1(a), the identification and analysis of alternatives to a project is a fundamental aspect of the environmental review process and is required to ensure the consideration of ways to mitigate or avoid the significant environmental effects of a project. Based on the significant environmental impacts of the project, the aforementioned objectives established for the project, and the feasibility of the alternatives considered, including the No Project Alternative as required by CEQA, are considered in this chapter and summarized in **Table 6-1**, *Summary of Development Alternatives*. The Environmentally Superior Alternative, as required by CEQA, is described in Section 6.8, *Environmentally Superior Alternative*, below.

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 project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that the development of the 600 MW solar PV facility with up to 4,000 MWh of energy storage on the approximately 2,320-acre site would not occur. The No Project Alternative would not require Conditional Use Permits (CUPs) for construction and operation of the proposed solar and energy storage project. Amendments to the Mojave Specific Plan, West Edwards Road Settlement Specific Plan, and the Kern County General Plan would not be required. Nonsummary street vacations would not be required. The No Project Alternative would maintain the current zoning, land use classifications, and existing land uses, which consist mostly of undeveloped desert vegetation. No physical changes would be made to the project site.

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

Alternative 2, the General Plan/Specific Plan and Zoning Build-Out Alternative, assumes the project site would be developed to the maximum intensity allowed under the existing Kern County General Plan, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, and Soledad Mountain Elephant Butte

Specific Plan land use and zoning classifications. The existing General and Specific Plan designations are described in Chapter 3, *Project Description* and shown in **Figure 3-8a**, *Site 1 (Northern) Existing General and Specific Plan Designations,* **Figure 3-8b**, *Site 2 (Western) Existing General and Specific Plan Designations,* **Figure 3-8c**, *Site 3 (Eastern) Existing General and Specific Plan Designations,* **Figure 3-8d**, *Site 4 (Southern) Existing General and Specific Plan Designations,* **Figure 3-8e**, *Site 5 (Step-Up Substation) Existing General and Specific Plan Designations,* and listed in **Table 3-3,** *Project Assessor Parcel Numbers, Existing and Proposed Land Uses, and Acreages*. The existing land uses, map code designations, and zone classifications for the project site are summarized below in **Table 6-1**, *Project Site and Surrounding Land Uses*.

TABLE 6-1: PROJECT SITE AND SURROUNDING LAND USES

Location	Existing Land Use	Existing Map Code Designation	Existing Zone Classification
Project Site			
Site 1 (Northern)	Undeveloped	*Mojave Specific Plan:* 8.5 (Resource Management - Minimum 20 Acre Size)	A-1 (Limited Agriculture)
Site 2 (Western)	Undeveloped	*Mojave Specific Plan:* 3.1 (Parks and Recreation), 3.1/2.5 (Parks and Recreation/Flood Hazard) 5.2 (Residential – Maximum of 16 Units/Net Acres), 5.2/2.5 (Residential – Maximum of 16 Units/Net Acres, Flood Hazard) 5.3 (Residential – Maximum 10 Units/Net Acre) 5.4 (Residential – Maximum 4 Units/Net Acre) 6.2 (General Commercial), 6.2/2.5 (General Commercial/Flood Hazard) 6.3 (Highway Commercial), 6.3/2.5 (Highway Commercial/Flood Hazard) *Soledad Mt – Elephant Butte Specific Plan* LDR (Low Density Residential)	C-2 PD FPS (General Commercial, Precise Development Combining, Floodplain Secondary Combining) CH-PD (Highway Commercial, Precise Development Combining) CH PD FPS (Highway Commercial, Precise Development Combining, Floodplain Secondary Combining) CO PD (Commercial Office, Precise Development Combining) E (1/4) (Estate District. Min One-Quarter Acre) OS (Open Space) OS FPS (Open Space, Floodplain Secondary Combining) R-1 (Low Density Residential District) R-1 FPS (Low-Density Residential District, Floodplain Secondary Combining) R-2 PD (Medium-Density Residential District, Precise Development Combining) R-2 PD FPS (Medium-Density Residential District, Precise Development Combining, Floodplain Secondary Combining)

Location	Existing Land Use	Existing Map Code Designation	Existing Zone Classification
Site 3 (Eastern)	Undeveloped	*Kern County General Plan* *8.5* (Resource Management, Min. 20 Acre Parcel Size) *Mojave Specific Plan* *8.5* (Resource Management, Min. 20 Acre Parcel Size)	A (Exclusive Agriculture), A-1 (Limited Agriculture), A-1 H (Limited Agriculture, Airport Approach Height Combining)
Site 4 (Southern)	Undeveloped	*Kern County General Plan* 8.5(Resource Management, Min. 20 Acre Parcel Size), 2.4 (Steep Slope) *Kern County General Plan/Western Edwards Road Settlement Specific Plan* 1.1 (State and Federal Land), 8.5 (Resource Management, Min. 20 Acre Parcel Size)	A-1 (Limited Agriculture),
Site 5 (Step-up Substation)	Undeveloped	*Kern County General Plan* 8.4 (Mineral and Petroleum (Min. 5-Acre Parcel Size)	A WE (Exclusive Agriculture, Wind Energy Combining)
Temporary Laydown Yards	Undeveloped	*Mojave Specific Plan* 8.5 (Resource Management, Min. 20 Acre Parcel Size)	A-1 H (Limited Agriculture, Airport Approach Height Combining)

Implementation of Alternative 2 would consist of developing the project site under the current land use classifications. The Kern County General Plan and Mojave Specific Plan land use designation of 8.5 (Resource Management, 20- or 80-Acre minimum) applies primarily to open space lands containing important resources, such as wildlife habitat, scenic values, or watershed recharge areas. Typical uses include livestock grazing, farming and ranching, nature preserves, water storage and groundwater recharge areas, irrigated croplands, and open space and recreation. Other land use designations within the project site would allow for residential development of differing densities, some commercial and highway commercial development, and mineral and petroleum development.

No solar facilities would be developed under this alternative and, therefore, no CUPs, specific and general plan amendments, nonsummary street vacations, or zone changes for solar facility construction and operation would be required for this alternative. The Project site would be developed in accordance with the existing zone designations.

Alternative 3: Reduced Acreage Alternative

Under Alternative 3, the Reduced Acreage Alternative, Site 1 (Northern), Site 2 (Western), Site 3 (Eastern), and Site 5 (Step-up Substation) would be developed with a solar facility and associated infrastructure with the capacity to generate up to 400 MW of renewable electric energy with 4,000 MWh of battery energy storage. Under this alternative, Site 4 (Southern) would not be developed for solar energy production and would remain undeveloped. The gen-tie interconnection would remain unchanged. Eliminating development of Site 4 (Southern) from the project would reduce the project's total generation capacity from

600 MW to 400 MW and reduce the developed area from approximately 2,320 acres to approximately 1,590 acres. Similar to the proposed project, this alternative would require zone changes and CUPs for construction and operation of a commercial solar electrical generating facility, as well as amendments to the Mojave Specific Plan, and the Kern County General Plan, and Non-summary Street Vacations.

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 kilowatt hours to 1 MW) within existing developed areas, typically on the rooftops of commercial and industrial facilities situated throughout western Antelope 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 2,320 acres of total rooftop area) may be required to attain the project's capacity of 600 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 600 MW of electricity, but likely for onsite use only, and it would not include 4,000 MWh of battery storage capacity. This alternative assumes that rooftop development would occur primarily on commercial and industrial structures due to the greater availability of large, relatively flat roof areas necessary for efficient solar installations. Similar to the proposed project, this alternative would be designed to operate year-round using PV panels to convert solar energy directly to electrical power. Power generated by such distributed solar PV systems would typically be consumed onsite by the commercial or industrial facility without requiring the construction of a new electrical substation or transmission facilities. Under this alternative no CUPs, zone changes, or nonsummary street vacations would be required.

Table 6-2, *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 6-2: SUMMARY OF DEVELOPMENT ALTERNATIVES

Alternative	Description	Basis for Selection and Summary of Analysis
Project	Construction and operation of a solar facility and associated infrastructure necessary to generate up to 600 MW of renewable electrical energy and up to 4,000 MWh of energy storage capacity on approximately 2,320 acres. The power would be delivered via 230 kV circuits to a grid interconnection point at the SCE Windhub Substation. Approval of zone changes and CUPs for construction and operation of commercial solar electrical generating facilities, and an Amendment to the Mojave Specific Plan, the West	N/A

Alternative	Description	Basis for Selection and Summary of Analysis
	Edwards Settlement Specific Plan, and the Kern County General Plan would be required, in addition to nonsummary street vacations.	
Alternative 1: No Project Alternative	No development would occur on the project site. The project site would remain unchanged.	• Required by CEQA. • Avoids need for CUPs, zone changes, specific and general plan amendments, and requests to vacate public access easements. • Avoids all significant and unavoidable impacts. • Would not offset greenhouse gas (GHG) emissions from nonrenewable energy generation, thus greater impacts on GHG emissions. • No impact 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 existing Mojave Specific Plan, West Edwards Road Settlement Specific Plan, Soledad Mountain Elephant Butte Specific Plan, and the Kern County General Plan land use designations and zoning classifications and other existing applicable restrictions.	• Avoids need for CUPs, zone changes, specific and general plan amendments, and requests to vacate public access easements. • Reduces impacts to aesthetics, agriculture and forestry, and wildfire resources. • Similar impacts to biological resources, geology and soils, hazards and hazardous materials, land use and planning, mineral resources, and noise. • Greater overall impacts in all remaining environmental issue areas. • Does not meet any of the project objectives.
Alternative 3: Reduced Acreage Alternative	Construction and operation of a solar facility on Site 1 (Northern), Site 2 (Western), Site 3 (Eastern), and Site 5 (Step-up Substation), a total of approximately 1,590 acres. This alternative is still expected to contain enough land to construct a solar array field capable of generating approximately 400 MW, with up to 4,000 MWh of energy storage. The project site would require zone changes, CUP approvals, and amendments to the Mojave Specific Plan, and the Kern County General Plan, and nonsummary street vacations.	• Reduces, but similar impacts to hazards and hazardous materials, land use and planning, mineral resources, noise, public services, and wildfires. • Reduces benefit of offsetting GHG emissions from nonrenewable energy generation, thus greater GHG emissions impact. • Reduces impacts in all remaining environmental issue areas. • Does not meet all of the project objectives.

Alternative	Description	Basis for Selection and Summary of Analysis
Alternative 4: No Ground-Mounted Utility-Solar Development Alternative – Distributed Commercial and Industrial Rooftop Solar Only	The construction of 600 MW of PV solar distributed on rooftops throughout western Antelope Valley. Electricity generated would be for onsite use only.	• Avoids need for zone changes, specific plan and general plan amendments, requests to vacate public access easements, and CUPs at the project site, but may require other entitlements (such as a CUP or variance) on other sites. • Avoids significant and unavoidable impacts associated with aesthetics, biological resources, and wildfire. • Reduces benefit of offsetting GHG emissions from nonrenewable energy generation by utility purveyors, thus greater GHG emission impact. • No impacts on land use and planning or mineral resources. • Similar impacts to air quality, energy, and noise. • Reduces impacts in all remaining environmental issue areas. • Does not meet all 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 (temporary project and cumulative), and biological resources (cumulative only), and wildfire (cumulative only). 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 the development of a solar project. Similar to solar power, energy production 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, after installation, including carbon dioxide and other greenhouse gases (GHG).
- 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 connecting 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. In addition, in order for wind turbines to produce an equivalent 600 MW of power that the project would produce, the alternative would require more space than what the project site currently accommodates. Consequently, the project site would need to be expanded to facilitate the number of turbines needed to match the output of the proposed project.

As noted above, some of the project's objectives are to assist California in meeting its GHG emission reduction goals through establishing solar PV power-generating facilities to produce reliable electricity in an economically feasible and commercially financeable manner while minimizing environmental impacts and using proven and established PV technology that is efficient, requires low maintenance, and is recyclable. In accordance with the CEQA *Guidelines* (Section 15126.6[c]) 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, require Federal Aviation Administration (FAA) lighting and are more visible from many viewpoints.
- It may conflict with the Mojave Air and Space Port, Kern County Airport Land Use Compatibility Plan and potentially the Edwards Air Force Base due to the heights of the turbines.
- It may result in additional/greater biological resources impacts to avian species than the project.
- It may generate long-term noise impacts to nearby sensitive receptors from rotating turbine blades.
- It would not reduce temporary and cumulatively significant air quality impacts due to similar construction requirements.

Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant or plants (equivalent to 600 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 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) aesthetics and the local visual setting of the project area; (2) air quality and GHG emissions; (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 project's objectives are to assist California in meeting its GHG emission reduction goals through establishing solar PV power-generating facilities to produce reliable electricity in an economically feasible and commercially financeable manner while minimizing environmental impacts and using proven and established PV technology that is efficient, requires low maintenance, and is recyclable. In accordance with the CEQA *Guidelines* (Section 15126.6[c]) 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 project including aesthetics, air quality, GHG emissions, land use and planning, noise, transportation, and public utilities, including water use and disposal.
- Depending on siting, it may also result in greater biological resources impacts than the project.
- It may conflict with the Mojave Air and Space Port, Kern County Airport Land Use Compatibility Plan and potentially the Edwards Air Force Base due to the heights of the cooling towers and smoke stacks.
- It would not contribute to the statewide renewable energy and GHG emission reduction objectives as this alternative would use nonrenewable energy to produce electricity.

Alternative Site

This alternative would involve the development of the 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 western Antelope Valley, similar to the proposed project. This alternative is assumed to involve construction of a 600 MW PV solar facility with up to 4,000 MWh of energy storage on a site totaling 2,320 acres. CEQA *Guidelines* 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 project.

Western Antelope 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 of similar size, configuration, and use history may exist in western Antelope 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, air quality, biological resources, and wildfire. This is based on the known general conditions in the area and the magnitude of the 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 significant project impacts. The potential amount of available similar sites is further reduced because unlike the project, alternative sites may not be within close proximity to transmission infrastructure. Therefore, this alternative was eliminated because it would not avoid or substantially reduce the significant environmental effects of the 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 6-3, *Comparison of Alternatives*, provides a summary and side-by-side comparison of the project with the impacts of each of the alternatives analyzed. Please note that in Alternatives 1 through 4 in Table 6-3, 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 6-3: COMPARISON OF ALTERNATIVES

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

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

NI = No Impact

LTS = Less Than significant

SU = Significant and Unavoidable

6.7 Impact Analysis

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 scenic vistas or existing visual character of the site would occur. Impacts to scenic resource and daytime and nighttime views in the area would not occur. Therefore, there would be no impact and the No Project Alternative would result in less impact related to aesthetics compared to the proposed project.

Agriculture and Forestry Resources

Under the No Project Alternative, the project site would remain undeveloped and solar panels and an energy storage system would not be installed. The project site would remain in its current state, as largely undeveloped desert land. As such, the No Project Alternative would not involve changes to the existing environment which could result in the conversion of farmland or forest land to nonagricultural or nonforest uses. Therefore, there would be no impact and the No Project Alternative would result in less impact related to agriculture and forestry resources compared to the proposed project.

Air Quality

Under the No Project Alternative, the project site would remain undeveloped and there would be no construction activities or operational activities that would generate air emissions. No exceedance of the EKAPCD's significance threshold for PM_{10} would occur nor would the No Project Alternative contribute to a cumulative net increase of criteria pollutant in the region. Therefore, there would be no impact and the No Project Alternative would result in less impact related to air quality 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. The project site would remain in its current state, as undeveloped land containing desert vegetation, and would not contribute to a cumulative loss of wildlife species, including desert tortoise, burrowing owl, raptors, desert kit fox, and migratory birds known to occur or with potential to occur on the project site. Therefore, there would be no impact and the No Project Alternative would result in less impact related to biological resources 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 resources, archeological resources, or human remains located onsite would not occur and this alternative would not require mitigation. Therefore,

there would be no impact and the No Project Alternative would result in less impact related to cultural resources 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, the No Project Alternative would not support the goals of the Renewable Portfolio Standard (RPS). Therefore, there would be no impact and the No Project Alternative would result in less impact related to energy compared to the proposed 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 onsite or offsite landslides; be located on expansive soil; or directly or indirectly destroy a unique paleontological resource or unique geologic feature. Therefore, there would be no impact and the No Project Alternative would result in less impact 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 and energy storage system would not occur. Therefore, those emissions that contribute to GHGs would be eliminated and no impacts would occur related to generating emissions that may have a significant impact on the environment or consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. However, the potential offset of GHG emissions resulting from operation of the solar power generating facility would not be realized. Therefore, impacts would be less than significant under this alternative; however, impacts from implementation of this alternative would be greater than those of the project as it would not 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. The project site would remain in its current condition. As such, this alternative would not involve the routine transport, use, or disposal of hazardous materials associated with development of the project site; create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; emit hazardous emissions or handling of hazardous materials within 0.25 mile of an existing or proposed school; create a significant hazard to the public or environment; result in a safety hazard or excessive noise for people residing or working in the project area for a project located within the vicinity of a private airstrip; impair implementation of or interfere with an emergency response plan or emergency evacuation plan; expose people or structures to significant risk of loss, injury, or death involving wildland fires; or generate vectors or have a component that includes agricultural waste. Therefore, there would be

no impact and the No Project Alternative would result in less impact 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. As such, this alternative would not violate water quality standards or waste discharge requirements; substantially alter the existing drainage patterns of the site or area in a manner that would result in substantial erosion and/or sedimentation onsite or offsite, or result in flooding onsite or offsite; create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage system; impede or redirect flood flows; contribute to inundation by a flood hazards, tsunami, or seiche; or conflict with or obstruct implementation of a water quality control plan or groundwater management plan. Therefore, there would be no impact and the No Project Alternative would result in less impact related to hydrology and water quality compared to the proposed project.

Land Use and Planning

The No Project Alternative would not develop any new uses at the project site and would therefore not require a zone change or CUP. As such, the No Project Alternative would not cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, there would be no impact and the No Project Alternative would result in less impact 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. As such, the No Project Alternative would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local General Plan, Specific Plan, or other land use plan. Therefore, there would be no impact and the No Project Alternative would result in less impact 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 onsite, 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 ground-borne vibration. Therefore, there would be no impact and the No Project Alternative would result in less impact related to noise compared to the proposed project.

Public Services

Under the No Project Alternative, the project site would remain undeveloped and no new demand for fire or police protection services would occur. Further, no new demand for schools, parks, or other government facilities would occur. As such, the No Project Alternative would not result in the need for new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other

performance objectives for fire protection, police protection, schools, parks, or other government facilities. Therefore, there would be no impact and the No Project Alternative would result in less impact related to public services compared to the proposed project.

Transportation

Under the No Project Alternative, the solar panels and energy storage system would not be constructed and would therefore not introduce construction and operational-related trips. Existing traffic patterns and volumes on nearby roadways would remain unchanged. As such, the No Project Alternative would not conflict with a program, plan, ordinance or policy addressing the circulation system, nor would the No Project Alternative conflict or be inconsistent with CEQA *Guidelines* Section 15064.3, subdivision (b). In addition, the No Project Alternative would not substantially increase hazards due to a geometric design feature or result in inadequate emergency access. Therefore, there would be no impact and the No Project Alternative would result in less impact related to transportation compared to the proposed 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. As such, the No Project Alternative would not cause a substantial adverse change in the significance of a tribal cultural resource 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) or as a resource determined by the lead agency. Therefore, there would be no impact and the No Project Alternative would result in less impact related to tribal cultural resources compared to the proposed project.

Utilities and Service Systems

Under the No Project Alternative, the solar panels and energy storage system would not be constructed and there would be no new demand for utilities and service systems on the project site. As such, the No Project Alternative would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects; generate solid waste in excess of state or local standards; or conflict with federal, State, and local management and reduction statues and regulations related to solid waste. Therefore, there would be no impact and the No Project Alternative would result in less impact related to utilities and service systems compared to the proposed project.

Wildfires

Under the No Project Alternative, the solar panels and energy storage system 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 related to wildfires compared to 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 less impact to all environmental resource areas with the exception of GHGs; since this alternative would not offset GHGs through the operation of a solar and energy storage 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 Subsection 6.2, *Project Objectives*, including assisting California in meeting its GHG emissions reduction goals. Although this alternative would create less environmental impacts overall, the objectives that shape the project would not be realized under this alternative.

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 project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. The project site includes existing Map Code designations for resource management, residential, commercial, parks and recreation, governmental, and other uses that are defined in the Kern County General Plan (refer to Section 6.4, *Aesthetics*, for additional details).

The General Plan/Specific Plan and Zoning Build-Out Alternative would develop the project site into various uses allowable for agricultural, residential, commercial, and other development. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site. Under this alternative, there would be no zoning change, and development of the project site under existing land use and zoning classifications would be visually similar to the types of uses that are within the project area and, thus, potential impacts to visual character would be reduced under this alternative. Therefore, impacts would be less than significant under the General Plan/Specific Plan and Zoning Build-Out Alternative and this alternative would result in less aesthetic impacts compared to the proposed project.

Agriculture and Forestry Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site. As noted in Section 4.2, *Agricultural Resources*, the project site is not under a Williamson Contract and, therefore, development under this alternative would not conflict with a

Williamson Act contract. Furthermore, development under this alternative would be consistent with the existing zoning and the portions of the project site designated as A (Exclusive Agriculture) would remain. Therefore, impacts would be less than significant under the General Plan/Specific Plan and Zoning Build-Out Alternative and this alternative would result in less agricultural resource impacts compared to the proposed project.

Air Quality

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

Both the project and the General Plan/Specific Plan and Zoning Build-Out Alternative would result in short-term construction emissions and would require implementation of mitigation measures in order to reduce the severity of construction-related emissions. The conversion of the project site to the maximum intensity allowed under existing land use and zoning classifications would require the use of similar heavy equipment to the project, and nonagricultural uses included in this alternative would implement Mitigation Measures MM 4.3-1 through MM 4.3-5 (see Section 4.3, *Air Quality*) in order to reduce the severity of construction-related emissions. Although the overall area of disturbance would be reduced, the grading and earthwork needed to create foundations for residential and commercial development would be greater compared to that needed to install solar panels and an energy storage system. Impacts would remain significant and unavoidable for temporary project-level and cumulative construction impacts. Operational emissions associated with the maximum intensity allowed under existing land use and zoning classifications under the General Plan/Specific Plan and Zoning Build-Out Alternative would be greater due to routine emissions associated with residential and commercial uses, agricultural vehicles, ongoing ground disturbance, and livestock emissions, etc. Given this increase, this alternative would result in greater operational air quality impacts in the air basin than the project, but they would likely remain less than significant. As it relates to impacts on implementation of the applicable air quality plan, since temporary project-level and cumulative construction impacts would be significant and unavoidable, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in construction emissions of a magnitude that would obstruct the air quality planning goals set forth by EKAPCD. Therefore, similar to the proposed project, impacts would be significant and unavoidable.

Implementation of this alternative would expose sensitive receptors to substantial pollutant concentrations. In particular, during construction of this alternative, it is possible that onsite workers could be exposed to Valley Fever as fugitive dust is generated during construction. However, dust-minimizing techniques, as implemented through Mitigation Measure MM 4.3-2 and Mitigation Measure MM 4.3-6 (see Section 4.3, *Air Quality*), would reduce these impacts to less than significant. As with the project, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in less-than-significant impacts related to toxic air contaminants, localized pollutant concentrations, and asbestos.

Overall, even with implementation of similar mitigation proposed for the project, temporary impacts to air quality under the General Plan/Specific Plan and Zoning Build-Out Alternative would likely remain significant and unavoidable and operational impacts likely would result in greater impacts to air quality

than the project due to the greater operational emissions associated with the agricultural uses and increased vehicle travel associated with the residential and commercial development.

Biological Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

Conversion of the undeveloped site to the maximum intensity allowed under existing land use and zoning classifications would affect biological resources on the project site as this alternative would replace native vegetation with residential and commercial uses, and agricultural crops or grazing areas. Residential, commercial, and agricultural uses would also result in increased human presence as opposed to a solar facility with limited staff required for operations and maintenance and occasional panel washing.

As it relates to impacts on candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS) , as with the project, the General Plan and Zoning Build-Out Alternative would have the potential to impact special-status plant and wildlife species and habitat. As with the project, implementation of Mitigation Measures MM 4.4-1 through MM 4.4-17 (see Section 4.4, *Biological Resources*), impacts would be reduced to less than significant. With regard to impacts 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 USFWS, construction activities could result in significant impacts related to approximately 2.1 acres of CDFW and Regional Water Quality Control Board (RWQCB) jurisdictional areas present on the project site. However, as with the project, implementation of Mitigation Measures MM 4.4-1 through MM 4.4-19 (see Section 4.4, *Biological Resources*) would reduce impacts to less than significant under the General Plan/Specific Plan and Zoning Build-Out Alternative.

Implementation of the above referenced mitigation measures would also reduce potential impacts to state wetlands, the movement of resident or migratory wildlife species or with established resident or migratory wildlife corridors, and consistency with local policies and ordinances protecting biological resources. The General Plan/Specific Plan and Zoning Build-Out Alternative, as with the project, would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan.

Based on the above, project-level impacts under the General Plan/Specific Plan and Zoning Build-Out Alternative would be less than significant with implementation of mitigation and similar to those of the project. However, cumulatively, this alternative would still result in significant and unavoidable impacts to biological resources; regardless of the type of development, biological resources would be impacted throughout the Antelope Valley. Therefore, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in similar impacts related to biological resources compared to the proposed project.

Cultural Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

To develop the project site to the maximum intensity allowed under existing land use and zoning classifications, this alternative would involve greater ground disturbance as opposed to the project that would have some no build areas. Ground-disturbing activities associated with the project have the potential to encounter undocumented archaeological resources that could qualify as historical resources. Similar to the proposed project, nonagricultural uses in the General Plan/Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.5-1 through MM 4.5-6 (see Section 4.5, *Cultural Resources*). In addition, there is no indication 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, implementation of Mitigation Measure MM 4.5-6 would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Based on the above, although both the project and this alternative would result in less-than-significant impacts with mitigation as it relates to historical resources, archaeological resources, and human remains, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater cultural resource impacts compared to the proposed project as greater ground disturbance required under this alternative could affect undocumented subsurface cultural resources.

Energy

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

Development of the project site to the maximum intensity allowed under existing land use and zoning classifications would require similar heavy duty construction equipment and more intensive operational activities related to the consumption of natural gas and transportation-related energy (petroleum-based fuels) for residential and commercial development, and agricultural activities.

Similar to the proposed project, nonagricultural projects included in the General Plan/Specific Plan and Zoning Build-Out Alternative would be required to comply with the California Air Resources Board's (CARB) Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes. In addition, the fuel efficiency of the vehicles being used by the employees and visitors under this alternative is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation would decrease over time. As such, the wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant under this alternative.

Furthermore, similar to the proposed project, the General Plan and Zoning Build-Out Alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Based on the above, impacts under the General Plan/Specific Plan and Zoning Build-Out Alternative related to energy would be less than significant, but greater than those of the project as the project site would not generate renewable energy, and would, therefore, not assist the state in meeting its renewable energy generation goals to the fullest extent as compared to the proposed project.

Geology and Soils

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

Construction of the General Plan/Specific Plan and Zoning Build-Out Alternative would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the California Building Code (CBC) 2022 Edition (California Code of Regulations [CCR] Title 24). Adherence to all applicable regulations would mitigate any potential fault rupture-related impacts associated with this alternative. In addition, similar to the proposed project, development of nonagricultural uses included in the General Plan/Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.7-1 and MM 4.7-2 (see Section 4.7, *Geology and Soils*), which require that a geotechnical study to evaluate soil conditions and geologic hazards be performed by a qualified geotechnical engineer on the project site and that a California registered and licensed geotechnical engineer design applicable structures to withstand probable seismically induced ground shaking at the site. Furthermore, the General Plan/Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.10-1 and MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*) in order to address potential soil erosion and loss of topsoil. As it relates to unique paleontological resources on site or unique geologic features, similar to the proposed project, under the General Plan/Specific Plan and Zoning Build-Out Alternative any ground disturbance within the project site could result in a potentially significant impact to paleontological resources. As such, the General Plan/Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.7-3 through MM 4.7-5 (see Section 4.7, *Geology and Soils*) for nonagricultural uses to reduce impacts to paleontological resources.

Therefore, with implementation of mitigation similar to that required for the proposed project, impacts to geology and soils would likely be less than significant and the General Plan/Specific Plan and Zoning Build-Out Alternative would result in similar impacts related to geology and soils compared to the proposed project.

Greenhouse Gas Emissions

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is

located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

As portions of the General Plan/Specific Plan and Zoning Build-Out Alternative would develop land uses that would emit GHG emissions throughout the life of the project (from increased water usage, traffic, operation of agricultural equipment, and livestock emissions), this would result in a net increase of GHG emissions within California. Unlike the proposed project, the General Plan/Specific Plan and Zoning Build-Out Alternative would not assist an off-taker in reducing its GHG emissions as consistent with the California Global Warming Solutions Act. Therefore, although both this alternative and the project would result in less than significant GHG emissions impacts, impacts from the General Plan/Specific Plan and Zoning Build-Out Alternative related to GHG emissions would be greater when compared to the proposed project since the beneficial reduction in GHG emissions would not occur as with the project.

Hazards and Hazardous Materials

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

There are no known hazardous materials in the soil that would be disturbed during construction of the project site to the maximum intensity allowed under existing land use and zoning classifications. As with the project, standard best management practices (BMPs) for nonagricultural uses would ensure that exposure to potentially hazardous materials used or found onsite would be reduced or minimized. Similar to the proposed project, the General Plan/Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.9-1 and MM 4.9-2 (see Section 4.9, *Hazards and Hazardous Materials*) for nonagricultural uses in order to reduce significant hazards to the public or environment and avoid spills and minimize impacts in the event of a spill.

Similar to the proposed project, the General Plan/Specific Plan and Zoning Build-Out Alternative would be located within the Airport Influence Area for the Mojave Air and Space Port Airport, and nonagricultural uses included in this alternative would be required to implement Mitigation Measure MM 4.9-3 (see Section 4.9, *Hazards and Hazardous Materials*), which would comply with the County's Airport Land Use Compatibility Plan (ALUCP) and applicable FAA regulations regarding project approval to ensure that there is no conflict with airport operations and no safety hazards are presented. In addition, Edwards Air Force Base would have to be notified of construction of this alternative to ensure no conflict with their operations in compliance with Mitigation Measure MM 4.9-4 (see Section 4.9, *Hazards and Hazardous Materials*). With adherence to project notification requirements, the impacts related to the ALUCP would be less than significant.

As it relates to wildland fires, the project site is not located within a high fire hazard severity zone. However, similar to the proposed project, the General Plan/Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-1 (see Section 4.14, *Public Services*), which includes the development and implementation of a fire safety plan for construction and operation of nonagricultural uses in the event of a fire on the project site, and Mitigation Measure MM 4.15-1 (see Section 4.15,

Transportation), which would require the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site.

Impacts under the General Plan/Specific Plan and Zoning Build-Out Alternative would result in less-than-significant impacts after implementation of mitigation measures and the impacts from the General Plan/Specific Plan and Zoning Build-Out Alternative related to hazards and hazardous materials would be similar when compared to the proposed project.

Hydrology and Water Quality

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

The conversion of the project site to the maximum intensity allowed under existing land use and zoning classifications would result in similar or greater ground disturbance and erosion potential. However, for those parcels zoned and designated for agricultural uses, agricultural operations under this alternative would likely involve continued ground disturbance from activities such as grazing and plowing, whereas the project's operation would not; thereby posing a greater threat to water quality. Operation of agricultural uses could also affect groundwater quality through the application of pesticides or herbicides. Once operational, agricultural uses would result in greater water demand under the General Plan/Specific Plan and Zoning Build-out Alternative than under the project.

Similar to the proposed project, for nonagricultural development, the General Plan/Specific Plan and Zoning Build-Out Alternative would include implementation of BMPs to prevent the occurrence of soil erosion and discharge as required under Mitigation Measure MM 4.10-1 (see Section 4.10, *Hydrology and Water Quality*) as well as implementation of Mitigation Measure MM 4.9-2, which would require the project proponent to provide a Hazardous Materials Business Plan. During operation of this alternative, as with the project, Mitigation Measure MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*), which requires preparation of a drainage plan, would be implemented.

As it relates to groundwater supplies, water requirements under the General Plan/Specific Plan and Zoning Build-Out Alternative, overall construction and operation related water requirements would be greater under this alternative as compared to the proposed project as agricultural, residential, and commercial uses included in the alternative are more water intensive uses than the construction and operation of solar panels and an energy storage system. Similar to the proposed project, water demands would be met by developing onsite groundwater and would draw from the Fremont Valley Groundwater Basin (FVGB). As described in Section 4.10, *Hydrology and Water Quality*, the amount of water stored in the FVGB is relatively large compared to the proposed demand associated with the project. It is assumed that water demand under the General Plan/Specific Plan and Zoning Build-Out Alternative would also be sufficiently supplied by either the water stored in the FVGB or imported from the Mojave Public Utility District (MPUD). Therefore, this alternative would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Furthermore, this alternative would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan as the General Plan/Specific Plan and Zoning

Build-Out Alternative would require BMPs and drainage control requirements that would be consistent with the Basin Plan.

With regard to existing drainage patterns, buildout to the maximum intensity under existing land use designations and zoning under the General Plan/Specific Plan and Zoning Build-Out Alternative would alter existing onsite drainage patterns and flowpaths to some degree, and could alter the way that stormwater from upgradient flows across the project site during major events. Similar to the proposed project, the nonagricultural uses included in the General Plan and Zoning Build-Out Alternative would implement a Stormwater Pollution Prevention Plan (SWPPP) per Mitigation Measure MM 4.10-1 (see Section 4.10, *Hydrology and Water Quality*) and would also implement Mitigation Measure MM 4.10-2, (see Section 4.10, *Hydrology and Water Quality*) which requires the completion of a hydrologic final drainage plan prior to the issuance of grading permits.

Overall, although both the project and this alternative would result in less-than-significant impacts with the implementation of mitigation, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater impacts related to hydrology and water quality compared to the proposed project as operation of the agricultural, residential, and commercial uses proposed under this alternative would likely involve continued ground disturbance from activities such as grazing and plowing and also would require greater operational water use.

Land Use and Planning

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

Unlike the project, the General Plan/Specific Plan and Zoning Build-Out Alternative would not conflict with the existing land use at the project site, because the site would be developed with the current General Plan land use and zoning designations. This alternative would be consistent with current zoning as well as existing land use plans, policies, and regulations and no CUP would be required. Therefore, there would be a less-than-significant impact and the General Plan/Specific Plan and Zoning Build-Out Alternative would result in similar 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 project site would be developed to the maximum extent possible in accordance with applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

The conversion of the project site to the maximum intensity allowed under existing land use and zoning classifications would have a similar potential as the project to impact the future extraction of mineral resources on adjacent lands. There are no identified mineral resources on the project site and the both this

alternative and the project would result in less-than-significant impacts to mineral resources; therefore, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in similar impacts related to mineral resources compared to the proposed project.

Noise

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

During construction, impacts under this alternative would be similar to the impacts of the project, as the conversion of the project site to the maximum intensity allowed under existing land use and zoning classifications would require the use of similar heavy equipment as required for the construction of the project. During operation, with regard to the proposed agricultural uses, this alternative would generate greater noise than the project associated with the daily operation of agricultural equipment and worker vehicles.

Under this alternative, similar to the proposed project, construction activities have the potential to result in the generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards and, thus, impacts would be potentially significant. Implementation of Mitigation Measures MM 4.13-1 through 4.13-3 (see Section 4.13, *Noise*) are designed to reduce impacts to the extent feasible during construction activities such that impacts would be less than significant with mitigation. As with the project, operational activities under the General Plan/Specific Plan and Zoning Build-Out Alternative would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards. Impacts would be less than significant. In addition, the closest offsite occupied residential structures would be located 200 feet or more from construction activities. As such, the vibration levels at the nearest residences would not reach the vibration level threshold for older residential structures, and therefore vibration impacts would be minimal and not expected to have any measurable effect on the adjacent offsite sensitive receivers.

Based on the above, both the project and this alternative would result in less-than-significant construction impacts with mitigation; however, this alternative would result in greater less-than-significant operational impacts due to the proposed residential, commercial, and agricultural uses which involve increased ongoing human use and traffic during operation of the alternative. Therefore, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in similar impacts related to noise compared to the proposed project.

Public Services

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

Similar to the proposed project, construction of the General Plan/Specific Plan and Zoning Build-Out Alternative would result in a similar number of construction workers on the project site and increased fire service demands would occur during construction of this alternative. However, nonagricultural uses included in the General Plan/Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-1 (see Section 4.14, *Public Services*), which would require the implementation of a fire safety plan. During operation, the portion of the project site that would be developed with agricultural uses could result in a slight increase in long-term population compared to the proposed project as agricultural uses would require more workers on the project site. Similar to the proposed project, the General Plan/Specific Plan and Zoning Build-Out Alternative would pay applicable Kern County fees and taxes, similar to the requirements under Mitigation Measures MM 4.14-2 through MM 4.14-4 (see Section 4.14, *Public Services*). Implementation of Mitigation Measure MM 4.14-1 (see Section 4.14, *Public Services*) would also reduce fire risks onsite during operation of this alternative. Impacts related to fire protection would be less than significant with mitigation.

With regard to police protection, while the project site is located in an area that is surrounded by undeveloped and rural communities and is unlikely to attract attention, construction activities related to installation of new structures would increase traffic volumes along SR-58 and SR-14, similar to the proposed project. The increase in traffic related to development of agricultural and residential uses during construction would be temporary and, thus, would not have a significant adverse effect on the Kern County Sheriff's Office (KCSO) protective service provision or California Highway Patrol's (CHP) ability to patrol the highways. During operation of this alternative, residential, commercial, and agricultural uses of the project site would increase operational traffic due to the increase in residents and employees. However, the increase is not likely to have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. Impacts would be less than significant.

With regard to schools, parks, and other government facilities, similar to the proposed project, under the General Plan/Specific Plan and Zoning Build-Out Alternative construction workers would likely come from an existing local and/or regional construction labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the short-term increased employment of construction workers on the project site would not result in a notable increase in the residential population of the area surrounding the project site. Accordingly, there would not be a corresponding demand for use of the local schools, parks, or public facilities. During operations under the General Plan/Specific Plan and Zoning Build-Out Alternative, agricultural and residential uses would establish a larger permanent local population than under the proposed project. However, similar to the proposed project, agricultural staff would likely come from an existing local and/or regional labor force and would not likely relocate their households as a consequence of working on the project. Therefore, the increase of onsite staff at the project site would not result in a notable increase in the residential population of the area surrounding the project site under the General Plan/Specific Plan and Zoning Build-Out Alternative. The development of residential units would be expected to result in an increased demand for or use of the local schools, parks, or public facilities.

Although both this alternative and the project would result in less-than-significant impacts with implementation of mitigation, the General Plan/Specific Plan Build-Out Alternative would result in greater impacts related to public services compared to the proposed project due to an increase in population during operation as compared to the proposed project.

Transportation

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

With conversion of the project site to the maximum intensity allowed under existing land use and zoning classifications, there would be similar construction-related traffic. Once operational, the General Plan/Specific Plan and Zoning Build Out Alternative would involve more routine vehicle trips associated with residential, commercial, and agricultural uses. Similar to the proposed project, during construction of the General Plan/Specific Plan and Zoning Build-Out Alternative, roadway segments would be expected to remain free-flowing. As construction impacts would be less than significant, operation of this alternative would also have a less-than-significant impact on area roadways.

With regard to consistency with CEQA *Guidelines* Section 15064.3, subdivision (b), vehicle miles traveled (VMT) related to construction for the General Plan/Specific Plan and Zoning Build-Out Alternative would be temporary and localized, such that construction is not anticipated to result in long-term, permanent changes to the surrounding vehicle transportation system. The increased residential, commercial, and agricultural uses associated with the General Plan/Specific Plan and Zoning Build-Out Alternative would be expected to generate more vehicle trips per day than the project during operations, such that impacts would be less than significant, but greater than the project.

As it relates to increasing hazards due to a geometric design feature or incompatible use, impacts from the project and the General Plan/Specific Plan and Zoning Build-Out Alternative would be similar and require implementation of Mitigation Measure MM 4.15-1 (see Section 4.15, *Transportation*), which would require the preparation of a Construction Traffic Control Plan. With regard to emergency access, as this alternative would not cause a significant increase in congestion or significantly worsen the existing service levels at intersection roadways, the General Plan/Specific Plan and Zoning Build-Out Alternative would have a less-than-significant impact on emergency access during construction and operation, similar to the proposed project.

Therefore, although both this alternative and the project would result in less-than-significant impacts, impacts related to transportation from the General Plan/Specific Plan and Zoning Build-Out Alternative would be greater when compared to the proposed project as operational uses would increase the number of trips to the project site as compared to the proposed project.

Tribal Cultural Resources

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

To develop the project site to the maximum intensity allowed under existing land use and zoning classifications, this alternative would involve greater ground disturbance as opposed to the project that would have some no build areas. Ground-disturbing activities associated with the project have the potential to encounter undocumented resources that could qualify as tribal cultural resources. Similar to the proposed project, nonagricultural uses in the General Plan/Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measures MM 4.5-1 through MM 4.5-6 (see Section 4.5, *Cultural Resources*). In addition, there is no indication 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, implementation of Mitigation Measure MM 4.5-6 (see Section 4.5, *Cultural Resources*) would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Based on the above, although both the project and this alternative would result in less than significant impacts with mitigation as it relates to tribal cultural resources, the General Plan/Specific Plan and Zoning Build-Out Alternative would result in greater tribal cultural resource impacts compared to the proposed project as greater ground disturbance required under this alternative could affect undocumented subsurface tribal cultural resources.

Utilities and Service Systems

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

As with the project, conversion of the project site to residential, commercial, and agricultural uses would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, natural gas, and telecommunications. In addition, construction of the General Plan/Specific Plan and Zoning Build-Out Alternative would alter stormwater drainage. With regard to operation, the residential, commercial, and agricultural uses would substantially increase water demand. Wastewater and solid waste generation associated with this alternative would also increase compared to the proposed project due to the increase in the number of residents and employees under maximum intensity use of the project site. Similar to the proposed project, the General Plan/Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*) for nonagricultural uses, which requires preparation of a drainage plan to reduce potential increases in stormwater runoff onsite and would detail any necessary physical structures required to control stormwater.

Although both the project and this alternative would result in less-than-significant impacts, the General Plan/Specific and Zoning Build-Out Alternative would result in greater impacts related to utilities and service systems compared to the proposed project as this alternative would have an increased demand on the water supply and local landfills compared to the proposed project due to the proposed residential, commercial, and agricultural uses.

Wildfires

Under the General Plan/Specific Plan and Zoning Build-Out Alternative, the project site would be developed to the maximum extent possible in accordance with the applicable, existing General Plan/Specific Plan (Kern County General Plan and Zoning Ordinance, Mojave Specific Plan, West Edwards Road Settlement Specific Plan, or Soledad Mountain Elephant Butte Specific Plan) in which the project is located. Solar panels and an energy storage system would not be installed and solar energy would not be generated on the site.

Impacts related to wildfires for the proposed residential, commercial, and agricultural uses may introduce additional sources of ignition sources and vegetation, which may exacerbate wildfire risks. Additionally, the use of the project site for residential, commercial, and agriculture would result in an increase of residents and employees on the project site, which would further increase potential impacts from wildfire risks.

As with the project, this alternative is not classified as being within a high fire hazard severity zone 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. Therefore, the General Plan/Specific Plan and Zoning Build-Out Alternative would not substantially impair an adopted emergency response plan or emergency evacuation plan.

Similar to the proposed project, the General Plan/Specific Plan and Zoning Build-Out Alternative would implement Mitigation Measure MM 4.14-1 (see Section 4.14, *Public Services*) for nonagricultural uses, which would require the development and implementation of a Fire Safety Plan for use during construction and operation, which would further reduce the fire risks onsite. As such, impacts under this alternative related to exposing project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be less than significant.

Similar to the proposed project, conversion of the project site to the maximum intensity allowed under existing land use and zoning classifications could alter the existing drainage patterns and flowpaths compared to existing conditions. This alternative would implement Mitigation Measure MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*), which requires preparation of a drainage plan for nonagricultural uses. This mitigation measure 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 such, similar to the proposed project, the General Plan/Specific 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, project-level wildfire impacts would remain less than significant and cumulative impacts related to wildfires would be significant and unavoidable under this alternative, but less than the project.

Comparison of Impacts

The General Plan/Specific Plan and Zoning Build-Out Alternative would result in less impact to aesthetics, agriculture and forestry resources, and wildfire than the proposed project. The alternative would result in similar impacts to biological resources, geology and soils, hazards and hazardous materials, land use and planning, mineral resources, and noise. This alternative would result in greater impacts in all remaining

environmental resource areas. Greater impacts to air quality would result from emissions from the proposed agricultural uses onsite, such as agricultural vehicles and livestock emissions. Given the ground disturbance required, greater impacts would occur to potentially undiscovered cultural resources. This alternative would result in greater energy impacts as the project site would not generate renewable energy as compared to the proposed project, and would therefore not assist the state in meeting its renewable energy generation goals. Greater impacts to cultural resources, hydrology and water quality, and tribal cultural resources would result from greater initial soil disturbance during construction. This alternative would result in greater GHG emission impacts than the project because the potential offset or displacement of GHG emissions from operation of the solar power generating facility and energy storage system, compared with traditional gas- or coal-fired power plants, would not be realized. The increase in human population onsite during operation would also result in greater impacts to public services, transportation, and utilities and service systems. This alternative would not eliminate significant and unavoidable impacts associated with air quality (project and cumulative [temporary]), biological resources (cumulative only), and wildfire (cumulative only).

Relationship to Project Objectives

The General Plan/Specific Plan and Zoning Build-Out Alternative would not achieve any of the project objectives listed above in Section 6.2, including the project objective related to assisting California in meeting its greenhouse gas emissions reduction goals by 2020 and 2030 as required by the California Global Warming Solutions Act (AB 32), as amended by SB 32 in 2016.

Alternative 3: Reduced Acreage Alternative

Environmental Impact Analysis

Aesthetics

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres.

While this alternative would avoid development of Site 4 (Southern), this alternative does include the installation of solar panels, an energy storage system, and other associated facilities. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.1-1 through MM 4.1-5 (see Section 4.1, *Aesthetics*), which would be incorporated to reduce visual impacts that would occur from the collection of debris along the site boundary and to reduce views of the project by strategically installing view-screening materials in fencing. In addition, the color treatment of buildings would help these components to better blend in with the natural landscape. However, similar to the proposed project, because there are no feasible mitigation measures that can be implemented to maintain the existing open and undeveloped desert landscape character of the project site, impacts to visual resources would remain significant and unavoidable.

In addition, in combination with other projects, the Reduced Acreage Alternative would contribute to added modifications to the visual landscape. While Mitigation Measures MM 4.1-1 through MM 4.1-5 would be implemented to reduce aesthetics impacts, and other projects in the region would be required to implement similar mitigation measures to reduce impacts, the cumulative conversion of thousands of acres of a low density rural area to solar energy production uses cannot be mitigated to a degree that impacts are no longer

significant. As such, similar to the proposed project, cumulative impacts from the change to the visual character of the site would remain significant and unavoidable for the Reduced Acreage Alternative.

As the Reduced Acreage Alternative includes the development of a solar facility, as with the proposed project, the potential for the solar panels to result in light and glare impacts would be similar to the proposed project during construction and operation of the Reduced Acreage Alternative. As such, this alternative would implement Mitigation Measures MM 4.1-6 and MM 4.1-7 (see Section 4.1, *Aesthetics*). Impacts related to light and glare under the Reduced Acreage Alternative site would be less than significant.

The Reduced Acreage Alternative would have less overall impact to aesthetics compared to the proposed project due to the reduction in project site size under this alternative; however, the impacts related to aesthetics would remain significant and unavoidable.

Agriculture and Forestry Resources

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres.

The project and the Reduced Acreage Alternative would be developed with solar and energy storage facilities and associated infrastructure and, thus, would create changes in the existing environment, and would convert land zoned for agriculture to nonagricultural use. Similar to the proposed project, this alternative would not directly or indirectly impact farmland, as there is no designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the project site. In addition, according to available data, none of the parcels included as part of the project or any property in the vicinity of the project are subject to a Williamson Act land use contract or would result in the cancellation of an open space contract.

Impacts related to agriculture and forestry resources would be less than significant. As the Reduced Acreage Alternative would include a smaller footprint, the Reduced Acreage Alternative would result in less impacts related to agriculture and forestry resources compared to the proposed project.

Air Quality

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 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 similar compared to the proposed project, but grading and other construction activities would not occur on Site 4 (Southern). Similar to the proposed project, this alternative would require implementation of Mitigation Measures MM 4.3-1 through MM 4.3-5 (see **Section 4.3**, *Air Quality*) to reduce the severity of construction-related emissions. However, similar to the proposed project, impacts would remain significant and unavoidable for temporary project-level and cumulative construction impacts as the daily emissions under this alternative and the proposed project during construction would be similar. Operational emissions would likely be reduced under this alternative as fewer maintenance trips would be required with the reduced project scale. As such, operational impacts would be less than significant.

As it relates to impacts on implementation of the applicable air quality plan, since temporary project-level and cumulative construction impacts are conservatively considered to be significant and unavoidable, the Reduced Acreage Alternative would result in construction emissions of a magnitude that would obstruct

the air quality planning goals set forth by EKAPCD. As such, consistent with the proposed project, impacts are conservatively considered to be significant and unavoidable.

During construction of both the proposed project and the Reduced Acreage Alternative, it is possible that onsite workers could be exposed to Valley Fever as fugitive dust is generated during construction. However, dust-minimizing techniques, as implemented through Mitigation Measures MM 4.3-2 and 4.3-6 (see Section 4.3, *Air Quality*), would reduce these impacts to less than significant. As with the project, the Reduced Acreage Alternative would result in less-than-significant impacts related to toxic air contaminants, localized pollutant concentrations, asbestos, CO hotspots, and Valley Fever.

Overall, even with implementation of similar mitigation proposed for the project, temporary impacts to air quality under this alternative would likely remain significant and unavoidable, despite resulting in a reduction in emissions due to reduced grading footprint under this alternative, as equipment and haul truck trips would be similar under both the proposed project and this alternative. The Reduced Acreage Alternative would result in less overall impacts related to air quality compared to the project; however, temporary construction emission impacts would remain significant and unavoidable.

Biological Resources

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres.

As it relates to impacts on candidate, sensitive, or a special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS, as with the project, the Reduced Acreage Alternative would result in similar, but decreased impacts than the proposed project on special-status plants and special-status wildlife (refer to Section 4.4, *Biological Resources* for details). Areas occupied by or that provide suitable habitat for special-status species are spread out across the project site. The Reduced Acreage Alternative would avoid disturbing approximately 730 acres of land within Site 4 (Southern), which would reduce direct and indirect impacts on special-status species that occupy the region. As with the proposed project, Mitigation Measures MM 4.4-1 through MM 4.4-19 (see Section 4.4, *Biological Resources*), would be implemented to reduce project-level impacts to less than significant levels.

With regard to impacts on sensitive natural community and jurisdictional water features, the Reduced Acreage Alternative would result in similar but lesser impacts than the proposed project. The same types of vegetation communities and jurisdiction features would be impacted by construction of project facilities located in the reduced footprint. The same permitting requirements and implementation of mitigation measures would be required to ensure impacts would be less than significant, including Mitigation Measures MM 4.4-1 through MM 4.4-19. The Reduced Acreage Alternative, as with the proposed project, would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan.

Based on the above, project-level impacts under the Reduced Acreage Alternative would be less than significant with implementation of mitigation and less than those of the proposed project due to a reduced footprint. However, cumulatively, this alternative would still result in significant and unavoidable impacts on biological resources. Regardless of the type of development, biological resources would be impacted throughout the Antelope Valley. However, as this alternative would avoid disturbing approximately 730 acres of land within Site 4 (Southern), which is largely undeveloped and vegetated, the Reduced Acreage Alternative would result in less impacts related to biological resources when compared to the proposed

project. All other impacts related to biological resources would remain similar to the proposed project, where the development footprints are the same.

Cultural Resources

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres.

Ground-disturbing activities associated with the Reduced Acreage Alternative have the potential to encounter undocumented archaeological resources that could qualify as historical resources. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.5-1 through MM 4.5-6 (see Section 4.5, *Cultural Resources*). In addition, there is no indication 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, implementation of Mitigation Measure MM 4.5-6 would ensure that any human remains encountered are appropriately addressed and impacts would be less than significant.

Based on the above, implementing mitigation similar to the mitigation proposed for the project, impacts to cultural resources under this alternative would be less than significant. However, the Reduced Acreage Alternative would result in less overall impacts related to cultural resources compared to the proposed project due to the reduction in total ground disturbance.

Energy

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres. Eliminating approximately 730 acres from project development would result in reduced energy use, as the Reduced Acreage Alternative would generate approximately 400 MW, a reduction from 600 MW as generated under the project, due to the proportional reduction in project size. Therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced as compared with the project. Similar to the proposed project, the Reduced Acreage Alternative would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes. The fuel efficiency of the vehicles being used by the employees under this alternative would be similar to the proposed project; however, the amount of petroleum consumed as a result of vehicular trips to and from the project site during operation would decrease over time. Similar to the proposed project, this alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, impacts would be less than significant and the Reduced Acreage Alternative would result in less energy impact compared to the proposed project.

Geology and Soils

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres.

Construction of the Reduced Acreage Alternative would be subject to all applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the CBC 2022 Edition (CCR Title 24). Adherence to all applicable regulations would mitigate any potential fault rupture-related impacts associated with this alternative. In addition, similar to the proposed project, the Reduced Acreage

Alternative would implement Mitigation Measure MM 4.7-1 (see Section 4.7, *Geology and Soils*), which requires that a geotechnical study to evaluate soil conditions and geologic hazards be performed by a qualified geotechnical engineer on the project site as well as implementation of Mitigation Measure MM 4.7-2 (see Section 4.7, *Geology and Soils*), which would require that all infrastructure proposed under this alternative adhere to the specifications, procedures, and site conditions contained in the final design plans. Implementation of these mitigation measures, as with the proposed project, would serve to reduce impacts related to strong seismic ground shaking, unstable geologic unit, and expansive soils. In addition, with regard to soil erosion and loss of topsoil, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.10-1 and MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*). Similar to the proposed project, no septic tanks are proposed under this alternative. As it relates to unique paleontological resources onsite or unique geologic features, under the Reduced Acreage Alternative, similar to the proposed project, any ground disturbance within the project site could result in a potentially significant impact to paleontological resources. As such, the Reduced Acreage Alternative would implement Mitigation Measures MM 4.7-3 through MM 4.7-5 (see Section 4.7, *Geology and Soils*) to reduce impacts to paleontological resources. Therefore, impacts would be less than significant.

As discussed above, with implementation of mitigation similar to that required for the proposed project, impacts to geology and soils and paleontological resources would be less than significant. However, impacts from the Reduced Acreage Alternative would result in less impacts related to geology and soils compared to the proposed project due to the reduction in overall ground disturbance.

Greenhouse Gas Emissions

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres. Construction and operational GHG emissions with the Reduced Acreage Alternative would be lower based on the smaller footprint; however, the smaller footprint would also reduce the solar energy generation.

Eliminating approximately 730 acres from project development would reduce the project's clean and renewable energy generation capacity by approximately 33 percent from 600 MW to approximately 400 MW. Reducing the project's renewable energy contribution would offset less GHG emissions and increase the need for other projects in the region to meet demand. As such, impacts related to GHG emissions would be greater under this alternative compared to the proposed project, due to the lower output of energy produced under this alternative, but less than significant.

Hazards and Hazardous Materials

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres.

As with the proposed project, construction, operation, and decommissioning of the Reduced Acreage Alternative would involve the use of the same types of hazardous materials (i.e., fuels, lubricants, pesticides, etc.). As with the proposed project, Mitigation Measures MM 4.9-1 and MM 4.9-2 (see Section 4.9, *Hazards and Hazardous Materials*) would be implemented to ensure all hazardous materials used or found on site are transported, handled, stored, and disposed of appropriately. Mitigation Measure MM 4.16-1 (see Section 4.16, *Utilities and Service Systems*) would also be required to ensure appropriate debris and waste management during construction, operation, and decommissioning. As with the proposed project, impacts would be less than significant after mitigation.

Similar to the proposed project, the Reduced Acreage Alternative would be located within the Airport Influence Area for the Mojave Air and Space Port Airport, such that this alternative 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 as stated in Mitigation Measure MM 4.9-3 (see Section 4.9, *Hazards and Hazardous Materials*). In addition, Edwards Air Force Base would have to be notified of construction of this alternative to ensure no conflict with their operations, as described in Mitigation Measure MM 4.9-4 (see Section 4.9, *Hazards and Hazardous Materials*). With adherence to project notification requirements, the impacts related to the ALUCP would be less than significant.

As it relates to wildland fires, the project site is not within an area of high or very high fire hazard. Mitigation Measure MM 4.14-1 (see Section 4.14, *Public Services*) would be implemented, which includes the development and implementation of a fire safety plan for construction and operation of the project in the event of a fire on the project site.

Consistent with the proposed project, the Reduced Acreage Alternative is expected to result in cumulative impacts associated with wildland fires. Mitigation Measure MM 4.14-1 would be implemented to minimize cumulative impacts; however, due to the number of projects occurring in Antelope Valley and the potential for the dispersed project components to exacerbate fire risk, cumulative impacts associated with an increase fire risk would remain, as with the project. Mitigation Measure MM 4.15-1 (see Section 4.15, *Transportation*), which would require the preparation of a Construction Traffic Control Plan that considers access for emergency vehicles to the project site would also be implemented.

For both the Reduced Acreage Alternative and the proposed project, impacts related to hazards and hazardous resources would be less than significant after mitigation. The Reduced Acreage Alternative would result in somewhat less, but overall similar, impacts related to hazards and hazardous materials when compared to the proposed project due to the reduced project size.

Hydrology and Water Quality

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres.

The Reduced Acreage Alternative would result in reduced, but similar impacts on hydrology and water quality as the proposed project, including impacts involving water quality standards and discharge requirements; groundwater supplies; alteration of the existing drainage pattern; risk the release of pollutants due to project inundation; and conflicts with water quality control plans or sustainable groundwater management plans. By reducing the footprint of the project site by 730 acres, impacts on hydrology and water quality would be lower than the proposed project based on a reduction of ground disturbance, area occupied by project facilities, stormwater collection area and runoff volume, and water demand and use. Similar to the proposed project, water demands would be met by developing onsite groundwater and would draw from the FVGB. As described in Section 4.10, *Hydrology and Water Quality*, the amount of water stored in the FVGB is relatively large compared to the proposed demand associated with the project. It is assumed that water demand under the Reduced Acreage Alternative would also be sufficiently supplied by either the water stored in the FVGB or imported from the MPUD.

Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.10-1 (see Section 4.10, *Hydrology and Water Quality*), incorporating BMPs consistent with the 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 would prepare an Erosion and Sedimentation Control Plan as well as an SWPPP. This alternative would also implement Mitigation Measure MM 4.9-2 (see Section 4.9, *Hazards and Hazardous Materials*), which would require the provision of a Hazardous Materials Business Plan. Furthermore, as hazardous materials can mix with stormwater and degrade water quality, this alternative, as with the project, would implement Mitigation Measure MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*), which requires preparation of a drainage plan. Implementation of these mitigation measures would serve to reduce impacts related to violating water quality standards or waste discharge requirements; substantially altering drainage patterns; and creating or contributing runoff water that would exceed the capacity of existing for planned storm water drainage systems.

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 and impacts would be less than significant.

Overall, impacts related to hydrology and water quality would be less than significant with implementation of mitigation measures similar to those implemented under the proposed project. However, the Reduced Acreage Alternative would have less impact related to hydrology and water quality compared to the proposed project due to the reduced footprint, which would result in reduced grading activities, the amount of impervious surfaces, and water use when compared to the proposed project.

Land Use and Planning

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres. Nevertheless, development of the Reduced Acreage Alternative would still require approval of CUPs, zone changes, General Plan and Specific Plan Amendments, and Nonsummary Street Vacations to operate a solar facility and energy storage system on the project site, as well as an amendment to the Mojave Specific Plan Circulation Element. Impacts would be less than significant under this alternative. Land use and planning related impacts would be similar under the Reduced Acreage Alternative when compared to the proposed project.

Mineral Resources

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres. There are no identified mineral resources on the project site and this alternative would result in less-than-significant impacts to mineral resources; therefore, the Reduced Acreage Alternative would result in similar impacts to mineral resources compared to the proposed project.

Noise

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres. Under the Reduced Acreage Alternative all overall construction and operational methods, workforce, and timing would be reduced when compared with the proposed project.

As the number of onsite construction equipment is assumed to be similar under this alternative on a daily basis, as with the project, construction and decommissioning activities would not subject residential or other noise-sensitive land uses to exterior noise levels in excess of 65 A-weighted decibels (dBA) day-night sound level (L_{dn}) or increase the ambient noise levels at a noise-sensitive land use by 5 dBA or more. The Reduced Acreage Alternative would implement similar mitigation measures as the project and impacts would be less than significant with mitigation. As with the proposed project, operational activities under the Reduced Acreage Alternative would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards. Impacts would be less than significant. Eliminating Site 4 from the project site also would eliminate potential noise impacts to residences located near Site 4. In addition, the closest offsite occupied residential structures would be located over 1,200 feet from construction activities. As such, the vibration levels at the nearest residences would not reach the vibration level threshold for older residential structures. Operation of the Reduced Acreage Alternative would involve mostly regular maintenance trucks accessing the project site and panel washing activities, similar to the proposed project, that would be a sufficient distance from structures (i.e., over 100 feet away from structures). As such, vibration impacts would be minimal and are not expected to have any measurable effect on the adjacent offsite sensitive receivers.

This alternative is expected to result in less than significant noise impacts during construction and decommissioning activities and impacts related to noise would be less than those of the proposed project. This alternative is expected to result in less than significant noise impacts during operational activities and impacts related to noise would be less than the proposed project. The Reduced Acreage Alternative would result in somewhat less, but overall similar, impacts related to noise when compared to the proposed project due to the reduced project size and similar time period of temporary noise impacts.

Public Services

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres.

Similar to the proposed project, construction of the Reduced Acreage Alternative would result in a number of construction workers on the project site and increased fire service demands would occur during construction of this alternative. However, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.14-1 (see Section 4.14, *Public Services*), which would require the implementation of a fire safety plan. During operation, the project site would not require any additional employees to be onsite on a permanent basis. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.14-2 (see Section 4.14, *Public Services*), which would require the project operator to pay Kern County Cumulative Impact Charge to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative. Implementation of Mitigation Measure MM 4.14-1 would also reduce fire risks onsite during operation of this alternative. Impacts related to fire protection would be less than significant with mitigation.

With regard to police protection, while the project site is located in an area that is unlikely to attract attention, construction activities would increase traffic volumes along SR-58 and SR-14, similar to the proposed project. The increase in traffic would be temporary and thus would not have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. In addition, fences would be installed around the perimeter of the northern site, substation, and other areas requiring controlled access, for safety and security purposes. During operation of this alternative, 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. Therefore, the increase is not likely to have a significant adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. Impacts would be less than significant.

Similar to the proposed project, it is not expected that a substantial temporary increase in population would occur that would adversely affect local school populations, park facilities, or local public facilities, such as post offices, courthouses, and library services. As a result, no significant impacts to schools, parks, or other public services are anticipated to occur as a result of project construction or operation.

Based on the above, impacts would be less than significant under this alternative following implementation of similar mitigation measures proposed for the project and impacts related to public services would be similar compared to the proposed project.

Transportation

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres. Under the Reduced Acreage Alternative, all construction and operational methods, workforce, and timing would be reduced when compared with the project.

Construction of the Reduced Acreage Alternative would require fewer construction trips for installation of project facilities, and the volume of vehicle miles traveled would be less, due to the reduced amount of materials and equipment that would be used to construct the project. Similar to the proposed project, construction of the Reduced Acreage Alternative would be consistent with the Kern County General Plan; the Mojave, and Soledad Mountain Elephant Butte Specific Plans; as well as countywide, State, and regional transportation plans. Nonetheless, the Reduced Acreage Alternative would include Mitigation Measure MM 4.15-1 (see Section 4.15, *Transportation*), requiring the development of a construction traffic control plan, which would further reduce impacts. During operation of this alternative, day-to-day operations and maintenance trips would be reduced in comparison with those of the project. Similar to the project, the total number of daily trips and distances traveled for operations and maintenance of the solar panels would be substantially less than during construction. Both the proposed project and Reduced Acreage Alternative would result in less-than-significant impacts regarding conflicts with a program, plan, ordinance or policy establishing the circulation system, including transit, roadway, bicycle, and pedestrian facilities; and conflicts or inconsistencies with CEQA Guidelines Section 15064.3, subdivision (b). Both the proposed project and Reduced Acreage Alternative would result in less-than-significant impacts.

As it relates to increasing hazards due to a geometric design feature or incompatible use, similar to the proposed project, the Reduced Acreage Alternative would also require the use of oversized vehicles during construction which could create a hazard to the public by limiting motorist views and by the obstruction of space. As with the proposed project, this alternative would also implement Mitigation Measure MM 4.15-1, which would reduce impacts from oversized construction vehicles and would also provide further assurances for emergency access, to reduce impacts during construction to less than significant.

Based on the above, impacts would be less than significant. Given the reduction in total construction and operational vehicle trips under this alternative as compared to the proposed project, the Reduced Acreage Alternative impacts related to transportation would be less compared to the proposed project.

Tribal Cultural Resources

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres. No tribal cultural resources were identified as part of the Sacred Land Files search or Kern County's notification and consultation efforts with interested Native American groups conducted pursuant to AB 52 and SB 18; however, there is a potential to encounter and disturb unknown resources during site clearing and grading activities, which would require implementation of avoidance measures specified in Mitigation Measures MM 4.5-1 through MM 4.5-6 (see Section 4.5, *Cultural Resources*). The Reduced Acreage Alternative would have less than significant impacts on tribal cultural resources after mitigation, and due to the reduced amount of ground disturbance, the Reduced Acreage Alternative impacts related to tribal cultural resources would be less compared to the proposed project.

Utilities and Service Systems

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres. Eliminating approximately 730 acres from project development would result in reduced demand for utilities and service systems, as the Reduced Acreage Alternative would generate approximately 400 MW with 4,000 MWh of energy storage, a reduction from 600 MW as generated under the project, and therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced in comparison with the proposed project.

As with the project, installation of solar panels and energy storage system would require water usage for dust suppression as well as minimal generation of wastewater, usage of electrical power, natural gas, and telecommunications to a lesser extent. In addition, construction of the Reduced Acreage Alternative would not substantially alter stormwater drainage. With regard to operation, the solar panels installed under the Reduced Acreage Alternative would require a reduced water demand in comparison with the project. Wastewater and solid waste generation associated with this alternative would also be reduced compared to the proposed project due to the reduced number of employees required for maintenance of the solar panels. As the Reduced Acreage Alternative would develop the project site, impervious surfaces would be minimized as much as possible, as with the project. Similar to the proposed project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*), which requires preparation of a drainage plan to reduce potential increases in stormwater runoff onsite and would detail any necessary physical structures required to control stormwater.

This alternative is expected to result in less-than-significant impacts to utilities and service systems and the Reduced Acreage Alternative impacts related to utilities and service systems would be less compared to the proposed project due to the reduced development area and reduced water demand required for maintenance of the solar panels.

Wildfires

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to approximately 1,590 acres.

As with the proposed project, this alternative is not classified as being within a high fire hazard severity zone 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 area 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. Therefore, the Reduced Acreage Alternative would not substantially impair an adopted emergency response plan or emergency evacuation plan. Nonetheless, Mitigation Measure MM 4.15-1 (see Section 4.15, *Traffic and Transportation*) would be implemented to ensure the project would not impede emergency access conditions during construction.

The project site has low topographic relief and is relatively flat. A majority of the project site is located within a Local Responsibility Area Moderate zone, with a small section of the gen-tie study area in a State Responsibility Area Moderate zone, which are considered wildland areas with low fire frequency and relatively modest fire behavior. Similar to the project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.14-1 (see Section 4.14, *Public Services*), 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 onsite. As such, impacts under this alternative related to exposing project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be less than significant.

With regard to the installation or maintenance of associated infrastructure, this alternative includes installation of a gen-tie line, similar to the proposed project. The installation of the gen-tie 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 development proposed under the Reduced Acreage Alternative could alter the existing drainage patterns and flowpaths compared to existing conditions as well as increase impervious surfaces. As with the project, the Reduced Acreage Alternative would implement Mitigation Measure MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*), which requires preparation of a drainage plan. This mitigation measure 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 such, 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 project-level impacts to wildfires and significant and unavoidable cumulative impacts; overall, the Reduced Acreage Alternative impacts related to wildfires would be similar to the proposed project.

Comparison of Impacts

The Reduced Acreage Alternative would be reduced in size compared to the proposed project and would generate approximately 400 MW with up to 4,000 MWh of energy storage, due to the proportional reduction in project size; therefore, all construction and operational methods, workforce, and timing for the Reduced Acreage Alternative would be reduced in comparison with the project. Due to the reduced footprint, the Reduced Acreage Alternative would result in less or similar impacts for the majority of environmental issue areas. However, this alternative would result in greater impacts to GHG emissions given its reduced solar energy output. In addition, this alternative would not eliminate or substantially lessen significant and unavoidable impacts associated with aesthetics (project and cumulative), air quality (project and cumulative), biological resources (cumulative only), or wildfire (cumulative only).

Relationship to Project Objectives

Under the Reduced Acreage Alternative, the project would not develop Site 4 (Southern) and would reduce the project's footprint from approximately 2,320 acres to 1,590 acres. The Reduced Acreage Alternative would meet most of the project objectives listed above in Section 6.2, although to a lesser degree. This alternative would meet the objective of developing the facility in proximity to an available connection to the existing electrical distribution infrastructure and customer loads; minimizing environmental impacts by using existing electrical distribution facilities; minimizing impacts on threatened and/or endangered species; minimizing water use; reducing GHG emissions; and using technology that is available, proven, efficient, and easily maintained, recyclable, and environmentally sound. The Reduced Acreage Alternative would be reduced in size compared to the proposed project and would generate approximately 400 MW due to the proportional reduction in project size and, therefore, would not assist the state in achieving or exceeding its Renewable Portfolio Standard or GHG emissions reduction objectives and would not assist the state in achieving or exceeding its energy storage mandate to the same extent as the proposed project. Due to the reduction in size, this alternative also would not achieve the project objective of producing and transmitting electricity at a competitive cost to the same extent as the proposed project.

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.

The installation of small to medium solar PV systems on large commercial and industrial rooftops would be visually unobtrusive or unnoticeable from receptors at ground level. However, from other vantage points, the installation of rooftop small to medium solar PV systems may be visible but would not likely affect the visual character or quality of an area, because the character or quality of an area has already been altered as a result of the existing building's construction. 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.

The No Ground-Mounted Utility-Solar Development Alternative would have less than significant impacts after mitigation as well as less impacts related to aesthetics compared to the proposed project.

Agriculture and Forestry 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, this alternative would not create any changes in the existing environment that would convert land that is designated Farmland or forest land to nonagricultural or nonforest uses. As such, no impacts to agriculture or forestry resources would occur. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to agriculture and forestry resources compared to the proposed project, as this alternative would not require ground disturbance.

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, reducing some temporary construction-related air quality impacts. However, depending on the availability and location of rooftops, this alternative may require a significant number of truck trips to transport the solar panels, racking systems and associated electrical equipment to dispersed locations, potentially resulting in significant emissions. Thus, this alternative may not eliminate the significant and unavoidable temporary project-level and cumulative construction impacts related to regional air quality emissions and implementation of applicable air quality plans. Mitigation measures would be implemented as necessary to ensure that impacts are reduced as they relate to regional and localized construction emissions and Valley Fever exposure. Implementation of Mitigation Measure MM 4.3-6 (see Section 4.3, *Air Quality*) would not be required. During operation, this alternative would have similar impacts on air quality as the project related to occasional vehicular visits for maintenance. As such, operational impacts would be less than significant. Overall, this alternative would result in similar temporary construction-related project and cumulative impacts related to air quality compared to the proposed project.

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 Antelope Valley. The project site would remain undeveloped and only developed areas, typically on the rooftops of commercial and industrial facilities, in the Antelope 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. Development of this alternative would not disturb any land or remove habitat for special-status plants and wildlife or have a substantial adverse effect on any riparian habitat. As such, Mitigation Measures MM 4.4-1 through MM 4.4-14, MM 4.4-17, MM 4.4-18, and MM 4.4-19 (see Section 4.4, *Biological Resources*) would not be required. Operation of the small to medium solar PV systems would continue to require implementation of Mitigation Measures MM 4.4-15 and MM 4.4-16 (see Section 4.4, *Biological Resources*). The No Ground-Mounted Utility-Solar Development Alternative would result in less-than-significant impacts with mitigation for biological resources, with reduced impacts compared to the proposed project as this alternative would not require ground disturbance. The No Ground-Mounted Utility-Solar Development Alternative would not contribute to a cumulative loss of biological resources. As such, significant and unavoidable cumulative impacts would be eliminated.

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. Given that development would occur on the rooftops of existing structures, there would be no potential for disturbance or damage to buried archaeological resources and human remains. If rooftop solar systems were proposed on historic buildings, this alternative could affect the historic character and integrity of these buildings, as well as the character and views of adjacent historical resources. However, historic surveys and investigations would be conducted prior to project construction to identify known eligible historical resources and to evaluate the eligibility of potentially historic structures that are 50 years or older; historic structures would be either avoided or the alternative would be required to incorporate mitigation and design measures to minimize the impact on these structures. In the case of eligible historical resources, design measures must be in accordance with the Secretary of the Interior standards and the impact must not affect the eligibility of such resources or adjacent resources. Therefore, unanticipated impacts to unknown or known cultural resources would not occur under this alternative. Impacts would be less than significant. With the appropriate mitigation measures in place to reduce impacts to historical resources, the potential to disturb or discover unknown cultural resources within the project area would be less than significant. However, given the inability to impact archaeological resources under this alternative, the No Ground-Mounted Utility-Solar Development Alternative would result in fewer impacts related to cultural resources compared to the proposed project as this alternative would not require ground disturbance.

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 commercial and industrial facilities situated throughout the Antelope Valley. Construction of this alternative may require a significant number of trucks trips to transport and install the solar panels on the rooftops of existing buildings in dispersed locations, although it would not require off-road construction equipment. Therefore, the No Ground-Mounted Utility-Solar Development Alternative likely would have a less-than-significant impact related to wasteful, inefficient, or unnecessary consumption of energy resources and this alternative likely would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be similar compared to 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 Antelope Valley. Given that only developed areas would be modified, there would be no potential for the No Ground-Mounted Utility-Solar Development Alternative to directly or indirectly cause potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic- related ground failure, and landslides; result in substantial soil erosion or loss of topsoil; result in onsite or offsite landslides; be located on expansive soil; or directly or indirectly destroy a unique paleontological resource or unique geologic feature. The No Ground-Mounted Utility-Solar Development Alternative would not require implementation of Mitigation Measures MM 4.7-1 through MM 4.7-6 (see Section 4.7, *Geology and Soils*). 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 less impacts related to geology and soils compared to the proposed project as this alternative would not require ground disturbance.

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 off-road equipment, but a significant number of truck trips may be required to transport solar panels to dispersed rooftop locations. Additionally, the distributed systems on rooftops would lack tracking systems and be less efficient, and generate less energy per panel, than those that would be installed as part of the proposed project. Further, this alternative would have less or no energy storage, whereas the project would provide 4,000 MWh of storage to maintain energy-generating capacity when sunlight is not available. As such, this alternative's overall GHG emission offset potential would be smaller than the proposed project. Therefore, the No Ground-Mounted Utility-Solar Development Alternative likely would have less than significant impacts related to generating GHG emissions that may have a significant impact on the environment or consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. However, impacts related to GHG emissions would be greater under this alternative compared to the proposed project due to the lower efficiency of the distributed systems, which would not include solar tracking technology.

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 Antelope Valley. The installation of rooftop solar equipment on existing structures would involve fewer hazardous materials (such as chemicals and fuels) than the project construction on the undeveloped project site. Similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would implement Mitigation Measures MM 4.9-1 and MM 4.9-2 (see Section 4.9, *Hazards and Hazardous Materials*) to avoid spills and minimize impacts in the event of a spill; regulate the use of hazardous materials during construction and operation; and ensure that wastes requiring special disposal are handled according to state and county regulations that are in effect at the time of disposal, respectively. Implementation of these mitigation measures would reduce impacts related to the routine transport, use, or disposal of hazardous materials associated with the project site; and creating 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.

While it is unknown where the distributed solar PV systems would be located within the Antelope Valley, the No Ground-Mounted Utility-Solar Development Alternative, similar to the proposed project, would adhere to any applicable notification requirements related to the ALUCP.

As it relates to wildland fires, as the small to medium solar PV systems would be developed typically on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley, it is expected that these areas where the solar PV systems would be installed would be in more urbanized areas that would not require a battery storage component. However, due to the numerous power lines that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks. As

such, similar to the proposed project, Mitigation Measure MM 4.14-1 (see Section 4.14, *Public Services*) would be implemented to reduce wildfire risks under this alternative.

Based on the above, impacts under this alternative would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to hazards and hazardous materials compared to the proposed project, as this alternative would require use of smaller quantities of hazardous materials.

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 Antelope Valley. No ground disturbance related to construction would be required under this alternative.

Compliance with the NPDES Construction General Permit, including development and implementation of a SWPPP, would not be required under the No Ground-Mounted Utility-Solar Development Alternative, thus eliminating implementation of Mitigation Measure MM 4.10-1 (see Section 4.10, *Hydrology and Water Quality*). Similar to the proposed project, this alternative would require implementation of Mitigation Measure MM 4.9-2 (see Section 4.9, *Hazards and Hazardous Materials*), which, as described above, 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. Implementation of this mitigation measure would reduce potential impacts related to violating water quality standards or degradation of surface or groundwater quality during construction and operation of the No Ground-Mounted Utility-Solar Development Alternative.

With regard to existing drainage patterns, as small to medium solar PV systems would be developed on the rooftops of existing commercial and industrial facilities situated throughout the Antelope Valley, drainage patterns and flow paths would not be altered. As such, impacts related to drainage patterns would be less than significant. Implementation of Mitigation Measure MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*) would not be required as this alternative would not disturb soils or alter drainage patterns.

The Antelope Valley 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 and impacts would be less than significant. In addition, water for construction and operation phases under the No Ground-Mounted Utility-Solar Development Alternative would either be drawn from the FVGB or be obtained from MPUD. Data provided for the project confirm the ability of the underlying aquifer to support development of the project without adverse effects, and the No Ground-Mounted Utility-Solar Development Alternative is anticipated to require less water during construction than the project. Therefore, the project would not conflict with the groundwater management of the area and the potential impacts would be less than significant.

Overall, impacts related to hydrology and water quality would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less overall impact related to hydrology and water quality materials compared to the proposed project as this alternative would not require ground disturbance, which could potentially introduce more pollutants to stormwater, and water requirements during construction and operation of this alternative would be reduced.

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 Antelope Valley. Under this alternative, there would be no zone changes, Specific Plan or General Plan Amendments, or CUPs 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. Therefore, there would be no impact to land use and planning. Impacts to land use and planning under the No Ground-Mounted Utility-Solar Development Alternative would be less compared to 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 Antelope 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 less impacts related to mineral resources compared to the proposed project as no ground disturbance would occur.

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. The operational noise generated from these solar PV systems would be similar to that of the project and would result in less-than-significant impacts. With regard to vibration, construction of the No Ground-Mounted Utility-Solar Development Alternative would not require the use of vibratory rollers or other construction equipment with high groundborne vibration levels. Therefore, it is likely that construction vibration would have a less than significant construction vibration impact. Similar to the proposed project, operation of the No Ground-Mounted Utility-Solar Development Alternative would require regular maintenance trucks and panel washing activities. Whether rooftop solar systems are proposed on historic buildings, which are more susceptible to vibration damage, or other types of newer buildings, this level of vibration would not exceed vibration thresholds and, as such, would result in less-than-significant impacts.

As discussed above, construction and operational vibration impacts and operational noise impacts would be less than significant. Therefore, the No Ground-Mounted Utility-Solar Development Alternative would result in similar impacts related to noise as 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 Antelope Valley and the project site would remain undeveloped. 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 people in an area.

With regard to fire protection, it is expected that solar PV systems would be installed in more urbanized areas. However, due to the numerous power lines that would be required to harness the distributed solar panel energy, this alternative could exacerbate fire risks. As such, similar to the proposed project, Mitigation Measure MM 4.14-1 (see Section 4.14, *Public Services*) would be implemented to reduce wildfire risks under this alternative. In addition, similar to the proposed project, this alternative would implement Mitigation Measure MM 4.14-2 (see Section 4.14, *Public Services*), which would require the project operator to pay applicable Kern County fees to compensate for any permanent impacts to fire protection services and facilities resulting from the operation of this alternative. Impacts related to fire protection would be less than significant with mitigation.

With regard to police protection, as the proposed small to medium solar PV systems would be installed in more urbanized areas on existing buildings, it is unlikely that construction and operation of the No Ground-Mounted Utility-Solar Development Alternative would attract attention. Similar to the proposed project, this alternative would increase traffic with truck trips during construction and routine maintenance during operation of this alternative. However, the additional volume of trips during construction and operation would be minimal and would not likely have a significant and adverse effect on the KCSO protective service provision or CHP's ability to patrol the highways. Impacts would be less than significant.

Based on the above, impacts are expected to be less than significant with mitigation. The No Ground-Mounted Utility-Solar Development Alternative would result in less impact related to public services compared to the proposed project as the proposed small to medium solar PV systems would be developed in urbanized areas that already receive fire protection and police protection services.

Transportation

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 Antelope 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 under the project given the location of the existing facilities, thereby reducing impacts on the roadways surrounding the project site. As such, roadway segments within the Antelope Valley are not expected to operate at levels that would trigger a significant transportation impact during construction of this alternative. During operation of this alternative, day-to-day operations and maintenance trips would be similar to those of the project. However, as with construction, these maintenance trips would be more dispersed than for the project given the location of the existing facilities. It is also estimated that the total number of daily trips for maintenance of the solar panels would be less than the number of trips generated during construction.

As construction impacts would be less than significant, operation of this alternative would also have a less-than-significant impact on area roadways.

With regard to consistency with CEQA *Guidelines* Section 15064.3(b), the No Ground-Mounted Utility Solar Development Alternative would not increase vehicle trips or distances for the workforce already occupying the buildings that host the rooftop panels. There would be some increase in vehicle trips, and thus vehicle miles traveled, to perform occasional maintenance activities, unless those were to be performed by already onsite workers. Therefore, impacts related to vehicle miles traveled would be less than significant under the No Ground-Mounted Utility-Solar Development Alternative, as with the proposed project.

Based on the above, impacts would be less than significant. The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to transportation compared to the proposed project due to the dispersed nature of the construction and operational trips.

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 would be contacted for a search of the Sacred Land Files for the No Ground-Mounted Utility-Solar Development Alternative construction area. In addition, the County would conduct additional consultation with California Native American tribes on the County's Master List for AB 52, apprising them of the alternative project description. 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 Files 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 would 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 less 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 Antelope Valley.

With regard to water demand, the No Ground-Mounted Utility-Solar Development Alternative would likely require minimal water as no dust suppression would be required during construction. This alternative would also require minimal generation of wastewater and usage of electrical power, natural gas, and telecommunications. In addition, construction of the No Ground-Mounted Utility-Solar Development Alternative would not substantially alter stormwater drainage. With regard to operation, solar panel washing is expected to be less frequent, as compared to the proposed project, given the location of panels on top of buildings throughout the Antelope Valley (rather than directly on sediment). As the No Ground-Mounted

Utility-Solar Development Alternative would not develop the project site, this alternative would not result in new impervious surfaces, and implementation of Mitigation Measure MM 4.10-1 (see Section 4.10, *Hydrology and Water Quality*), which requires implementation of a SWPPP, and Mitigation Measure MM 4.10-2 (see Section 4.10, *Hydrology and Water Quality*), which would require preparation of a drainage plan to reduce potential increases in stormwater runoff onsite, would not be required. Wastewater and solid waste generation associated with this alternative would be similar to the proposed project due to the similar number of employees required for maintenance of the solar panels. This alternative would implement Mitigation Measure MM 4.17-1 (see Section 4.17, *Utilities and Service Systems*), which would reduce impacts related to solid waste.

Based on the above, impacts to utilities and service systems would be less than significant. This alternative would result in less overall impacts related to utilities and service systems than the proposed project due to the reduction in construction activities.

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 Antelope 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 project. As such, similar to the proposed project, the No Ground-Mounted Utility-Solar Development Alternative would implement Mitigation Measure MM 4.14-1 (see Section 4.14, *Public Services*), 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 the installation of an 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. Development of the No Ground-Mounted Utility-Solar Development Alternative would not require grading and excavation to reduce the overall slope of the project site. As such, 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 impacts related to wildfires compared to the proposed project as solar panels would be located in more urbanized areas.

Comparison of Impacts

The No Ground-Mounted Utility-Solar Development Alternative would result in less impacts related to aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, public services, transportation, tribal cultural resources, utilities and service systems, and wildfires. Further, this alternative would avoid the significant and unavoidable impacts to aesthetics (project and cumulative), biological resources (cumulative only), and wildfire (cumulative only) that would occur under the project.

Relationship to Project Objectives

This alternative would partially satisfy the project objective of assisting California in meeting its GHG emissions reduction goals. However, up to 4,000 MWh of energy storage (a component of the proposed project) would not be constructed under this alternative. The alternative would not achieve other project objectives including utilizing existing transmission infrastructure to minimize costs. It is also unlikely the alternative would have an average insolation value similar to or greater than that of the project site given the lack of efficiency of rooftop solar compared to solar tracking technology. Additionally, there are some drawbacks to this alternative that include, but are not limited to, those listed below.

- Up to 4,000 MWh of energy storage would not be included, and the alternative would not provide a new source of energy storage that assists the state in achieving or exceeding its energy storage mandate.
- The system would not likely be built out within a timeframe that would be similar to that of the project.
- Given the distributed nature of such a network of facilities, construction, management, and maintenance would not be as efficient, and total capital costs would likely be higher.
- The project proponent does not have immediate control or access to potential urban sites that could accommodate facilities to generate the solar power.
- A distributed system on the scale of the project would be cost-prohibitive to implement due to reduced cost efficiency of distributed solar.

This alternative theoretically has the potential to generate of up to 600 MW of electricity, but the electricity would be used on the sites generating the power and would not achieve the project objective of assisting California load-serving entities in meeting their obligations under California's RPS Program. Additionally, this alternative does not include up to 4,000 MWh of energy storage. Given the size of the 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 6-3**, *Comparison of Alternatives*, 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, and wildfire. However, impacts related to GHG emissions would be greater under this alternative due to the potential for significant truck trips associated with solar panel delivery and the lower efficiency of the distributed systems. The alternative also would not include up to 4,000 MWh of energy storage. The potential for an increased fire risk is considered small as solar is commonly and safely added to structures, and all building codes would be conformed to under this alternative. This alternative would result in less impact to aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, public services, transportation, tribal cultural resources, utilities and service systems, and wildfires. Thus, for most environmental resource 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 project because the project proponent lacks control and access to the sites required to develop 600 MW of distributed solar generated electricity; additionally, doing so would be economically infeasible. 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 General Plan and Zoning Build-Out Alternative and Reduced Acreage Alternative, the No Ground-Mounted Utility-Solar Development Alternative is considered the Environmentally Superior Alternative.

Chapter 7
Response to Comments

This chapter is being reserved for, and will be included with, the Final EIR.

Chapter 8
Organizations and Persons Consulted

8.1 Federal

China Lake Naval Weapons Center

Edwards Air Force Base

Federal Aviation Administration

Federal Communications Commission

U.S. Air Force

U.S. Army

U.S. Army Corp of Engineers

U.S. Bureau of Land Management

U.S. Department of Agriculture, Natural Resources Conservation Service

U.S. Environmental Protection Agency Region IX

U.S. Fish and Wildlife Service

U.S. Marine Corps

U.S. Navy

8.2 State of California

California Air Resources Board

California Department of Conservation

California Department of Fish & Wildlife, Fresno Region

California Department of Parks and Recreation

California Department of Toxic Substances Control

California Energy Commission

California Environmental Protection Agency

California Highway Patrol

California Office of Historic Preservation

California Public Utilities Commission

California Regional Water Quality Control Board, Lahontan Region

California State Clearinghouse

Caltrans Division of Aeronautics

Caltrans District 6

Caltrans District 9

8.3 Regional and Local

AES Midwest Wind Generation

Antelope Valley-East Kern Water Agency

AT&T

Bakersfield City Planning Department

Kelly Group

Kern Audubon Society

Kern County Agriculture Department

Kern County Airports Department Kern County Council of Governments

Northcutt and Associates

Pacific Gas & Electric

Mojave Airport

Mojave Chamber of Commerce

Mojave Foundation

Mojave Public Utility District

Bakersfield City Public Works Department

California City Planning Department

Center on Race, Poverty, & the Environment

Congentrix Sunshine, LLC

David Laughing Horse Robinson

David Walsh

Defenders of Wildlife

Desert Tortoise Preserve Committee

East Kern Air Pollution Control District

East Kern Airport District

Eastern Kern Resource Conservation District

Kern County Administrative Officer

EDP Renewables Company

Fotowatio Renewable Ventures

Gorman Law Firm

Iberdrola Renewables

Inyo County Planning Department

Kern County Environmental Health Services Department

Kern County Fire Department

Kern County Library

Kern County Parks and Recreation

Kern County Public Works Department

Kern County Sheriff's Department

Kern County Superintendent of Schools

Kern County Water Agency

Kern Valley Indian Council

Kings County Planning Agency

Kern High School District

Local Agency Formation Commission

LIUNA

Los Angeles Audobon

Los Angeles County Regional Planning Department

Lozeau Drury, LLP

Native American Heritage Council of Kern County

Mojave Town Council

Mojave Unified School District

Recurrent Energy

Renewal Resources Group Holding Company

Robert Burgett

Rosamond Municipal Advisory Council

San Bernardino County Planning Department

Santa Barbara County Resource Management Department

Sierra Club

Southern California Edison

Southern California Gas Company

Southern San Joaquin Valley Information Center

Structure Cast

Tehachapi Area Association of Realtors

Terra-Gen Power, LLC

The Gorman Law Firm

Wind Stream, LLC

8.4 Other

Big Pines Paiute Tribe of the Owens Valley

Chumash Nation

Fernandeno Tataviam Band of Mission Indians

Kern Valley Indian Community

Kitanemuk & Yowlumne Tejon Indians

Quechan Tribe of the Fort Yuma Reservation

Salinan Tribe of Monterey

San Fernando Band of Mission Indians

San Manuel Band of Mission Indians

Santa Rosa Rancheria Tachi Yokut Tribe

Santa Ynez Band of Chumash Indians Tejon Indian Tribe

Torres Martinez Desert Cahuilla Indians

Tubatulabals of Kern Valley

Tule River Indian Tribe

Twenty-Nine Palms Band of Mission Indians

Xolon-Salinan Tribe

Wuksache Indian Tribe/Eshom Valley Band

yak tityu tityu yak tiłhini – Northern Chumash Tribe

Chapter 9
List of Preparers

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